

Guilford Technical Community College

General Catalog 2011-2012

Jamestown Campus (Main Campus)

601 High Point Rd. • Jamestown, N.C. 27282

(336) 334-4822 or (336) 454-1126 • TTY 336-841-2158

Greensboro Campus

3505 E. Wendover Ave. • Greensboro, N.C. 27401

(336) 334-4822 or (336) 454-1126 • TTY 336-841-2158

High Point Campus

901 S. Main St. • High Point, N.C. 27260

(336) 334-4822 or (336) 454-1126 • TTY 336-841-2158

Small Business Center

2007 Yanceyville St., Suite 129 • Greensboro, N.C. 27405

(336) 334-4822, ext. 4801 • (336) 454-1126, ext. 4801

T. H. Davis – GTCC Aviation Center

260 Regional Rd. • Greensboro, N.C. 27409

(336) 334-4822, ext. 4901 or (336) 454-1126, ext. 4901

Aviation Center II

819 Radar Road • Greensboro, N.C. 27410

(336) 334-4822 ext. 4961

Mailing address for all campuses

P.O. Box 309 • Jamestown, N.C. 27282

(336) 334-4822 or (336) 454-1126 • TTY 336-841-2158

Web Site

<http://www.gtcc.edu>

Web Site for Orientation

<http://www.gtcc.edu/services/orientation/>

GTCC IS A TOBACCO FREE CAMPUS.

See page 19 for more information.

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Catalog

This catalog is for information purposes and does not constitute a contract. This catalog expires and cannot be used for graduation after the end of the summer semester 2016. A student may receive a certificate, diploma, or degree from Guilford Technical Community College in accordance with the requirements stated in the catalog in effect at the time he/she enters GTCC or those catalogs of any subsequent years. The requirements must be completed within five (5) years of the beginning of the catalog selected. A minimum of three (3) semester hours must be completed during the year the selected catalog was in effect. All regulations and conditions other than those above are subject to change. These changes may supersede catalog regulations. Guilford Technical Community College reserves the right to make changes in this catalog as needs arise and to make final interpretations of the statements contained therein. Without notice, the College reserves the right to change tuition, fees, and related requirements and regulations as prescribed by the Board of Trustees, the North Carolina Community College System Office, or Legislative action by the North Carolina General Assembly.

7,000 copies of this catalog were printed at a cost of \$16,930.29 or approximately \$2.42 each.

WELCOME

Guilford Technical Community College (GTCC) was created in 1958 by local leaders who knew that the prosperity of Guilford County and its people depended upon opportunities for people to qualify for jobs in the changing modern workforce. That's why Guilford Tech is here - to help you be the most productive person you can be.

If you want to earn a degree or diploma in a program of study, or if you want to take a few classes to learn a specific skill that will help you get a promotion or a better job, we are here to help you do that. If you want to finish your first two years of college and transfer to a four-year institution, we can help you. If you want to enrich your life by learning something you just always wanted to know, we can help you do that, too.

Guilford Tech has given many students a great start. Its affordable tuition, small class sizes, highly qualified faculty, personal attention, great job placement rate, convenient class times and locations, beautiful campuses, and wide variety of student services, combine to make the Guilford Tech experience one that works for students.

We're proud of this college. We're about lifelong learning - giving people a chance for new skills, enriched knowledge, and a new outlook on their lives. We are your community college. Our goal is to help you be the best you can be at whatever you want to do.

– Dr. Donald W. Cameron

The College Community – History

GTCC is an accredited two-year community college. It opened in 1958 with 50 students and two classes as the Guilford Industrial Education Center on the site of the Guilford County Tuberculosis Sanatorium, which operated from 1924 to 1955.

Guilford Industrial Education Center's Board of Trustees was established on September 3, 1963. In 1965, when the school became Guilford Technical Institute (GTI), four members were added to the Board of Trustees. That same year, GTI was given authority to grant associate degrees.

In 1981, the State Board of Community Colleges began administration of the Department of Community Colleges. That board approved GTI's request to add a college transfer program in 1983, and GTI changed its name to Guilford Technical Community College.

The college was created as a training center designed to prepare people for jobs created by the rapid manufacturing growth of the early 1950s. Its purpose has remained basically unchanged: to give the people of Guilford County the training and education they need to compete in the job market.

GTCC offers certificates, one-year and two-year career-related programs, a two-year college transfer program, personal enrichment courses, a variety of adult education opportunities and training for business and industry.

GTCC Quick Facts*

- Founded in 1958.
- School mascot: Titans
- Campus locations can be found in Jamestown, Greensboro, High Point, the Aviation Centers at the Piedmont Triad International Airport, and the Small Business Center.
- 18,026 students in curriculum programs.
- 19,312 students in continuing education programs.
- Age of curriculum students:
 - 51.6% are less than 25 years old; 25.3% are 25-34;
 - 13.1% are 35-44; 9.9% percent are 45 or older.
- 56.0 percent of curriculum students are female.
- 44.0 percent of curriculum students are male.
- 55.0 percent of curriculum students are minority students.
- GTCC has 292 full-time faculty members.

*Source: NCCCS Data Warehouse

Affirmative Action

Guilford Technical Community College is an affirmative action/equal opportunity college.

Sexual Harassment

It is the policy of Guilford Technical Community College that all employees and students shall have the right to work and/or learn in an environment free from sexual harassment. No employee, student or visitor to the campus may engage in conduct that falls under the definition of sexual harassment.

Positioning Statement

Guilford Tech has a broader, more profound and more productive impact on business, professional and personal lives in Guilford County than any other institution by raising the standard of living, alleviating poverty, and helping people retool their lives.

Vision Statement

Creating Successful Futures.

MISSION & GOALS

Mission

Guilford Technical Community College provides access to lifelong learning opportunities for personal growth, workforce productivity, and community service. It serves all segments of Guilford County's diverse population, delivering quality educational programs and services through partnerships with business, community groups, and other educational institutions.

Values

- We value our students.
- We value learning.
- We value challenging, innovative instruction and targeted services that meet the needs of individual students.
- We value employees who are committed to providing services that ensure student success.
- We value diversity.
- We value honesty and integrity.
- We value institutional effectiveness achieved through planning and teamwork.

Goals

Processes

- GTCC will provide excellent/innovative teaching, appropriate technology for learning, and targeted student services.
- GTCC will pursue excellence in all it does, will make its facilities available to the public, and will support good citizenship by students and employees.
- GTCC will support area economic development efforts by responding promptly with high-quality programs that meet the needs of both new and existing businesses and industries.
- GTCC will empower, reward, and develop the skills and abilities of its employees.
- GTCC will identify and measure desired outcomes both in the operation of the college and in the classroom.
- GTCC will be alert to new approaches, technologies, and knowledge, and will apply them in the context of its mission and goals.

Results

- GTCC students will learn the skills and knowledge that will enable them to reach their educational goals.
- GTCC will be respected and valued by residents of Guilford County. It will be regarded as a major contributor to the quality of life in the county.
- GTCC will be a partner in attracting and retaining business and industry, contributing to the economic development of the county.
- GTCC will attract and retain qualified and caring employees.
- GTCC will be accountable to students, taxpayers, and the public.
- GTCC will be a benchmark by which other community colleges measure their progress.

2011/2012 ACADEMIC CALENDAR

Fall Semester 2011

August

- 1** Fall Financial Aid deadline
- 1, 2, 3, 4 SOAR - Jamestown for new students
- 15 Payment due for previously registered classes by 7 pm - all non-paid classes dropped at 7 pm
- 16 Faculty Report
- 16 Open registration begins for all students - payment due by 7pm - all non-paid classes dropped at 7 PM
- 17 Registration continues for all students - payment due by 7pm - all non-paid classes dropped at 7pm
- 18 Final day to Register - payment due by 7pm - all non-paid classes dropped at 7 PM
- 19 Faculty and Staff Convocation
- 22** ★ **First day of classes** ★
- 24 Last day for schedule adjustment for full-term courses

September

- 5 Labor Day Holiday (College closed)

October

- 10-11 Fall Break - no classes
- 10 Staff Professional Development/Faculty Break (College Services Closed)
- 11 Celebration of Excellence (College Services Closed)

November

- 10** Last day to withdraw for full term classes
- 23-27 Thanksgiving Break for students and faculty (no curriculum classes)
- 23 College closes at 5 pm
- 24-27 College closed
- 29 SOAR - Jamestown for new students

December

- 1, 6, 8, 14 SOAR - Jamestown for new students
- 7, 8,14,15 SOAR - Greensboro for new students
- 7, 13 SOAR - High Point for new students
- 1** Spring Financial Aid deadline
- 19** Last day of classes
- 20 Inclement weather make-up day
- 21-31 Faculty Holiday Break
- 22-31 Holiday Break (College closed) (12-22-11 mandatory leave day for staff)

Spring Semester 2012

January

- 1 New Year's Day (College closed)
- 2 College reopens
- 2 Web Advisor ONLY - Payment due for previously registered classes by 7 pm - all non-paid classes dropped at 7 pm
- 3 Open registration begins for all students - payment due by 7 pm - all non-paid classes dropped at 7pm
- 3 All faculty report

January Continued

- 4 Registration continues - payment due by 7pm - all non-paid classes dropped at 7pm
- 5 Final Day to Register - payment due by 7pm - all non-paid classes dropped at 7pm
- 6 Faculty Professional Development Day
- 9** ★ **First day of classes** ★
- 11 Last day for schedule adjustment for full-term courses
- 16 Martin Luther King Jr. Holiday (College closed)

March

- 5 Regular Monday class day
- 6-11 Pending Spring Break - no curriculum classes
- 6, 7 Inclement Weather Make-up Days
- 8 Staff Professional Development Day (College Services Closed)
- 16** Graduation application submission deadline

April

- 2** Last day to withdraw for full term classes
- 6 Good Friday Holiday (College closed)
- 24 Honors Ceremony
- 29** Summer Financial Aid deadline

May

- 7** Last day of classes (Friday class day only)
- 8 Inclement weather make-up day
- 8 Payment due by 7pm for all previously registered Summer term classes - all non-paid classes dropped at 7pm
- 10 Commencement

Summer Term 2012

May

- 14 Open Registration for all students - payment due by 7 pm - all non-paid classes dropped at 7pm
- 14 9+ Faculty report
- 15 Faculty Prep Day
- 16** ★ **First day of classes** ★

June

- 1 Registration for Fall semester resumes via Web Advisor for continuing students
- 5, 12, 19, 26 SOAR - Jamestown for new students
- 6, 13, 27 SOAR - Greensboro for new students
- 18, 25 SOAR - High Point for new students

July

- 4 Independence Day Holiday (College closed)
- 10,12,17, SOAR - Jamestown for new students
- 19,24,26,31
- 11, 18, 25 SOAR - Greensboro for new students
- 9, 16,30 SOAR - High Point for new students
- 25** Last day of classes

2012/2013 ACADEMIC CALENDAR

Fall Semester 2012

July

26 Fall Financial Aid deadline

August

4, 6-9 SOAR - Jamestown for new students
 13 Payment due for previously registered classes by 7 pm - all non-paid classes dropped at 7 pm
 14 Faculty Report
 14 Open registration begins for all students - payment due by 7pm - all non-paid classes dropped at 7 pm
 15 Registration continues for all students - payment due by 7pm - all non-paid classes dropped at 7 pm
 16 Final day to Register - payment due by 7pm - all non-paid classes dropped at 7 PM
 17 Faculty and Staff Convocation
20 ★ First day of classes ★
 22 Last day for schedule adjustment for full-term courses

September

3 Labor Day break (College closed)

October

15-16 Fall Break - no classes
 15 Staff Professional Development/Faculty Break (College Services Closed)
 16 Celebration of Excellence (College Services Closed)

November

21-25 Thanksgiving Break for students and faculty (no curriculum classes)
 21 College closes at 5 pm
 22-25 College closed
29 Spring Financial Aid deadline

December

4,6,11, SOAR - Jamestown for new students
 13,19 SOAR - Greensboro for new students
 5,6,12,13 SOAR - Greensboro for new students
 5,11 SOAR - High Point for new students
17 Last day of classes
 18 Inclement weather make-up day
 19-31 Faculty Holiday Break
 23-31 Holiday Break (College closed)

Spring Semester 2013

January

1 New Year's Day (College closed)
 2 College reopens
 2 Faculty reports/Faculty Professional Development Day
 2 Web Advisor ONLY - Payment due for previously registered classes by 7 PM - all non-paid classes dropped at 7pm
 3 Open registration begins for all students - payment due by 7 pm - all non-paid classes dropped at 7pm
 4 Final Day to Register - payment due by 7pm - all non-paid classes dropped at 7pm
7 ★ First day of classes ★
 9 Last day for schedule adjustment for full-term courses
 21 Martin Luther King Jr. Holiday (College closed)

March

4 Regular Monday class day
 5-9 pending Spring Break - no curriculum classes
 5, 6 Inclement Weather Make-up Days
 7 Staff Professional Development Day (College Services Closed)
15 Graduation application submission deadline
 29 Good Friday Holiday (College closed)

April

23 Honors Ceremony
30 Summer Financial Aid deadline

May

6 Last day of classes (Friday class day only)
 7 Inclement weather make-up day
 7 Payment due by 7pm for all previously registered Summer term classes - all non-paid classes dropped at 7pm
 9 Commencement

Summer Term 2013

May

13 Faculty Report
 13 Open Registration for all students - payment due by 7 pm - all non-paid classes dropped at 7pm
 13 9+ Faculty report
 14 Faculty Prep Day
15 ★ First day of classes ★

June

4,11,18,25,29 SOAR - Jamestown for new students
 5,12,26 SOAR - Greensboro for new students
 17,24 SOAR - High Point for new students

July

4 Independence Day Holiday (College closed)
 9,11,16,18,
 23,25,30 SOAR - Jamestown for new students
 10,17,24,31 SOAR - Greensboro for new students
 15,29 SOAR - High Point for new students
24 Last day of classes (Thursday class day only)

** Classes will not be held on inclement weather days if the College has not missed instructional days. Students and faculty are not required to be on campus on these days if they are not needed for make-up purposes.*

The academic calendars are for planning purposes and are subject to change based on action by the college administration, the GTCC Board of Trustees, the N.C. Community College System office or the N.C. General Assembly.

GENERAL INFORMATION

Accreditation

GTCC is accredited by the Accreditation Review Committee on Education – Surgical Technology and CAAHEP; American Association of Medical Assistants; Council on Dental Education of the American Dental Association; Federal Aviation Administration; North Carolina Office of Emergency Medical Services; North Carolina State Board of Cosmetic Art; North Carolina Real Estate Commission; North Carolina Board of Nursing; North Carolina Appraisal Board; American Culinary Federation Educational Institute Accrediting Commission; Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association (CAPTE); and the National Institute of Metalworking Skills (NIMS).

Guilford Technical Community College is also accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia 30033-4097; Telephone number 404-679-4501) to award Associate Degrees.

Canceling Classes

The college cancels, delays or dismisses classes when weather conditions make it unsafe to drive or to keep the college open. If classes are cancelled, listen to area radio or television stations for an announcement, subscribe to and receive messages through the college's E2Campus Text Messaging Service, check the GTCC website, or call the college switchboard for a recorded message. The college will have make-up classes as listed in the academic calendar.

Children on Campus

While all visitors are welcome at GTCC, the college does have rules concerning children on campus. For the safety of young visitors, anyone who brings children to campus must constantly supervise them and never leave them alone. The college does not allow children in classrooms, labs or shops while a class is in session.

Computer Labs

Students can use the computer lab in the Percy H. Sears Applied Technologies Center. The lab has more than 100 computers and is open Monday – Thursday from 7:00 am – 5:00 pm and Friday from 7:30 – 3:00 pm. See page 30.

Academic Terms & Definitions

Academic Advising - When you meet with a academic advisor or faculty advisor to select a program of study and courses that you should take in the next semester.

Academic Year - The months when classes meet. The academic year includes fall semester, spring semester and a summer term.

Accreditation - When a college is accredited, it meets standards established by an accrediting association. GTCC is accredited by the regional accrediting association, the Commission on Colleges of the Southern Association of Colleges and Schools. Specific departments are accredited by other organizations. See Accreditation at the beginning of this section.

Advanced Standing - If you have advanced standing, you have earned credits at another institution, through professional certifications or licensure or through exams that apply to your program of study at GTCC.

Associate Degree - A credential awarded if you successfully complete a program of study with at least 64 semester credit hours.

Auditing a Course - Enrolling in a course for no credit. Tuition and fees are charged.

Board Policy - A written statement approved by the GTCC Board of Trustees that directs college action on a specific subject.

Business & Industry - The GTCC administrative division that offers non-credit courses, seminars, workshops, business training and other educational activities.

Catalog of Record - The catalog that is current when you enroll. You can graduate under the requirements of that catalog or a later edition of the catalog, provided you do not have a break in enrollment that exceeds one year.

Certificate - A credential awarded if you successfully complete a program of study of at least 12 semester credit hours. Only certificates with a minimum of 16 credits are approved for Financial Aid.

Co-enrollment - A requirement to take two or more related courses during the same semester.

Collaborative Agreements - Agreements with other colleges to provide degree programs not offered by GTCC.

College Procedure - A written statement approved by the GTCC President's Council outlining steps to be taken for carrying out board policies.

College Transfer Courses - A series of courses that will prepare you for further study at another community college or a four-year institution.

Commencement - The graduation ceremony when degrees and diplomas are awarded to students completing program and college requirements.

Concurrent/Dual Enrollment - High school students at least 16 years of age, or in the 11th or 12th grade, with permission from their principal or designee, may enroll in college level courses, in a program in which there is a cooperative program agreement. All costs are waived except personal insurance.

Contact Hour - An hour of in-class, clinic, lab, etc. time.

Continuing Education - Non-credit courses, seminars, workshops, business training and other educational activities offered outside the normal degree structure.

Cooperative Education - An educational process where students receive academic credit for approved work experiences related to their field of study.

Co-requisite - A course that you have to take before or at the same time as another course.

Counseling - A professional service to help you with personal, academic and career decisions.

Course - A planned series of educational experiences, conducted by an instructor, such as lectures, discussions, lab exercises, or clinic activities that center around a particular subject.

Course Description - A written statement that explains what will be taught in a course.

Credit - Recognition by the college that you have successfully completed a course requirement leading to a degree, diploma or certificate.

Credit by Examination - Credit you earn for knowledge gained through sources other than a college class. You must pass a standard comprehensive test or a test written by a college instructor. If you make a C or better on a proficiency test in a course, you will earn credit for that course. Tuition may be charged.

Credit Course - A course that is part of a program leading to a degree, diploma or certificate, which allows you to earn a stated number of credit hours if you successfully complete it.

Credit Hour - The unit of measure for college work that applies to a degree, certificate or diploma. A semester credit hour is 16 hours of instruction in lectures, 32-48 hours of laboratory activity and a longer period for other kinds of educational experiences.

Curriculum - A series of courses that leads to a degree, diploma or certificate. This is the same as a program of study.

Curriculum Program Plan - A program outline of courses required to complete requirements for graduation matched with completed courses allowing students to track their progress towards graduation.

Degree - A credential the college presents to a student who completes a prescribed course of study in a minimum of 64 semester hours. GTCC awards associate degrees.

Diploma - An academic credential awarded when a student successfully completes a prescribed course of study, which requires 36 to 48 semester credit hours.

eLearning - Electronic means of instruction, used by many instructors to deliver content and/or assessments either in an on-campus or online classroom. The eLearning department is located on the third floor of the Learning Resources Center of the Jamestown campus.

Elective - A course that is not required in a degree, diploma or certificate program but that is counted in total hours required.

Faculty - The college's instructors.

Financial Aid - Money that is awarded to students by government, institutional or private sources. Financial aid can be grants, loans, scholarships or student employment that helps pay tuition or other educational expenses.

Forgiveness of Grades - You may request the forgiveness of grades that are over five years old provided you are enrolled at least half time at the time of the request. If approved, the grades and credit hours will be forgiven, i.e., the grade and hours will not be computed in your cumulative grade point averages; however, the grade with a prefix of N will show on your official college record/transcript. Forgiveness of grades does not extend to determining financial aid eligibility.

Freshman - A student who has earned fewer than 32 semester hours of credit.

Full-Time Student - A student who is enrolled for at least 12 semester hours during fall or spring semester is a full-time student for both academic and financial aid purposes; A minimum of 9 semester hours is full-time status in the summer term (12 credit hours is full-time for financial aid purposes). If you follow the program plan, you will be able to finish an associate degree program in two years.

GED - An abbreviation for General Educational Development. A person who passes the GED examination earns a certificate that is equivalent to a high school diploma.

General Education - A program of study that gives a student an introduction to the liberal arts and that can be tailored to a student's interests rather than specific technical requirements.

Grade Point Average - A way of mathematically computing your academic performance by giving a value to each grade (called quality points), multiplying the credit hours by the quality points and dividing that total by the number of credit hours attempted.

Graduation Requirements - The courses and competencies in the program of study that you have to complete successfully in order to qualify for a degree, diploma or certificate.

Grant - Money to help pay tuition or other educational costs that you might receive for reasons other than academic achievement.

Titan Cruiser - Titan Cruiser is an information portal for curriculum students, faculty, and staff providing email, access to news, announcements, campus calendar, classes, offices, departments, and clubs. The system may be accessed from any computer with an internet connection. Students are also able to register for classes, view grades, and make payment for the current semester through WebAdvisor.

Honors - Formal recognition for superior academic achievement. See page 45.

Interactive Teleconference Classes (IH) - Interactive teleconference classes are held in the North Carolina Information Highway Class. Students will either have an instructor in the room or communicate with the instructor via teleconference from another school.

International Student - A citizen from another country who is enrolled at GTCC.

Internship - Approved on-the-job training in a work setting. You earn credit hours towards graduation.

In-state Status - A person whose legal residence is in the state of North Carolina and who has established and maintained legal residency for at least 12 months prior to the date of enrollment. Consult with admissions personnel for specific requirements.

Laboratory Hours - The time in the instructional plan that you spend applying the theories presented in lectures.

Moodle - Moodle is the course management software used at GTCC. All curriculum courses have a Moodle site to use for posting documents, administering assignments/assessments and facilitating communication outside of the physical classroom. Students have access to their class sites in Moodle starting the first day of class.

Online Classes -(OL) - Online classes have the designation of "N" in their section number. Online classes are located in Moodle. Students should plan to meet weekly deadlines and participate on a regular basis in order to access the Moodle site. Per the course syllabus of the class, the instructor may remove a student's Moodle site access due to lack of participation.

Out-of-state Status - Status of a person whose legal residence is outside the state of North Carolina or who has not met the legal definition for in-state status. Consult with the admissions personnel for specific requirements.

Placement Test - An exam given to students to determine the level of courses in subjects such as writing, math and reading that students are prepared to take.

Prerequisite - A requirement and/or a course that you **must** finish before you can take a specific course. Course prerequisites are listed with course descriptions.

Program of Study - A series of courses that leads to a degree, diploma or certificate. This is the same as a curriculum.

Refund Policy - In compliance with current State Board policy: GTCC will refund 100% of tuition and fees if you officially withdraw from class before the first day of classes of the academic semester. 75% of tuition only may be refunded if the student officially withdraws from class(es) on or after the first day of the start of the semester and prior to or on the section's census date. During the drop/add period, if you are changing sections, or dropping and adding a class, both the drop and add transaction must be performed in the same registration session in order to receive full credit for the course you are adding. Other fees, such as shop/lab/clinic fees, YMCA fee, GBAT fee, GOLDS fee, RUSH fee, campus access/parking/security fee, computer use/technology fee, student activity fee, student accident insurance fee and malpractice insurance fees are not refundable after classes start. No refunds will be given to students who drop a section after the census date of the section. The census date of each section may vary and may be obtained from logging into WebAdvisor and clicking on My Class Schedule.

Registration - The process of selecting courses, choosing sections by day and hour, enrolling in classes and paying tuition and fees.

Residency - Under North Carolina law, a student must be classified as a resident or nonresident for tuition purposes. To be classified as a resident, or an in-state student, you must have established legal residence in the state and maintained it for at least 12 months prior to the date of enrollment. Consult with admissions personnel for specific requirements. See page 22.

Residency for Degree - You must earn at least one-fourth of the required hours in your program at GTCC and you must earn at least one-third of the major course work required for graduation at GTCC.

Satisfactory Progress - The level of achievement and advancement toward a degree, diploma or certificate that is required to maintain eligibility for financial aid and Department of Veterans Affairs educational benefits. Students who do not meet those standards are placed on academic probation. See page 29.

Scholarship - Money provided as a recognition of achievement to help pay for tuition or other educational costs.

Section - The individual class meeting at a particular day and time and with a specific instructor.

Semester - A part of the academic year. A semester is 16 weeks. Fall semester begins in August and ends in December. Spring semester begins in January and ends in May. Summer term is 10 weeks in length beginning in May and ending in July.

Sophomore - A student who has earned 32 or more semester hours of credit.

Sponsorship - Authorized funds from an agency/company to pay for college expenses. Expenses may include tuition, fees, books, and supplies.

Telecourses - (TC, EA) Section numbers that include TC or EA designate video-based courses broadcast on the UNC-TV (PBS) station.

In addition, many of these courses are also broadcast on the Guilford County Schools station (GETV). Students use these video lectures, in addition to textbook reading, to complete assignments as directed by their instructor. Students meet the instructor once at the beginning of the semester, and may be required to meet with the instructor at other times or to come to campus for proctored exams.

Transcript - A copy of your academic record listing courses taken, grades earned, honors received and degrees awarded. There is a fee for official transcripts.

Transfer Courses - Courses accepted by the college that have been taken at another approved college or university.

Tuition and fees - The cost of attending college.

WebAdvisor - Registration, grades, and unofficial transcripts are only a few of the services available on WebAdvisor, the college's on-line internet connection. Students can also make payments for the current semester.

Webbed Classes - Webbed courses blend the approach of on-campus meeting times and online instruction to meet the student learning outcomes for the course. Students must both attend class meetings and complete the assigned work online per the course syllabus. In order to be successful in a webbed course.

Facilities

Jamestown Campus

GTCC's main campus is in Jamestown, N.C., mid way between Greensboro and High Point. There are 21 main buildings on the Jamestown campus. They are:

Auto Body Repair Building - houses the college's auto collision repair and refinishing shops.

Business Hall - classrooms, labs, and offices

Community Training Center - (formerly Wellness) - classrooms, computer lab, life science lab, and conference rooms for Quick Jobs and other classes designed for businesses and individuals for job-skill enhancement, office of the Middle College principal, faculty, and staff

Center for Business & Industry - Workforce Preparedness programs, offices, conference room for Business & Industry

Cline Observatory - Astronomy classes and open to the general public at specified times.

Coswell E. Gerrald Hall - Advertising and Graphic Design department, offices, classrooms and labs.

Davis Hall - classrooms, Humanities, History & Social Sciences faculty offices, and the Counseling Center

Dr. Stuart B. Fountain Dental Science Building - Dental programs and dental clinics, offices and classrooms

Hassell Health Technologies Center - Nursing, Surgical Technology, Medical Assisting, Physical Therapist Assistant and Life Sciences programs.

Joseph S. Koury Hospitality Careers Center - Culinary Arts, Drama, and Hospitality Management programs, Koury Auditorium, the Fine Arts Theatre, and the Culinary Dining Rooms.

James L. Williams Hall - Student Development and Learning, Learning Assistance Center, and the Accounting, Business Administration and Global Logistics programs.

Learning Resource Center - M.W. Bell Library, Instructional Technologies, eLearning, Teaching/Learning Center, Professional Development, Computer Lab, Multimedia Meeting Room, classrooms, and faculty and staff offices.

Luther R. Medlin Campus Center - Admissions Office, Assessment Center, Advising Center, Financial Aid, Bookstore, Cashier, Student Lounge, Student Government Offices, Cafeteria, Job Placement, Campus Police, Continuing Education Registration, Enrollment Services, Veterans/Military Office and other administrative offices.

Machinery Hall - Physical plant and construction.

Mary Perry Ragsdale Family YMCA - Health / Physical Education.

Welding - Welding.

Percy H. Sears Applied Technologies Center - a 250-seat auditorium, an open computer lab, smaller computer labs, the Computer and Office Administration programs, faculty offices and classroom space and designated classrooms used by the Middle College.

Public Safety Building - Criminal Justice, Emergency Medical Science, and Fire Protection Technology programs

Science Hall - Classroom and laboratory space for chemistry and physics, Mathematics and Science faculty offices.

Service Careers - Children's Center, Early Childhood, and Cosmetology programs.

Transportation Complex - Collision Repair and Refinishing, Automotive Systems and Heavy Equipment and Transport programs

High Point Campus

The High Point campus is located downtown at 901 S. Main St. The Campus has five buildings which serve both administrative and instructional functions.

H1 Building - The H1 building is the campus center and houses the bookstore, business office, Continuing Education registration desk, student lounge, counseling office, the Dean's office, Campus Police, Community Service and Defensive Driving administrative offices, the Middle College principal's office, and several classrooms.

H2 Building - The Upholstery program and Middle College video production studio are located in H2.

H3 Building - Basic Skills administrative offices, the Center for Working Families, and Basic Skills classrooms are located in H3. Basic Skills includes Adult High School, GED, Adult Basic Education, ESOL (English for Speakers of Other Languages), and Compensatory Education Programs.

H4 Building - The H4 Building houses the Entertainment Technology program, Continuing Education and Occupation Extension classrooms, the LRC (Learning Resource Center), computer labs, the indoor theatre, music production labs, practice rooms, recording studios, and the outdoor amphitheatre.

H5 Building - Pharmacy Technology, Human Services Technology, and Substance Abuse program, General Education, and Developmental Education are located in the H5 instructional building. The H5 building also houses four computer labs, a biology lab, a general science lab, a Learning Assistance Center, the Pharmacy Technology lab, the Human Services lab, a student lounge area, and several general classrooms.

Greensboro Campus

The Greensboro Campus is located at 3505 East Wendover Avenue. This campus is the home to the Basic Skills Program; Industrial, Construction, and Engineering Technology programs; Paralegal Technology program; General Education and Developmental courses; and non-credit Continuing Education course offerings. The Greensboro Campus has four instructional buildings on its 69 acre site.

Adult Education Center - The Adult Education Center houses the Adult High School, GED, Adult Basic Education, Compensatory Education, and English for Speakers of Other Languages (ESOL) programs and the central campus library.

Continuing Education Center - The Continuing Education Center contains a wide variety of continuing education classes such as computer, art, financial, notary, college credit, health, EMT, and Certified Nursing Assistant classes. The Continuing Education Center houses the campus bookstore, campus police, student services, registration, and counseling offices.

Greensboro Campus Center - The Greensboro Campus Center building houses the Paralegal Technology program, laboratories for biology and physical sciences, a Learning Assistance Center, general classrooms and the student government/ID office.

Technical Education Center - The Technical Education Center is the home of the Industrial, Construction, and Engineering Technologies Division. This division responds to the employment and economic needs in the Guilford County area by providing education and training in the following areas: Air Conditioning, Heating and Refrigeration Technology; Architectural Technology; Civil Engineering and Surveying Technology; Construction Management; Electronics Engineering Technology; Industrial Electrical/Electronics Technology; Industrial Systems Technology; Computer Integrated Machining; Mechanical Engineering/Drafting and Design Technology; Mechatronics; Residential Carpentry; Telecommunications and Network Engineering Technology; and Turfgrass Management Technology. This division provides limited articulation options and opportunities for transfer to four year educational institutions.

Small Business Center - Greensboro

The Small Business Center is in the Nussbaum Center for Entrepreneurship, 2007 Yanceyville St., Greensboro. The Small Business Center offers classes, referrals and counseling for business owners.

Aviation Center - Greensboro

T.H. Davis - GTCC Aviation Center - The T.H. Davis - GTCC Aviation Center is located at 260 North Regional Road, on the western edge of the Piedmont Triad International Airport. This facility houses the Transportation Divisions Aviation Systems, Career Pilot, and Aviation Management programs. In addition, GTCC offers Aviation Structures, Non-Destructive Testing, Airframe and Powerplant Refresher courses, FAA Oral & Practical Exams for the A&P certificates, and single and multi-engine simulator training, all as short-term Continuing Education courses at the Center.

Aviation Center #2 - Aviation Center #2 is located at 819 Radar Rd. adjacent to the Piedmont Triad International Airport.

Institutional-Level Student Competencies

Your educational experience at GTCC gives you the chance to reach established and institutional-level competencies that support your continued education and career growth.

When you graduate from a program, you should be competent in the following areas as demonstrated through completion of a capstone course or experience.

The broad purpose of a learning-centered technical and community college in the culturally diverse world of the 21st century should be to prepare graduates for productive employment, university transfer, and lifelong learning through the attainment of the following skills, knowledge and values;

General Education Outcomes

- **Effective Communication**
 - > Speak clearly with grammatical correctness
 - > Use standard written English in traditional and electronic media
- **Critical Thinking**
 - > Access, evaluate, and synthesize Information from both oral and written sources
 - > Integrate knowledge from diverse disciplines, to draw reasonable and evidence-based conclusions
- **Problem Solving**
 - > Use scientific inquiry method
 - > Apply problem solving skills to real world experiences/applications
 - > Use mathematics to organize, analyze, and synthesize data to solve a problem
- **Technology Literacy**
 - > Use electronic and print resources to access, retrieve, process, and communicate information
 - > Design professional caliber documents for workplace or academic context.
- **Global Literacy**
 - > Develop an awareness of diversity
 - > Develop an awareness of the interdependence of our world

Employability Skills

You should be able to demonstrate basic core competencies for successful workplace performance by:

- Working with others as a member of a formal or informal team to analyze a situation, establish priorities and apply resources for solving a problem or accomplishing a task.
- Exhibiting responsible behaviors that support the mission, goals and objectives of organizations or social units of which you are a member.
- Communicating by exchanging ideas and information in oral, written or visual form with peers, supervisors or customers.
- Identifying problems and potential causes while developing and implementing action plans for solution.
- Exhibiting information literacy by formulating the questions to be answered, acquiring the answers to these questions efficiently using appropriate tools and sources and modifying your search for information as more questions arise; selecting, synthesizing and organizing information, documenting the validity and/or sources of information and communicating information effectively.
- Exhibiting adaptability and receptivity to changing technologies, methods, processes and work environments, and organizational structures and practices.

Curriculum-Specific Skills

You should exhibit knowledge and skills required for entry into a chosen career or for an area of specialization. These skills are based on the need of local business and industry or national skill standards.

Internet Use

GTCC students can use the college's Internet services for educational needs. You must use the Internet efficiently, ethically and lawfully. You cannot misuse Internet services, including letting non-students use the service; advertising or selling personal services; interfering with other users in any way; misusing copyrighted material; or engaging in computer hacking or fraud.

Lost and Found

If you find an item or lose one, contact the Campus Police office on the campus where you lost or found the item. The Campus Police office keeps lost items for 120 days.

Parking/Speeding

You must display a parking permit on your car, motorcycle or bicycle unless you are a visitor.

You can obtain a permit from the cashier or Campus Police during registration each term. After registration, you can obtain a permit from Campus Police on each campus. To obtain a permit, you must have proof that you're enrolled as a current student.

Permits are valid on all GTCC campuses.

There are reserved parking spaces for faculty, staff, cosmetology patrons, dental clinic patients, visitors, and people with disabilities.

Parking lots and spaces are clearly marked, and it is your responsibility to find a legal parking space.

You will get a parking ticket and \$5 fine if you:

- are parked in cosmetology or dental spaces without a permit.
- park in any area posted "No Parking Anytime-Fire Zone."
- are parked in more than one space.
- block a sidewalk or walkway.
- don't display a current GTCC parking permit.
- park on the grass.
- park in a posted faculty/staff space without the correct permit.
- park in an area not designated as a parking place.
- park in visitor parking.
- park in the wrong direction in a one-way posted zone.
- park in a reserved parking lot or space.
- block a lane of traffic.
- block a building entrance.
- park on the shoulder of the road.
- park too long in a time restricted area.
- park a motorcycle, moped or bicycle in an area not designated for that type of vehicle.

Your car will be towed if you:

- park in a disabled-only zone without the proper permit.
- park within 15 feet of a fire hydrant.
- leave your vehicle unattended in a loading zone.
- park in a designated tow zone.
- accumulate more than two parking citations in the same semester.
- otherwise affect the safe conduct of traffic.

If you let unpaid parking fines accumulate, the college will withhold your grades and transcripts and you won't be able to register until you've paid the fines.

If you want to appeal a parking citation, you can use a form available from Enrollment Services in the Luther R. Medlin Campus Center on the Jamestown campus or from the information desk at the High Point and Greensboro campuses.

Speed Limit

The 20-mile-per-hour speed limit is enforced with radar on all campuses to ensure the safety of pedestrians. Campus Police officers will issue state speeding citations.

Pay Telephones

There are pay phones on each campus for student use. Students are not allowed to use office phones unless it is an emergency. Neither faculty nor students will be interrupted during class for phone calls except in case of an emergency.

Jamestown campus pay phones are located in the Percy H. Sears Applied Technologies Center (level I), Montgomery Circle, Public Safety Building (back lobby). All pay phones are High Point telephone lines.

A pay phone on the Greensboro campus is located in the front lobby area of the Adult Education Center.

A pay phone at the High Point campus is located in building H3 and is a High Point telephone lines.

A pay phone is located at the Aviation Center in the building lobby and is a Greensboro line.

Safety

If you are involved in or see an accident, report it to the Campus Police office by dialing 7070 to reach the campus operator. A Campus Police officer will give first aid, notify emergency services if necessary and complete an accident report on the incident.

Each campus has a first aid station in the Campus Police office.

The Jamestown campus is open from 7:00 a.m. - 11:00 p.m. Monday - Friday and 7:00 a.m. - 5:00 p.m. on Saturday (Campus Police will begin opening buildings at 6:30 a.m. to ensure that areas required for 7:00 a.m. classes are accessible in a timely fashion.); the Greensboro campus and High Point campus are open from 7:30 a.m. - 11:00 p.m. Monday - Friday and 7:30 a.m. - 5:00 p.m. on Saturday. All campuses are closed on Sunday. Campuses are patrolled by Campus Police officers. Also see Emergencies on page 51.

Smoking

GTCC is a tobacco-free campus as of August 1, 2008. Violations of the smoking policy will result in disciplinary action. For assistance in smoking cessation, contact the Counseling Center.

ADMISSION

GTCC has an open-door admissions policy. The college is open to anyone 18 years old or older or high school graduates younger than 18. Individuals under 18 years of age who have not attained graduation from high school can attend GTCC as stipulated by the policies of the State Board of Community Colleges and the procedures specified by GTCC. Admission to the college does not guarantee acceptance to the program of your choice or guarantee continued enrollment in the college.

If you are applying for any associate degree, diploma or certificate program, you must be a high school graduate or have earned the Adult High School diploma or the GED. If you do not meet this requirement, you can enroll in GTCC's GED or Adult High School program, for which there is no charge. (See page 54). For additional information, visit the Enrollment Services/ Admissions Office, which is located on the second floor of the Luther R. Medlin Campus Center, on the Jamestown campus, or the counseling offices on the High Point and Greensboro campuses.

Upon submitting an application for admission, you may be interviewed and/or be asked to take a placement test depending on the program to which you are applying and the courses for which you wish to enroll.

Qualified high school graduates will be admitted into a specific program if it is not a limited enrollment program of study. High school graduates applying to a limited enrollment program will be admitted, if qualified and if space is available, based upon admissions standards, which are available in Enrollment Services.

How to Apply

- Complete an application for admission.
- Have official high school or GED transcripts sent to the Admissions Office. GTCC will recognize state funded public schools and home schools registered with the state. Home school graduates will need to provide proof that the home school was registered with the state. If you attended a non-traditional private school, on-line high school or correspondence school, GTCC will only accept your High School Diploma if it is from a regionally accredited diploma granting high school. The following six regional accreditation agencies are recognized as official accrediting associations:
 - New England Association of Schools and Colleges (NEASC)
 - North Central Association Commission on Accreditation and School Improvement (NCA)
 - Middle States Association of Schools and Colleges (MSA)
 - Southern Association of Schools and Colleges (SACS)
 - Western Association of Schools and Colleges (WASC)
 - Northwest Association of Schools and Colleges (NWCCU)

We will also accept high school diplomas from schools accredited by the Distance Education Training Council (DETC). The DETC is also recognized by the United States Department of Education and the Council for Higher Education Accreditation. Students who graduated from international high schools will need to submit for copy an original diploma or original exit test scores. Students will have one semester to show proof of high school graduation to remain in a degree, diploma or certificate program.

- Have all official college transcripts sent to Enrollment Services. If you have a bachelor's degree, you do not have to send a high school transcript unless you are applying for a limited enrollment program.

- Interview with an admissions advisor to determine which, if any, placement test is required. Some programs limit the number of students who can be offered admission. See Limited Enrollment programs on page 22.

High School Students

If you are still in high school, but at least 16 years old, you can enroll as a concurrent/dual enrolled student. To apply you must:

- Submit the Dual Enrollment Permission Form, signed by your high school principal or his/her designee, each semester you want to enroll at GTCC;
- Complete the GTCC application for admission, which will not be processed without the Dual Enrollment Permission Form from your principal;
- Take the GTCC placement test, if necessary, to meet prerequisite requirements.

If you are 16 or 17 years old and have been suspended from a public or private secondary school for disciplinary reasons or you voluntarily want to enroll in Adult High School or GED classes, you must wait up to three months before you can be admitted to the college. See page 54 for more information on admission to GTCC's Basic Skills Classes.

Home School Students

Home school students seeking to take courses before graduation should speak with an admissions advisor before submitting an application for admission. Additional documentation will be required.

Non High School Students

An applicant, at least 18 years old, who did not graduate from high school, earn a GED, or an Adult High School diploma may take courses as a special credit student provided they meet course pre-requisites. Applicants must meet admissions requirements and, if required, take the placement test.

International Students

International students are welcome to apply for admission. You must:

- complete and submit the International Application packet (there is a \$40 application fee);
- return all required documents on or before the deadline as specified in the international application packet;
- send all applicable transcripts from secondary and post-secondary schools;
- present a minimum TOEFL (Test Of English as a Foreign Language) score of 500 (written test), 173 (computerized test), or a letter from a certified English language institute showing proficiency in English if your native language is not English;
- send health and medical records that show that you have up-to-date immunizations;
- submit evidence of adequate financial support to cover expenses for the first year of study. Financial Aid is not available for international students.

When you have completed these steps and met admission approval, an I-20 eligibility document and a letter of acceptance will be issued.

If you are an international student who wants to transfer to GTCC, you must complete all of the steps listed above and receive a transfer clearance from the school or college you are currently authorized to attend.

Student housing is not available; you must make your own arrangements for housing. Contact the International Student office on the Jamestown campus for assistance.

Readmission

A student who has been suspended or dismissed, or who withdrew for academic or other reasons, may apply for readmission. A suspended student may apply for readmission after one semester has passed.

An application for admission to be readmitted should be submitted to the Enrollment Services / Admissions Office. Readmission applicants to health programs will be required to meet with the chair of the program to which he/she is seeking readmission. (For more information about readmission to a health program see Readmission on page 48.)

Special Credit Students

An individual who does not want to earn a degree, diploma or certificate, but wishes to enroll in classes will be classified as a special credit student. To enroll, you only need to complete the application for admission and indicate **SPECIAL CREDIT STUDENT** as your program of interest. Some courses have prerequisites or other criteria that you must meet prior to registration. You must provide documented evidence of meeting pre-requisites.

Transfer Students

If you have attended another college or university, you are considered to be a transfer student and should follow the admissions guidelines under How to Apply, page 20. For information about transferring college credits, see Advanced Standing Credit, Transfer Credit on page 37.

Limited Enrollment

Admissions

Most programs follow the open-door admissions policy. However, there are some, called limited enrollment programs, which have more applicants than resources, such as facilities and faculty. Spaces in these programs are limited. Usually there are more qualified applicants than spaces in these programs, so students must meet additional admissions criteria and may be ranked as a process for admission to the program.

Limited enrollment programs include: Associate Degree Nursing, Automotive Systems Technology (Ford and GM), Aviation Systems Technology, Cosmetology, Dental Assisting, Dental Hygiene, eDegree Programs, Emergency Medical Science, Licensed Practical Nurse, Medical Assisting, Pharmacy Technology, Physical Therapist Assistant, Radiography, Returning LPN, and Surgical Technology.

Applicants to limited enrollment programs should contact the Admissions office when submitting an application for admission. Many limited enrollment programs have different application deadlines and admission requirements, which are subject to change. Some limited enrollment programs require you to remove any existing academic deficiencies before you can be considered for the program.

Limited enrollment programs generally begin once a year. Check with Enrollment Services for specific starting dates.

While limited enrollment programs begin only at specific times during the year, an applicant may meet with a faculty advisor prior to the starting date of the program to enroll in the general education courses outlined in the specific program of study.

Residency

Tuition rates are based on whether you are an in-state or out-of-state student. The application for admission asks questions about your residency status. To qualify for in-state tuition, you must prove that you established your legal residence in North Carolina at least 12 months prior to the beginning date of the semester for which you are applying, have maintained it for a minimum of 12 continuous months and are physically present in North Carolina. You must also prove that your intent is to make North Carolina your permanent home indefinitely and that you are not in North Carolina only to attend college.

Based on your answers on the GTCC application, the admissions staff will determine your residence status for tuition purposes. You may have to fill out a residence questionnaire if your residency is unclear. You will be considered an out-of-state student until you send in the completed form and a change in status is determined. If you are classified as out-of-state during the admissions process, you can appeal your residence classification. You will need to complete a Tuition Questionnaire, the Tuition Status Change Request form and the Student Statement Petitioning a Change in Residence Classification. These forms are available in Enrollment Services. The Director of Admissions will review the form and make a decision within five days of receiving the form.

If your appeal is denied, you can appeal to the Associate Vice President of Student Success Services. The Associate Vice President's decision is final. If you are an out-of-state student, once you have established legal residence in North Carolina as outlined above, you may request a residence status change. You must complete the Tuition Questionnaire, the Tuition Status Change form, and the Student Statement Petitioning a Change in Residence Classification and submit them to the Director of Admissions. Your classification will be changed within two working days of receiving your request, provided the 12-month residency requirement is met and documented. Your in-state residence status will be effective at the beginning of the next enrollment period. If the change is denied, you can appeal as outlined above.

Some exceptions exist to the residency status regulations as outlined above.

Complete regulations on classification of students by residence for tuition purposes are detailed in “A Manual to Assist the Public Higher Education Institutions of North Carolina in the Matter of Student Residence Classification for Tuition Purposes.” A copy of this manual is available in Enrollment Services.

Appeal of Denial of Admission or Readmission

If you submit an application for admission or readmission and you are not admitted to the college, you can appeal the decision. You must appeal in writing to the Dean of Student Support Services, listing your reasons for the appeal. The Dean of Student Support Services will review your admissions record and make a decision, in writing, within seven days of when your appeal is received. If you are still denied admission, you can appeal, in writing, to the Associate Vice President for Student Learning and Success, who will make a decision within 14 days of receiving your letter. The decision of the associate vice president is final.

If you apply or reapply to a specific academic program, including limited enrollment programs, and are not admitted, you can appeal, in writing, to the department chair of the specific program of study, listing your reasons for the appeal. If you are still denied admission to the program, you can appeal to the Vice President of Student Learning and Success, who will make a decision within 14 days of receiving your appeal. The decision of the vice president is final.

REGISTRATION, TUITION & FEES

How To Register

Registering means that you, your advisor, or a college staff member entered your class choices into the college computer system so that you have a seat in a particular class. If you have completed the application process (see page 20), you can register for classes during registration times listed in the academic calendar (see page 8). You must be registered and paid before the first day of classes in the term.

You should take any necessary placement tests, if required, see your faculty advisor, choose your classes and get a class schedule. New students should attend an orientation session. (See the GTCC website for a schedule.) Currently enrolled students may register through WebAdvisor or in person. Students registering in person must present a photo ID.

Class Schedule

The schedule of classes is posted on the college's website before registration begins. Your faculty advisor can help you plan your class schedule each semester, but you are responsible for scheduling your own classes. GTCC reserves the right to cancel, combine or change the time, day or location of any class without prior notice to students. The college also reserves the right to change the instructor and/or instructional method without notice.

Placement

Some courses have minimum placement test scores or prerequisites.

Pre-requisites for courses must be met. Only under extraordinary circumstances will students be permitted to register without the stated course pre-requisite. Cases for these rare circumstances should be made by specific certifications, written documentation, unofficial transcripts, or other well-documented achievement of pre-requisite course competencies.

Depending on the courses you want to take, you may have to take placement tests. GTCC requires you to take placement tests to help place you in courses that match your skills and curriculum requirements. The tests are not timed and results are available immediately. **You are encouraged to review your reading, writing and math skills before you**

test. SAT and GED preparation materials are helpful. Also the *Chart Your Success on the COMPASS Test* study book and diskette may be purchased from the GTCC Bookstore or checked out for one night from the GTCC Learning Resource Center (LRC) for a fee (refundable).

You may not have to take placement tests if you have completed college-level English or math courses with a grade of C or better or have an SAT verbal score of 510 or new SAT writing score of 510, new SAT reading score of 510, or SAT math score of 520. Limited enrollment programs may have additional testing requirements. Check with the Admissions Office for more information about testing.

Advising

If you are a degree, diploma, or certificate-seeking student, you can speak with a faculty advisor who teaches in your chosen program. You may speak with an advisor in the Advising Center if you enroll as an undecided or special credit student.

VA Benefit recipients are required to see their advisors each semester to ensure that classes are in their programs.

SOAR - New Student Orientation

All new students are encouraged to participate in SOAR (Student Orientation Advising and Registration). Orientation sessions are offered before the start of each fall and spring semester at each campus location. General information, student success information, and academic registration are included in each session. Participation in SOAR allows you to register early and to receive information necessary to become a successful student. For more information, contact the Student Life office at ext. 2537.

Adding or Dropping a Class

You can make a schedule adjustment (drop/add) during the first few class days of the semester.

In order to avoid being charged fees for dropped classes, you must drop and add the same amount of credit hours in the same session on the same day. Contact the cashiers office after making any schedule adjustments to pay any additional charges incurred.

After the schedule adjustment period, you will have to follow the withdrawal process if you want to drop a class.

Tuition and Fees

Student Financial Responsibilities

You are responsible for buying books and supplies for your courses and for paying tuition and any other financial obligations. You will not be allowed to register if you owe money to the college. GTCC can withhold your transcript, degree, diploma or certificate and bar you from graduation ceremonies until you have paid your college bills.

Should it become necessary for GTCC to refer unpaid balances to a collection agency or an attorney, the student will be expected to pay all fees associated with the collection of the unpaid balance.

Payment of Tuition and Fees

Tuition

After you have registered, you must pay your tuition and fees. Tuition and fees may be paid by credit or debit card (American Express, Discover, VISA or MasterCard) using Titan Cruiser/ WebAdvisor. Staff members cannot accept telephone payments. You can pay in person with cash, check, money order, credit or debit card (the card must be present). You can also pay by mail with a check or money order. If paying by check, the account holder's name, address, and account number must be pre-printed on the check. A \$25.00 service charge will be assessed on each check returned by the bank.

The Jamestown campus Cashier's Office hours are 8 a.m.-5 p.m., Monday - Friday. You can use the drop box after hours until 10 p.m. All drop box payments will be processed the next business day. Please do not leave cash in the drop box. You can pay at the High Point Cashiers Office or Greensboro campus bookstore. The Greensboro bookstore is open Monday through Thursday, 9 a.m. - 7 p.m. and Friday from 9 a.m. - 12 noon. The High Point Cashiers Office is open Monday through Thursday from 9 a.m. - 7 p.m., and Friday 9 a.m. - 12 noon.

Tuition Rates

The North Carolina General Assembly sets tuition rates for in-state and out-of-state residents. They are subject to change by the General Assembly without notice.

Senior citizens (age 65 or older) who qualify as legal NC residents, may enroll for one (1) free non-credit course per semester. This does not include self-supporting classes and they should be noted in the schedule. The following Course Codes CSP-4000, SEF-3001, CPX-XXXX, REX-XXXX, or ITX-XXXX indicates a self-supporting class and seniors must pay the registration fee. Senior citizen registration fee exemption does not supersede the Course Repetition Policy if the same occupational extension class is registered for more than twice in a five year period. Senior citizens are required to submit a registration form and to purchase any required supplies or textbooks.

Please Note:

The North Carolina General Assembly sets tuition rates for in-state and out-of-state residents. **They are subject to change by the General Assembly without notice.**

Fees are established by state legislative action and/or State Board action and/or GTCC Board action and **are subject to change.**

In-state Tuition

You are an in-state resident if you have been a legal resident of North Carolina for 12 months before the date you enroll. See Residency on page 22 for more information.

Tuition is \$56.50 per credit hour for in-state students. The maximum tuition for in-state students for a semester is \$904.00.

Out-of-state Tuition

Tuition is \$248.50 per credit hour for out-of-state students. The maximum tuition for out-of-state students for a semester is \$3,976.00.

Fees

All students must pay a campus access, parking, and security fee (CAPS Fee) each semester. The fee covers expenses associated with providing campus access, parking, and security at the college. The fee is \$25 for all credit students taking 1 - 11 credit hours, and \$50 for all credit students taking 12 credit hours or more.

All students must pay a student activity fee each fall and spring semester. The fee covers activities and student publications. The fee is \$10.00 for students taking 1-11 credit hours and \$17.50 for students taking 12 credit hours or more. A \$50 fee will be charged for classes held at the YMCA, RUSH Fitness, and Gold's Gym.

All curriculum students must pay a technology fee for each semester. The fee is \$10 for all credit students taking 1-11 credit hours, and \$16 for all credit students taking 12 credit hours or more. Continuing education students pay \$3.00 per course.

Students enrolled in a course with shop/lab or clinic hours will have to pay a shop/lab/clinic fee. This fee varies by academic program.

These fees are under review and are **subject to change without notice.** The rates listed were in effect when this publication went to press.

When you complete the requirements for a certificate program, you must apply for your certificate in Enrollment Services and pay a \$5.00 fee.

When you are eligible to graduate with a degree or diploma, you must apply for graduation (see page 44) and pay a \$35 fee which buys your cap and gown, the degree or diploma and cover. You must pay the fee at the time of the application.

Copies of your official transcript must be requested in writing from Enrollment Services. There is a \$5.00 fee for each official transcript. GTCC cannot provide copies of transcripts that aren't your own and cannot provide transcripts from other institutions. GTCC does not accept checks for payment of transcript requests.

Continuing education students pay course registration fees in lieu of tuition. The State Board of Community Colleges sets these fees. Effective on or after August 6, 2009, fees are based on course hours. Courses lasting up to 24 hours pay \$65.00. Courses lasting up to 50 hours pay \$120.00. Courses lasting more than 50 hours pay \$175.00.

Insurance

If you are enrolled in a program of study, you must buy accident insurance. This insurance covers you when you're on campus for classes, and while you're taking part in official school sponsored activities. Accident insurance costs \$2.75 for fall semester, \$2.75 for spring semester and \$1.60 for summer session. The cost and coverage can change from year to year. If you need more information, stop by the Risk Manager's office in Machinery Hall.

These fees are under review and are subject to change without notice. The rates listed were in effect when this publication went to press.

Some programs require that you buy malpractice insurance when you register. Rates are:

Program	Semester Rate	Total Per Year
Cosmetology	\$8.50	\$17.00
Culinary Arts	\$8.50	\$17.00
Dental Assisting	\$8.50	\$17.00
Dental Hygiene	\$8.50	\$17.00
Early Childhood Education	\$8.50	\$17.00
Emergency Medical Science	\$8.50	\$17.00
Emergency Medical Technician	\$17.00 (per class)	
Human Services	\$8.50	\$17.00
Medical Assisting	\$17.00 (per class)	
Medical Transcription	\$17.00 (per year)	
Nursing	\$8.50	\$17.00
Physical Therapist Assistant	\$8.50	\$17.00
Surgical Technology	\$8.50	\$17.00
Healthcare Management		
Technology Co-op	\$8.50	\$17.00
Medical Office Administration		
Co-op	\$8.50	\$17.00
Office Administration Co-op	\$8.50	\$17.00
Pharmacy Technology	\$8.50	\$17.00

Textbook Costs

If you are a full-time student, you can expect to spend several hundred dollars for textbooks and supplies. The GTCC bookstores at the Jamestown, Greensboro, and High Point campuses as well as the Aviation Center sell textbooks. Information on textbook refunds and textbook buy-backs is available at the bookstore.

Refunds

In compliance with current State Board policy: GTCC will refund 100% of tuition and fees if you officially withdraw from class before the first day of classes of the academic semester.

75% of tuition only may be refunded if the student officially withdraws from class(es) on or after the first day of the start of the semester and prior to or on the section's census date.

No refunds will be given to students who drop courses after the census date.

During the drop/add period, if you are changing sections, or dropping and adding a class—BOTH the drop AND the add transaction MUST be performed in the same registration session in order to receive full credit for the course you are dropping. Other fees, such as shop/lab/clinic fees, YMCA fees, GBAT fees, GOLDS fees, RUSH fees, campus access/parking/security fee, computer use/technology fee, student activity fee, student accident insurance fee, and malpractice insurance fees are not refundable after classes start. The census date of each section may vary and may be obtained by logging into WebAdvisor and clicking on My Class Schedule.

The college refund policy is established by state legislative action and therefore is **subject to change without prior notice** to students. Please allow six to eight weeks from the census date for refunds.

The refund policy stated above was in effect at the time this publication was published. For more information, please call ext. 2604.

Special Refund Conditions for Title IV Federal Student Aid Recipients

These are special refund policies, set by federal law, for students who get Title IV federal aid. These refunds are based on the Higher Education Act of 1965, as amended by Congress in 1998. You fall under this category if you:

- Have been awarded Title IV aid (federal Pell Grant, SEOG, Stafford loan or PLUS loan); and/or receiving VA Educational Benefits.
- Have stopped attending classes, withdrawn or been expelled before 60 percent of the class was over or otherwise failed to complete the program.

If you meet these conditions, a portion of the total federal Title IV funds awarded to you must be returned in proportion to the portion of the semester not completed. For example, if you withdraw at the 40% point of the semester, 60% ($100\% - 40\% = 60\%$) of the federal Title IV awarded to you for that semester must be returned to the federal programs. If there is a balance due to GTCC as a result of these refunds, you are responsible for payment. Further details and examples can be obtained at the Financial Aid Office.

Should it become necessary for GTCC to refer unpaid balances to a collection agency or an attorney, the student will be expected to pay all fees associated with the collection of the unpaid balance.

FINANCIAL AID

Purposes of Financial Aid

The purpose of financial aid is to help pay college expenses if you can't afford it. GTCC tries to be sure that no qualified student is turned away because the student doesn't have the money to pay for college expenses.

GTCC awards financial aid without regard to your race, religion, color, national origin or sex. To receive financial aid, you must demonstrate need and maintain good academic standing.

How To Apply

Students can apply for financial aid by completing the Free Application for Federal Student Aid (FAFSA). You can get help filling out financial aid applications by visiting the Financial Aid Office on the second floor of Luther R. Medlin Campus Center, Jamestown campus.

To be eligible for financial aid, you must:

- Complete the Free Application for Federal Student Aid form (FAFSA);
- Be a U.S. citizen or an eligible non-citizen;
- Be enrolled in an eligible program of study at GTCC;
- Not be in default on a Federal Family Educational Loan or owe a refund on any Title IV grant at any educational institution.

Financial aid is determined each academic year, so you must fill out a new FAFSA every year.

Types of Aid Available

Grants and Scholarships

Federal Pell Grants are based on financial need as determined by the FAFSA. Pell grants are for college undergraduates who have not yet earned a bachelor's degree.

Federal Supplemental Educational Opportunity Grant (FSEOG) is based on the FAFSA and is for students with exceptional financial need.

Federal Academic Competitiveness Grant (ACG) is based on the FAFSA and is for recent high school graduates who completed a rigorous program of study in high school.

The North Carolina Student Incentive Grant Program is for students who are legal residents of North Carolina, are enrolled for full-time study, and demonstrate substantial financial need based on the FAFSA. The state will select recipients from those who submit an application before March 15 of the academic year before enrollment. State grants are not available in the summer.

The North Carolina Community College Grant and the North Carolina Education Lottery Scholarship (ELS) are for students who are legal residents of North Carolina, are enrolled at least half-time, have Federal Pell Grant eligibility that does not exceed a certain amount set each year, or do not financially qualify for the Federal Pell Grant, but do demonstrate a substantial need as defined by the State each year. State grants are not available in the summer.

Scholarships are available from federal, state, local and GTCC sources. They are awarded based on financial need, academic performance and/or time of application. Some scholarships are open to all students while others are open to students in certain program areas, for example, nursing, engineering or business. Contact the Financial Aid Office, or visit the GTCC website for a list of scholarships.

Loans

You must fill out a FAFSA to be eligible for any loans. Federal loans include Stafford loans, which are subsidized and unsubsidized, and PLUS Loans which are for parents. You must be enrolled at least 1/2 time (six credit hours) and must maintain satisfactory academic progress. Please go to www.tinyurl.com/GTCCloans to learn the steps necessary for applying and receiving a federal student loan. For additional loan information, contact the Financial Aid Office.

GTCC also has a small emergency loan program to assist students. For more information, contact the Financial Aid Office.

Student Employment/Work Study

Federal Work Study is a federally supported program. If you are eligible based on the FAFSA, the Financial Aid Office can place you in a part-time job based on your financial need and ability to do the job. The Career Services Center can help you develop job-seeking skills and find a part-time or full-time job. This office can help all students, whether or not they are eligible for financial aid. See page 27.

Developmental Coursework

Federal regulations allow that only the first thirty (30) hours of attempted developmental coursework is used to determine your eligibility for financial aid. Once you have attempted thirty (30) remedial hours, only non-developmental college credit courses can be used to determine your eligibility for aid.

Sponsorships

Purpose of Sponsorships

The purpose of a sponsorship is to help pay college expenses (tuition, fees, books, and supplies). Sponsors may include your employer or government agencies (i.e. Employment Security Commission, Job Link, or Vocational Rehabilitation).

Authorizations

Each semester, detailed sponsor information must be received by GTCC. This information may be mailed, faxed, or brought in person to the Cashier's Office located in the Luther R. Medlin Campus Center. Authorizations must be received before posted student payment deadlines. If authorizations are not received and no payments are made, students' class(es) will be dropped for non-payment. It is the student's responsibility to make sure the Cashier's Office has received this information each semester. Contact the cashier's office when you register to ensure your sponsor information has been processed.

GTCC Sponsor Agreement forms can be obtained from the Cashier's Office.

Authorizations must include the student's name, identification number (SSN), and semester to be paid by the sponsor. They must also be printed on company/agency letterhead, state the amount of detailed expenses to be paid for each student being sponsored, and include an agency representative and phone number.

Purchasing Books

Bookstore charges may be applied to a sponsorship only during specified dates. These dates can be acquired at each bookstore location, the Financial Aid Office, and the Cashier's Office. These dates are also posted at every GTCC campus location, and on Campus Cruiser in the "Announcements" section.

Billing Information

If an agency agrees to pay for all or part of your expenses, they will be billed directly (if the authorization is received on time.) Students are responsible for all expenses not authorized by their sponsor, and they must be paid by posted student payment deadlines.

If a student makes adjustments to his/her schedule after the drop/add or needs to make an additional bookstore purchase after the posted deadline, it is the responsibility of the student to pay for any of these charges. Failure to pay any remaining balance will result in a hold being placed on the student's account.

Should it become necessary for GTCC to refer unpaid balances to a collection agency or an attorney, the student will be expected to pay all fees associated with the collection of the unpaid balance.

Satisfactory Academic Progress for Students Who Receive Federal Aid

Financial Aid

To receive financial aid, you must meet GTCC's guidelines for satisfactory academic progress. See page 35.

In addition, you must follow these guidelines: If you get financial aid through the Financial Aid Office, you must maintain a cumulative 2.0 grade point average; you must complete 66 percent of all the credit hours you have attempted; and you must complete your program of study within 1 1/2 times the normal credit hours required to complete the program. The Financial Aid Office will check your grades and progress at the end of each semester to be sure you are meeting the standards. If you do not meet the standards, you will not be eligible for financial assistance programs until you do meet the standards. Once you have earned a degree at GTCC, you may not be eligible for further financial aid. If you have questions about satisfactory progress policy and procedures, contact the Financial Aid Office.

SERVICES

Academic Services

Academic Advising

Academic Advising Centers are located on the Jamestown, Greensboro, and High Point campuses. Advisors are available to help students plan their schedules if registering for the first time and are undecided about a course of study. For students who have decided on a vocational or technical program, faculty advisors are available in each area to advise students with their course options and monitor their program plans. For students planning to transfer to a four-year college or university, advisors are available in the Advising Centers.

Computer Lab

Students can use the computer lab in the Percy H. Sears Applied Technologies Center. The lab has more than 100 computers and is open Monday – Thursday from 7:30 am – 7:00 pm and Friday from 7:00 – 5:00 pm. See page 10.

Instructional Technologies

The Instructional Technologies department provides audio/video services for the college's classrooms and auditoriums. The department also provides audiovisual equipment such as data projectors and VCRs for checkout to faculty and staff. The department is located in the Learning Resource Center, Room 321 on the Jamestown Campus. The hours are 7:30 am – 5:00 pm Monday – Friday.

Libraries

GTCC has three libraries: 1) the M. W. Bell Library on the Jamestown Campus in the Learning Resource Center, 2) on the Greensboro Campus, Adult Education Center, Room 224, and 3) on the High Point Campus, Building H4, Room 216. The libraries have more than 80,000 print and audiovisual items. They also provide digital access to a large collection of journals, magazines, books, and educational videos. The digital collection as well as the library catalog and other services may be accessed from off-campus as well. To obtain off-campus access, go to the GTCC library's home page at <http://www.gtcc.edu/lib> and follow the instructions.

The libraries have open computer labs with full access to library resources, Microsoft Office, the Internet, and other software related to course work. Printing from the computers, copiers, and FAX at the Jamestown Campus is available at a nominal cost. Color printing is available at all GTCC libraries at a higher cost.

Laptop computers are available at the Jamestown Campus for use within the library. All campus libraries have wireless access throughout their facilities. Quiet study space is provided at all campus libraries.

Your student identification card is your library card. Take your card to any of the three library locations to set up your borrowing privileges. You can borrow materials from other libraries through the GTCC libraries, and you may borrow in person from most college libraries in the Triad area. Inquire at one of the GTCC libraries for more details.

Librarians and library staff are available at all times to assist you, either individually or as a class.

We encourage you to use the libraries for research, for assignments, for studying, for recreational reading, or to study in groups.

Developmental Education Learning Assistance Centers

The Learning Assistance Centers (LAC) are a support service for students enrolled in developmental English, math, and reading courses. The LAC provides supplementary instructional resources including web-based technology, audio-visual support, and worksheets; instructor assistance and peer tutoring; and a place to study. The Jamestown campus LAC is located in James Williams Hall room 100-102. On the High Point campus, the LAC is located in H4 room 219. The LAC on the Greensboro campus is located in the Campus Center room 132. Assistance is also available in the Developmental Education Skills Lab on the Wendover campus in Campus Center 132. Hours are posted at each location.

Titan Cruiser

Titan Cruiser is a web-based information portal for curriculum students, faculty and staff providing email and access to news, college announcements, calendar, classes, and clubs. It also provides access to WebAdvisor where students can register for classes, view grades and make payments for their courses.

Tutoring Center

The Tutoring Center offers free tutoring for curriculum students who seek assistance with their coursework. The purpose of the tutoring program is to help students become independent and successful learners by developing strong study skills, a better understanding of course content, enhanced self-confidence and a positive attitude toward learning.

Professional and peer tutors are available to meet the individual needs of students. Peer tutors are currently enrolled students who have shown proficiency in the course in which they are tutoring and have been recommended by their instructor to be a tutor.

If you are interested in receiving tutorial assistance or becoming a tutor, see the Tutoring Center staff for further information. The Tutoring Center is located on the Jamestown campus in James Williams Hall 100-102.

Writing Center

If you need help with a writing assignment, stop by the Writing Center, located on the first floor of the Percy H. Sears Applied Technologies Center, Jamestown Campus. Services are free.

Institutional Services

Bookstore

You can buy books, supplies, and snacks at four bookstores. The Jamestown bookstore is open Monday - Thursday, 8:00 a.m. - 8:00 p.m. and Friday, 8:00 a.m. - 4:00 p.m. The Greensboro bookstore is open Monday through Thursday, 9 a.m. - 7 p.m. and Friday from 9 a.m. - 12 noon. The High Point bookstore is open Monday through Thursday from 9 a.m. - 7 p.m., and Friday 9 a.m. - 12 noon. The Aviation bookstore is open from 9 a.m. - 5 p.m. Monday through Friday. You can order books online at www.gtcc.bkstr.com or contact us at 336-334-4822, ext. 2287 for more information.

Children's Center

The Children's Center, which is on the Jamestown campus, provides full-day child care for children who are six weeks to 5 years of age. Hours are 7:00 a.m. - 5:30 p.m. weekdays. The Center is a 5-star rated Center and offers a developmentally appropriate program with a wonderful and caring staff. The Center gives priority admission to children of GTCC students, faculty and staff. Space is limited and children are accepted on a first-come first-served basis. Vouchers from the Department of Social Service are accepted, as well as payments from outside vendors. For more information about the Children's Center, call ext. 2389.

Cosmetology Services

The Cosmetology department, which is on the second floor of the Service Careers building on the Jamestown campus, trains students to work in the cosmetology field. Cosmetology students offer services such as haircuts, shampoo and sets, color, permanents and manicures at very low prices. Call ext. 2655 for more information.

Culinary Dining

The Culinary Arts students serve meals in the department's dining room in the Koury Hospitality Careers Center on the Jamestown campus. Lunch is usually served twice a week at noon for a cost of \$7, and in the evening at \$9.00. Reservations are required. Call ext. 2462 or email culinarydining@gtcc.edu

Dental Clinics

The Dental Hygiene and Dental Assisting programs operate a clinic as a learning lab for students. The Dental Hygiene clinic offers services which include teeth cleaning, X-rays, and fluoride treatments at affordable fees. The Dental Assisting clinic provides limited dental treatments such as fillings. Call ext. 2213.

Food Service

Titan Cafe is a 200-seat cafeteria located on the ground floor of the Luther R. Medlin Campus Center on the Jamestown campus.

The hours of operation are:

- Monday - Thursday
Breakfast - 7:15 AM - 10:00 AM
Lunch - 10:30 AM - 2:00 PM
- Friday
11:00 AM - 1:15 PM

Titan Cafe also provides catering services for internal and external groups. All GTCC campuses have vending machines that sell beverages and snacks.

Housing

GTCC does not provide student housing. You can get information on area housing and public transportation in the Student Life Office on the first floor of the Luther R. Medlin Campus Center.

Student Support Services

The Student Support Services department includes the chief disciplinary officer, who handles student discipline and grievances; the Advising Center, Assessment Center, Counseling Services, Disability Access Services, International Student advising, Career Services, Student Life, and the Student Government Association. Call ext. 2425.

Advising Center

Academic Advising Centers are located on the Jamestown, Greensboro and High Point campuses. Advisors are available to help students plan their schedules if registering for the first time or are undecided about a course of study. For students who have decided on a vocational or technical program, faculty advisors are available in each area to advise students about their course options and monitor their program plans. For students planning to transfer to a four-year college or university, advisors are available in the Advising Centers. Call extension 2639 for more information.

Assessment Center

The Assessment Center is located on the second floor of the Luther R. Medlin Campus Center on the Jamestown campus. Our services include placement testing, special testing, faculty arranged testing and distance education testing (online). General testing which includes placement, faculty and distance education testing is offered on a walk-in basis, Monday - Thursday from 8:00am - 6:00pm, Fridays from 8:00am - 2:30pm and most Saturdays from 9:00am - 11:00am. Special testing, which includes CLEP, Correspondence, WorkKeys and TEAS testing is available during special testing periods Monday - Thursday from 9:00am - 3:00pm. CLEP and Correspondence testing is available by appointment only.

We also provide testing accommodations for students with disabilities. An appointment is required for separate room testing for persons with disabilities who need this accommodation.

Children may not stay in the Center while you test and may not be left unattended on any GTCC campus. A photo ID is required for all testing. For more information regarding our services and other testing policies, please call ext. 2672 or visit the GTCC website at www.gtcc.edu/departments/assessment. For testing services on campuses other than the Jamestown campus, please dial ext. 4171 for the Academic Advising office on the High Point campus or ext. 4332 for the Greensboro campus. The Assessment Center follows the GTCC campus closing schedule.

Counseling Services

The Counseling Center is located on the first level of Davis Hall on the Jamestown Campus. Counseling services include personal counseling, crisis intervention, support groups, community resource referral, and workshops on topics such as "Study Skills" "Time Management" "Memory Techniques" and "Test Anxiety."

The staff consists of professionally trained, master's degree level, nationally certified counselors who have extensive experience in the field of student development. Counselors are committed to helping students reach their potential through education and personal growth. The Counseling Center places a high priority on privacy and confidentiality. Services are available free of charge to current and prospective students at GTCC. Appointments are preferred; however, walk-ins are always welcome. Call extension 2312 to schedule an appointment.

disAbility Access Services

disAbility Access Services can help you if you have a disability. To receive services you must provide documentation of your disability and request accommodations in a timely manner. Services include but are not limited to the following: sign language interpreters, note takers, readers, scribes, textbooks on tape, testing accommodations, and adaptive equipment. To learn more about services for students with disabilities, call extension 2570. The TTY number is 336-841-2158. Disability advisors/counselors are located on the second level of the Luther R. Medlin Campus Center in the Advising Center and the first level of Davis Hall in the Counseling Center on the Jamestown campus. Services for students with disabilities are also available in the Advising Centers located on the Greensboro and High Point Campuses.

International Students

An international student advisor provides and maintains documentation for international students. The office is located in the Academic Advising Center on the second floor of the Luther R. Medlin Campus Center. For more information or an international student handbook, call ext. 2356.

Career Services

Career Services are available in the Academic Advising Center on the Jamestown Campus. You can find assistance with: finding a full-time or part-time job, writing your resume, preparing for interviews, brushing up on job seeking skills, various assessments of career interests, abilities, and values, and the use of a library of career resources. A Spring Job Fair is held each year and is open to students and the community. To learn more about services and resources, call ext. 2639.

Student Life

The quality of student life outside the classroom is very important at GTCC. The college offers social, cultural and leadership development opportunities that enhance the in-class educational experience.

Clubs and Organizations

GTCC sponsors clubs for students. Most are program-related, but there are general-interest organizations such as Ambassadors for Christ and the International Student Association. Clubs have speakers, plays, talent shows, fund-raising activities, leadership opportunities and other ways to get involved. A complete list of clubs and organizations is available on Titan Cruiser under the Student Life Tab. Call the Student Life Office at ext. 2537 for additional information.

Student Government Association (SGA)

The Student Government Association provides most of the non-classroom student activities at GTCC. The SGA is run by students and all curriculum students are considered members. SGA sponsors leadership retreats, clubs and organizations, cookouts, concerts, dances, and student forums. The SGA is a good way for you to get involved in campus life. For more information, call ext. 2543.

Student Publications

The Student Life Office publishes the Student Handbook annually. It is distributed to students each year. The Student Handbook is funded by student fees. For more information about this publication, contact the Student Life office at ext. 2537.

Student's Role in Institutional Decision Making

The president of the Student Government Association (SGA) of GTCC is an ex-officio, non-voting member of the college's Board of Trustees. The presidents of both the college and of SGA appoint students to serve on institutional committees, and students are encouraged to serve on many of the standing committees of the college. Students may make recommendations for changes to the college administration through their representative body, the SGA.

Veterans/Military Services

If you are interested in receiving Department of Veterans Affairs educational benefits, contact the coordinator of Military Assistance Programs at ext. 2314. The Veterans/Military Assistance Programs Office is located within the Financial Aid Office on the second floor of the Luther R. Medlin Campus Center on the Jamestown campus.

Veterans Educational Benefits

The Department of Veterans Affairs offers educational assistance to:

- Veterans with at least 181 days continuous active duty;
- Service people who contributed toward their education through the Veterans Education Assistance Program while on active duty;
- Those who were discharged from active duty for a service-connected disability;
- Sons, daughters, wives and husbands of deceased or totally and permanently disabled veterans whose death or disability happened while in military service;
- Eligible members of the Selective Reserves and the National Guard;
- Members of the armed forces who entered active duty on July 1, 1985, and contributed to their education under the Montgomery GI Bill.

- Some members of the armed forces and veterans who served on active duty on or after September 11, 2001 may be eligible for the new Post 9-11 GI Bill. Visit the Dept. of Veteran's Affairs GI Bill website at www.gibill.va.gov for information on eligibility requirements.

If you have questions, see the Veterans/Military Assistance Programs Coordinator.

To receive veterans benefits, you must have a completed admissions file, must follow your prescribed program plan in the catalog, and must maintain satisfactory academic progress, attendance and conduct.

If you drop or withdraw from classes, you are required to report this change in hours to the GTCC Veterans/Military Assistance Programs Office. Your benefits will be reduced for the rest of the semester unless you have circumstances which are approved by the Veterans/Military Assistance Programs Coordinator.

Independent courses must be approved by the Veterans/Military Assistance Programs Coordinator prior to enrollment. The Department of Veterans Affairs will not pay for courses that are audited. For more information call ext. 2314

If you are receiving veterans benefits through the Department of Veterans Affairs, you must maintain a 2.0 grade point average. Your benefits will be suspended if you are placed on probation for two consecutive semesters. If you do not make satisfactory progress in the semester after you are put on probation, you will be decertified and lose benefits. To be recertified, you must meet satisfactory academic progress standards.

ACADEMIC INFORMATION

Academic Performance/ Minimum GPA

To remain in good academic standing, you must keep a semester grade point average of 2.0 or better.

A student will be sent an academic warning letter after any semester in which the student earned a semester GPA below 2.0 on 6 or more attempted credit hours. Developmental education courses will not be included in the attempted credit hours.

Academic Warning/Probation

At the beginning of each semester, all students who are not in good academic standing will be sent a letter informing them that they are being placed on academic warning or probation status until they return to good academic standing or until they are academically suspended.

A student will be sent an academic warning letter after any semester in which the student earned a semester GPA below 2.0 on 6 or more attempted credit hours. Developmental education courses will not be included in the attempted credit hours.

A student will be sent an academic probation letter after two consecutive semesters with semester GPA's below 2.0 on 6 or more attempted credit hours.

Students in health programs will maintain a grade no lower than "C" in each course with a prefix of BIO, CHM, DEN, EMS, MED, NUR, PHY, PTA, RAD and SRG.

There will be no probation status for students in the Associate Degree Nursing program, the Dental Hygiene Program, or the Physical Therapist Assistant Program. In these programs, a grade of "D" in any of the identified courses results in automatic suspension.

Students on academic probation status are directed to meet with their faculty advisors or department chairs to discuss ways to improve their academic performance.

Academic Suspension

Non-Health Program Students

A student will be sent an academic probation letter after two consecutive semesters with semester GPAs below 2.0 on 6 or more attempted credit hours. A student will be sent an academic suspension letter after three consecutive semesters with semester GPAs below 2.0 on 6 or more attempted credit hours. The student will be suspended for one semester commencing at the end of the semester in which the student receives the suspension letter.

If the student earns a semester GPA of 2.0 or higher on 6 or more attempted credits in the current semester, the suspension will be lifted, the hold will be removed, and the student may register for the following semester. The student must meet with his/her department chair to get the hold removed after the semester of suspension.

Health Program Students

Students in health programs will maintain a grade no lower than "C" in each course with a prefix of BIO, CHM, DEN, EMS, MED, NUR, PHY, PTA, RAD and SRG.

There will be no probation status for students in the Associate Degree Nursing Program, the Dental Hygiene Program, or the Physical Therapist Assistant Program. In these programs, a grade of "D" in any of the identified courses results in automatic suspension. Health program students making a grade of "F" in any health or health related course will be suspended from the program at the end of the term in which the "F" occurs. Health program students who are not eligible to continue at clinical sites may be suspended.

Students in the Associate Degree Nursing or Licensed Practical Nursing Diploma Programs who make a "D" or an "F" in a NUR or BIO prefixed course will be suspended from the Nursing Program.

Students in the Physical Therapist Assistant Program who make a "D" or an "F" in a PTA, BIO, or PHY prefixed course will be suspended from the Physical Therapist Assistant Program.

Students in the Dental Hygiene Program who make a "D" or "F" in a course with the prefix DEN will be suspended from the Dental Hygiene Program.

Students in the Dental Assisting Program who make a “D” or “F” in any of the clinical courses, (DEN101, 106, or 107) will be suspended from the Dental Assisting Program.

Students in the Emergency Medical Science program (EMS) must earn a final grade of “C” or better in EMS 110 to be eligible to sit for the State EMT Exam. Students earning less than a “C” in EMS 110 will be suspended from the EMS program.

A student enrolled in selected health programs (Dental Assisting, Emergency Medical Science, Surgical Technology, and Medical Assisting) who earns a grade of “D” in a course with one of the above listed prefixes, will be placed automatically on academic probation. Health students with one “D” in these programs will remain on probation until graduation from the program. Health program students making a second grade of “D” in any health or health-related course (see list above) shall be suspended from their programs at the end of the semester in which the second “D” occurs.

Appealing an Academic Suspension

Suspended students have the right to appeal. A student may appeal an academic suspension to the appropriate Division Chair prior to the last day to add classes for the semester in which the suspension takes effect. During the appeal process the student may register and attend classes until the final disposition of the appeal.

To appeal the decision, the student must complete the Academic Suspension Form and submit it to the Division Chair through the Department Chair. The Division Chair will review pertinent records, such as the student's transcript, may consult with faculty, counselors, the student involved, and others who can aid in the review process, and make a decision within five school days after receiving the appeal.

The Division Chair will render one of the following two decisions:

Lift the suspension with or without provisions (all provisions will be monitored by the Department Chair) or let the suspension stand.

The Division Chair will notify the suspended student of the decision in writing within five school days. Once the decision has been communicated to the student, the Division Chair will notify the Department, the Dean of Enrollment Services, Financial Aid, and the Veterans Office. There is no further appeal beyond the Division Chair. Students who register while appealing their suspensions will be required to pay normal tuition and fees. If an appeal is denied, the student will be entitled to a full refund of tuition and fees.

Academic Records

When you apply to GTCC, Enrollment Services creates a file for you. It contains your application(s), academic transcripts, and other documents. The college keeps the file in Enrollment Services as long as you are enrolled. If you are not enrolled at GTCC for a period of five years, your record is reviewed and only your GTCC transcripts are kept.

It is your responsibility to notify Enrollment Services if your name, address or other directory information (see page 37) changes. Your requests, grades, etc., can be delayed if your information on file is not accurate.

Records of progress are kept by the college on all students. Progress reports (grades) are available for students at the end of each term.

Academic-Related Courses

Academic-related courses have application for students in all programs. These courses count toward graduation and may provide transferable elective credit. These courses are designed to strengthen students' chances of success in an academic and work setting. These courses are offered under the Academic Related (ACA) prefix.

Access to Student Records

Except for directory information, GTCC will protect the privacy of personally identifiable information in your student record.

Directory information which can be released without your permission includes your name, address, phone number, major field of study, participation in officially recognized activities and sports, weight and height if you are on an athletic team, dates of attendance, degrees and awards, and most recent educational institution you attended. The student may request in writing that the Registrar, keep any or all directory information confidential.

Access to your records is protected by federal law. Access to your records is limited to these people:

- you;
- your parents, legal guardian or someone legally acting as your parent if they are financially responsible for you;
- appropriate college officials;
- authorized people or agency representatives who have a legitimate educational interest in the information.

Anyone else must have your written approval to see your records. GTCC will keep a record of requests for and disclosures of information other than requests for directory information or requests by you or your parents.

The records covered by this policy include, but aren't limited to:

- your permanent file, which contains transcripts, application, and other information pertaining to your attendance at GTCC (maintained by Enrollment Services);
- formal or informal records used to determine if you are eligible for financial aid and other documents on your financial status (maintained by the Financial Aid Office);
- departmental records on placement of students or graduates in jobs;
- records for advising purposes maintained by a department, which may include standardized test answer sheets, records of conferences with you, records of courses you have taken and your grades; departmental

evaluations and other communications; and copies of correspondence relating to you;

- library circulation records kept by the library showing materials borrowed by students or former students.

Contact Enrollment Services for procedures on how to review a student record.

Adding/Dropping a Class

See Schedule Adjustment on page 49.

Advanced Standing Credit

You can earn advanced standing credit by transfer of credit from approved institutions, proficiency exams, College Level Examinations Program (CLEP), Advanced Placement exams (AP), High School Articulation, Professional Certifications/Licensure and International Baccalaureate exams (IB). Prospective students who wish to submit for consideration college level academic coursework completed outside of the U.S., must have their transcripts evaluated by an educational credential evaluation service that is a member of the National Association of Credential Evaluation Services (NACES) or the Association of International Credentials Evaluators (ACES). Students can also have their evaluation performed by the American Association of Collegiate Registrars and Admissions Officers (AACRAO) International Education Services.

Transfer Credit

Students must request transcripts from colleges or universities previously attended to receive transfer credit.

A student who has **completed** the general education core at a regionally accredited two- or four-year institution will be awarded credit for the following general education courses without regard to the length of time which may have elapsed since completion: two ENG courses (6 semester hours credit), one communications course (3 semester hours credit), one social science course (3 semester hours credit), and one humanities course (3 semester hours credit), for a total of fifteen semester hours credit. Other credits will be evaluated on a course by course basis according to

the procedures below.

For students who did not complete the general education core at a regionally accredited two- or four-year institution, credit will be granted only for work completed during the last ten (10) years at approved institutions, unless approval is given for the recording of older credits by the department chair in which the course is offered. Institutions recognized by a regional accreditation association, such as the Southern Association of Colleges and Schools (SACS), will be approved sources of transfer credit. GTCC will approve credit from other colleges on a case-by-case basis.

You will get credit for courses that parallel those offered at GTCC. You must have a C or better in the course; however, if you have made a D on the first course of a series and a C or better on the second course, GTCC may accept both courses.

GTCC does not include transfer credits when computing your overall grade point average. If the department chair requires you to take an exam to validate your transfer credit, you must make at least a C, and the test grade and transfer grade will not count in your grade point average. No fee is required to validate transfer credit.

Proficiency Exams

The student must submit a brief written request with evidence for demonstration of proficiency to the appropriate instructor or department chair. The student and the student's instructor, advisor or department chair determines readiness for a proficiency demonstration preferably before classes begin but no later than the last day of the schedule adjustment period.

Evidence of readiness for a proficiency demonstration (e.g., high achievement in secondary school, military service and/or work experience) must be submitted to the department chair for review along with the written request.

The department chair alerts Enrollment Services via the drop/add form, registration form or other acceptable substitute. The student registers and pays the appropriate tuition/fees, if required.

The department chair arranges for the demonstration of proficiency prior to the census date of the semester. Students that do not pass the proficiency may remain in the class and take it for credit.

The department chair completes a class attendance form with course code and name, credit hours, names and Colleague ID of students registered to take the proficiency, and the actual hours of contact with the students completing the proficiency.

If the Assessment Center is to administer the proficiency examination, the instructions form provided by the Assessment Center must be completed and attached to the proficiency examination, along with the class attendance.

The date and hours present will be recorded on the form by the Assessment Center personnel when the student(s) complete the proficiency examination.

The evaluation of the demonstration will serve as the grade for the course provided the student receives a "C" or better. Credit for proficiency demonstration may not be granted for a course being audited by the student during the term in which the course is being audited.

The department chair will submit the grade for the proficiency demonstration to Enrollment Services on an Advanced Standing form. A grade of "C" or above is required for credit to be granted. In the event that the demonstration grade is below "C" the demonstration evaluation is filed in the student's permanent record and no grade or course name is posted on the transcript. If the course is currently being offered the student may elect to remain in the class for credit.

A student may earn a maximum of fifty percent of credit towards graduation by proficiency demonstration. Proficiency demonstrations may be taken only one time in each subject area.

Completed attendance forms must be submitted to the FTE Auditing Office within five (5) days of the demonstration of proficiency.

College Level Examination Program (CLEP)

The College Level Examination Program gives students the opportunity to earn college credit for knowledge they have gained from educational or professional experiences. To earn course credit through CLEP, you must request that your scores be sent to GTCC. The Registrar will review the scores and recommend courses for credit on the Advanced Standing Certificate, which is sent to the appropriate department chair. The department chair must approve the recommendations and return the form to Enrollment Services.

CLEP tests are offered by appointment only in the GTCC Assessment Center on the second floor of the Luther R. Medlin Campus Center on the Jamestown campus. While the Assessment Center administers all 33 of the CLEP exams, only 26 exams have the potential for granting credit for GTCC courses. To learn more about the CLEP process, please visit <http://www.gtcc.edu/departments/assessment/testing/CLEP.html> or <http://clep.collegeboard.org>. To schedule a testing appointment, please call ext. 2328 or 2299 to speak with one of our Assessment Technicians.

Advanced Placement Tests

To get credit by Advanced Placement (AP) tests of the College Entrance Examination Board (CEEB), you must request that an official copy of your scores be sent to the GTCC Admissions Office. For AP tests not already evaluated by faculty, the Registrar will review the scores and recommend courses for credit on an Advanced Standing Certificate, which is sent to the appropriate department chair. The department chair must approve and return the form to Enrollment Services.

Only scores of three or higher will be approved for credit. Advanced Placement tests in some areas may not be accepted if they do not apply to your program of study.

Credit by High School Articulation

To secure credit for courses taken in high school under an articulation agreement, a signed agreement must have been in place between Guilford County Schools and Guilford Technical Community College when the student earned the credits specified in the agreement. The student must submit a copy of his/her high school transcript showing that credit has been earned for the courses specified in the agreement with a minimum grade of "C" in the course. (Some programs may require that a "B" average be maintained in the course to earn the college credit.)

Upon enrolling at GTCC, the student should notify the department chair of the program to which the advanced standing credit is to be applied upon enrolling at GTCC. The department chair or designee reviewing the high school transcript should complete an Advanced Standing Certificate and secure the required signatures.

Professional Certifications, e.g., National Institute of Metalworking Standards (NIMS)

For each area of NIMS certification or other professional certifications/licensure, the appropriate department chair will determine the GTCC course equivalencies and corresponding certifications/licensure required for credit. The student should notify the department chair of the program to which the advanced standing credit is to be applied upon enrolling at GTCC. The student must submit his/her original NIMS credential or other professional certification to the appropriate department chair. The department chair will complete the Advanced Standing Certificate and attach a photocopy of the certification or credential and submit it to Enrollment Services, with the appropriate signatures.

Appeals Process

If you are disciplined, dismissed or suspended, you have a right to appeal the decision. Appeals procedures are outlined in this catalog in the appropriate section, for example, appeal of academic suspension is under Academic Probation and Suspension on page 36. Procedures also are listed in the Student Handbook and the college's Management Manual and are available from the college disciplinary officer, who is the Dean of Student Support Services. Call ext. 2425.

Associate Degrees

You will earn an associate degree when you successfully complete the required semester credit hours in an approved program. For a full-time student, it generally will take four semesters and one summer to complete an associate degree program.

GTCC awards five associate degrees: Associate in Applied Science, Associate in Arts, Associate in Science, Associate in Fine Arts and Associate in General Education.

Second Associate Degree

A student with an associate degree may receive a second associate degree if it is a different degree or a different program. All requirements for the second degree and/or program must be met as stated in the college catalog. In all cases, a maximum of 75% of the hours used to complete the first degree may be applicable to the second degree. Twenty-five percent of the hours applied to the new degree must be completed in residence at GTCC.

Attendance

You'll get the most benefit from your classes if you attend class regularly and are on time for all classes.

The college attendance policy states that you cannot miss more than the number of clock hours the class meets in a typical week, and if you are late to class three times, that equals an absence.

Military leave absence(s) will not be counted as an absence when the instructor has received prior official notification.

Curriculum and continuing education students are allowed two days of excused absences each academic year for religious observances as required by law.

Some departments may establish stricter attendance requirements.

Each instructor will include attendance requirements and criteria for tardiness on the course syllabus.

If you are absent or late beyond the course requirements, the instructor will decide if you can continue in the class, and will notify you of his or her decision. You can ask to be readmitted and, if denied, appeal the instructor's decision to the instructor's supervisor, whose decision is final.

You are responsible for making up all missed class work and for coming prepared to the class following the absence. You are responsible for letting the instructor know why you are absent and for initiating a contract to complete missed course work in a timely manner.

Instructors may forgive absences due to extenuating circumstances although that may not be possible for some labs or clinics.

If you stop attending class or are not readmitted to class after excessive absences, you will get an F unless you officially withdraw from the class in accordance with the withdrawal policy.

If you receive financial aid or veterans benefits and miss two weeks of classes, the instructor will inform the Financial Aid Office or the Coordinator of Military Assistance programs. This notification is not the same as an official withdrawal. You must follow the withdrawal procedures to avoid getting an F.

Auditing a Class

To audit a course, you must indicate that you want to audit it when you register or before the end of the drop/add period for the term, or you must get the instructor's approval to change to an audit grade before the 5/8 point of class.

Catalog of Record

The catalog of record is the catalog that is current when you enroll in your declared program. To graduate, you must meet the requirements in that catalog or a catalog that is published after it, provided you do not have a break in enrollment of more than one year.

Certificates

To be eligible for a certificate, you must have completed the certificate program requirements, have a final grade point average of 2.0 in courses in the certificate program and not owe the college any tuition, fees or fines. When you meet these requirements, you must apply for a certificate in Enrollment Services and pay the certificate fee. Enrollment Services will mail your certificate to you. Certificate recipients do not participate in the graduation ceremony.

Changing Programs

If you think you want to change your program of study, you should first meet with your program advisor or an admissions advisor. If you decide to change programs, you must file a Program Change form, available in the Advising Center. An admissions advisor or faculty advisor must approve the change, and the form must be delivered to Enrollment Services. The program change will be effective at the beginning of the next semester or later, depending on what you specify on the form.

Credits may transfer, but the department chair of your new program will make the final decision.

If you are receiving financial aid or veterans education assistance, check with the Financial Aid Office or Veterans Affairs before you change programs to be sure you will still be eligible for benefits in the new program.

Consortium

GTCC is a member of the Greater Greensboro Consortium, which also includes Bennett College, Elon College, Greensboro College, Guilford College, High Point University, North Carolina Agricultural and Technical State University and the University of North Carolina at Greensboro. A primary purpose of the consortium is to expand the options available to students when a particular course is not offered on a student's home campus or is not offered on a schedule that fits the student's academic program. You can take courses at the other institutions at GTCC tuition rates during fall and spring semesters only; the program is not available during the summer term.

To be approved to take courses under the Greater Greensboro Consortium program a student must be currently enrolled, must be a degree-seeking student and must be enrolled in at least six semester hours at the home institution (GTCC). At least one half of the student's load should be completed at the home campus. Consortium students may not register for courses at the host institution inappropriate to their degree or class status (GTCC students are limited to freshman and sophomore level courses). Consortium students may not normally take a course at a host institution if the course is available at the home campus (exceptions may be made under extenuating circumstances). Information is available on how to register at one of the consortium institutions from the Registrar in the Medlin Campus Center on the Jamestown Campus.

Course Prerequisites

Many courses have prerequisites, which are courses you must take or placement test scores you must have before you can take the course.

Pre-requisites for courses must be met. Only under extraordinary circumstances will students be permitted to register without the stated course pre-requisite. Cases for these rare circumstances should be made by specific certifications, written documentation, or other well-documented achievement of pre-requisite course competencies.

If you begin a class and realize you do not have the prerequisites, go to Enrollment Services and fill out a Schedule Adjustment form to drop the course. For further explanation of prerequisites, co-requisites, and co-enrollment, see the definitions section of this catalog, on pages 10-14.

Course Substitution

You should take the courses required in your program. If you want to substitute one course for another, you must get the approval of your advisor and the appropriate department and division chairs, who will file a completed 'Course Substitution Form' with Enrollment Services. For those students who receive veterans education assistance, only two course substitutes are allowed.

Student Development and Learning Program

GTCC's Student Development and Learning program helps people who may be under-prepared for college to come to GTCC and improve their skills before they start a program of study.

If your test scores are below the minimum required by your program for entry-level courses in English, reading, and mathematics, you will be referred to the Student Development and Learning department. You also can take developmental courses if you want to improve your basic academic skills. The Student Development and Learning program offers courses in reading, English grammar and composition, and math.

You can take developmental courses before or at the same time as curriculum courses, depending on the guidelines of your program. You cannot use Developmental Education courses as electives when seeking credit for graduation.

Diplomas

You will earn a diploma after you have successfully completed a particular diploma-granting program. For a full-time student, it generally will take two semesters and one summer to finish a typical diploma program.

Early Alert

In a typical 16-week semester, you may receive an alert notice if you are not making satisfactory progress at the end of the first four weeks. The early alert notice will indicate the reason(s) for your lack of progress, and it will suggest campus services that are available to assist you with any problems interfering with your course work. Your primary contact will be the teacher for the course in which you received the early alert notice. You may be required to have a conference with your faculty advisor.

Evaluation

Every instructor must evaluate the achievement of his or her students. During the first week of class the instructor will inform you in writing of the course requirements, evaluation methods and how grades are determined.

The college requires instructors to evaluate frequently and grade and return work promptly. Instructors also must evaluate performance according to the grading scale listed in the Grading and Quality Point System policy (see page 43).

You can appeal a grade to the instructor, and if you do not reach an agreement, you may appeal to the department chair, whose decision is final.

Forgiveness of Grades

You may petition, in writing, to the Vice President of Student Learning and Success through the Registrar to have credits earned at the college, which are at least five years old, forgiven. You will need to justify the request and provide evidence of reenrollment or continued enrollment after the approval of the request. Students not currently enrolled will need to complete a minimum of six semester hours with a C average or better for the petition to be considered favorably. If approved, the course(s) grade will be prefixed with an N and the grade and credit hours will not be calculated in the cumulative nor program grade point average. A new transcript will be mailed to you by the Registrar when the process is satisfactorily completed. (Veterans must be approved by the Military Assistance Programs Office.)

Grading

Grading

Your grades will be recorded as A, B, C, D or F in most courses you complete. In cooperative education and other designated courses, your achievement may be evaluated as an S or U. You also can earn an AU, S or U, W, X, or I (see the explanations below).

Each of your instructors should use the grading scale below and inform you of the grading scale at the beginning of each course.

A, B, C, D, F Grades

The grades A, B, C, D and F represent numerical and quality points according to this chart:

A - Superior	90-100
	4 grade points/credit hour
B - Above average	80-89
	3 grade points/credit hour
C - Average	70-79
	2 grade points/credit hour
D - Below average	60-69
	1 grade point/credit hour
F - Failure	below 60
	0 grade points/credit hour

S, U Grades

An S indicates that you successfully achieved the outcomes expected for the course and completed the minimum requirements. The grade U means you did not master the outcomes and/or complete the minimum requirements for the course.

S - Satisfactory	70-100
U - Unsatisfactory	below 70

AU Grade

An AU means you audited the course. To audit a course, you must indicate that you want to audit it when you register or before the end of the schedule adjustment period for the term, or you must get the instructor's approval to change to an audit grade before the 5/8 point of class.

I Grade

An I is an incomplete, meaning you are passing a course but have not completed all the required course work. The instructor decides if you will get an I. If you have an I grade, you must remove it before the 5/8 point of the term following the term you earned the I. If the incomplete is not removed, you will get an F for the course.

W Grade

A W indicates that you withdrew from the course.

T Grade

If you transfer credit to GTCC, your transcript will show those grades with a T prefix. You earn credit toward graduation only for grades of C or better and/or S. Transfer credits are not used when calculating grade point average.

P Grade

When you complete a course by proficiency exam, the grade will have a P prefix. You earn credit toward graduation only for grades of C or better and/or S. Proficiency credits are not used in calculating grade point average.

R Grades

If you repeat a course, the letter grade you earned in previous attempts to pass the course will have an R prefix. Only the grade you earned the last time you took the course will count in your grade point average and be counted toward graduation. This does not apply if you take a course for credit and later audit the course.

For those students who receive veteran's education assistance, both grades are used in calculating your GPA.

X Grades

Aviation Systems Technology uses the "X" grade as a placeholder for AVI classes that aren't completed to FAA Standards. A grade of "X" for AVI 110, is not treated as a passing grade for purposes of honoring the restrictions associated with state prerequisites.

N Grades

(1) When a course is forgiven the grade will have an N prefix and the grade and credit hours are not used in computing the grade-point-average.

(2) NS (No Show) as a grade and not a prefix, indicates that the student did not attend any classes.

Grade Point Average (GPA)

The college computes grade point average (GPA) by adding the quality points earned for each course in which you received an A, B, C, D or F and dividing by the total number of credit hours for those courses.

Every student will have a program GPA, which is based only on courses in your program of study. Every student also will have a cumulative GPA, which includes all courses you have taken for credit at GTCC. To earn a degree, diploma or certificate, you must have a program GPA of 2.0 or higher, a grade of A, B, C, D or S in each course in your program of study, and must have successfully completed all program requirements.

You may appeal an instructor's grading to the instructor's immediate supervisor, whose decision is final.

Graduation

To be eligible for graduation, you must have completed your program requirements, have a final program grade point average of 2.0 and not owe the college any tuition, fees or fines. You also must have earned at least one-fourth of the required hours in your program at GTCC and have taken at least one third of the major course work required for graduation at GTCC. Your last semester of course work must have been completed at GTCC.

Graduation ceremonies are held every year for degree and diploma candidates. The college encourages you to attend the graduation ceremony, if you choose not to attend you may pick up your degree or diploma beginning the day after the graduation ceremony from Enrollment Services on the Jamestown campus during regular office hours.

Whether or not you choose to attend the graduation ceremony, to get your degree or diploma, **you must apply for graduation.** To receive your degree or diploma at the ceremony, you must apply before the graduation application deadline. Before applying, you should meet with your faculty advisor to be sure you have completed all of the requirements for graduation.

Application for graduation forms are available in Enrollment Services on the Jamestown campus, in the Academic Advising offices on the High Point or Greensboro campuses, or on the GTCC website. Complete the application forms, pay the graduation fee and return the completed forms and receipt to the Enrollment Services counter in the Luther R. Medlin Campus Center or to an advisor on the Greensboro or High Point campuses.

The Registrar's staff will compile the documents and certify that you are eligible to graduate.

Honesty

Academic dishonesty is unacceptable and could result in disciplinary action under the college's disciplinary policy. Academic dishonesty includes, but is not limited to: taking or getting academic material from a college employee or student without permission; giving or getting unauthorized help on assignments or during tests; turning in papers that aren't your own; not giving credit for some one else's work (plagiarism); altering or misrepresenting grades, reports or laboratory/clinic records. For more information, see Student Conduct on 51.

Honors

Honor Rolls

Honor rolls are the President's List, Dean's List and Honors List.

The President's List includes all program students who complete at least 12 credit hours for the semester and earn a 4.0 grade point average (9 credit hours for summer term).

The Dean's List includes all program students who complete at least 12 credit hours for the semester and earn a grade point average of less than 4.0 but no lower than 3.5 with no grade below a C (9 credit hours for summer term).

The Honors List includes all program students who complete at least two courses for the semester for a minimum of six credit hours, but no more than 11 credit hours, and earn at least a 3.5 grade point average with no grade lower than a B (6 credit hours and no more than 8 for summer term).

If you have an incomplete (I) for any course, you are not eligible for honor rolls. Grades of S, U, X or AU, will not be considered for honor rolls, and those courses will not be considered in the minimum hours for honor rolls. Grades you earn in courses that do not carry credits but can be applied to graduation do not count in determining honor rolls.

You will be notified if you are named to an honor roll.

Honors Ceremony

Academic and achievement awards are presented during a spring semester honors ceremony.

An Academic Achievement Award is presented to the student with the highest cumulative grade point average in each degree and diploma program. To be eligible, you must have a minimum cumulative grade point average of 3.5 and have competed at least 40 semester credit hours in a degree program, 10 of which are major courses in this current degree program.

Departmental faculty give the Curriculum Award to one student from each degree and diploma program who are both outstanding in his/her academic achievement and has potential for success in the particular field he/she has chosen. To be eligible, you must have a cumulative grade point average of at least a 3.0; have completed at least 40 semester credit hours at GTCC toward a degree or 10 semester credit hours at GTCC toward a diploma; have participated in departmental and campus activities; and have demonstrated expertise in your field of study.

Who's Who Among Students in American Junior Colleges is a national publication which lists students who are chosen on the basis of scholarship, participation, and leadership in academic and extra-curricular activities, citizenship, and service to the college and community. To be selected you must have at least a 2.8 grade point average and have completed at least 24 semester hours in an Associate Degree program; of which 15 hours must have been completed at GTCC.

Commencement

The President's Medal recognizes the most outstanding graduate of the year. To be eligible, you must be graduating, have at least a 3.5 grade point average and show leadership and good citizenship. The recipient receives a medal at the commencement ceremonies.

The Student Honors/Recognition Committee selects winners of the Outstanding Graduate Award(s). To be eligible, you must be graduating, have at least a 3.0 grade point average and show leadership and good citizenship. Award recipients receive plaques.

The recipients of the President's Medal and the Outstanding Graduate Award(s) are chosen by the Student Honors/Recognition Committee.

If you have a 4.0 grade point average at graduation, you will be recognized with an Academic Achievement Award.

Non-Traditional Classes

Evening and Weekend Programs

GTCC offers a variety of classes in the evening and on Saturdays. You can earn a degree, diploma or certificate entirely through evening classes in many programs. The Admissions Office has information on these programs.

Independent Study

Independent study is a method of course completion in which the student may complete most or all of the work outside of the regular classroom setting and is supervised and evaluated by an instructor. Courses completed through independent study must be required in the student's curriculum, not available through other options and approved by the Department Chair.

eLearning

GTCC instructors use a variety of instructional methods to help you meet your educational goals. For example, you may sign up for a class that meets in one of our on-campus classrooms. During your class, your instructor may use a variety of electronic means to present content to you through one of our media classrooms. You may be asked to log into one of our online classrooms in Moodle to review more electronic content, to turn in assignments or to participate in discussions with your classmates. GTCC's eLearning department supports both instructors and students in their use of electronic means of instruction.

GTCC provides a variety of online tools for students:

Moodle holds our online classrooms. Here students will spend most of their time completing their online studies, turning in assignments and taking assessments. Instructors may use a variety of tools in Moodle to create interactive content for students. Students can access their online classrooms beginning the first day of class. GTCC's homepage has a link to Moodle.

Pronto is our instant messenger system. When students begin class, they can download Pronto for free after they log into Moodle. Pronto allows students to communicate instantly over the Internet with their instructors and classmates, through text, voice and/or webcam.

Titan Cruiser is our communication portal.

All curriculum students are given a Cruiser email account so that we can email them correspondence. Cruiser also gives students a link to student clubs and various organizational tools. Once students log into Cruiser, they can click the WebAdvisor tab to register for classes, check financial aid status, view grades and pay tuition.

eDegrees

GTCC offers several programs that can be completed online called eDegrees. eDegree programs are limited enrollment programs that require interested students to apply to the program by the application deadline and successfully complete both eLearning Orientation and ACA 112 to demonstrate online learning readiness. Students who are part of the eDegree program are guaranteed registration in online courses by signing up for courses by a specific deadline. On the GTCC website, students interested in the eDegree program can find a list of current academic programs offered as eDegrees, application to the eDegree program and make contact with our eDegree Program Coordinator, Deana St. Peter.

Online Courses

GTCC offers many of our courses online. If you are looking for an online course in our schedule look for the letter "N" in the section number. If you are using WebAdvisor to search for courses, search for location "Off Campus" under "Search for Classes". Online courses allow you to complete your coursework without coming to campus in most situations. If your online course requires a campus visit, you will be given plenty of prior notice so that you can schedule your time accordingly.

GTCC assumes that students who sign up for one or more online courses have access to their own healthy computer with a strong internet connection. Online courses may require you to download specific plug-ins to access your coursework and may require the use of specific software programs and equipment such as webcams or microphones.

Expectations of an online student

Online classes require students to participate in their studies weekly starting the first week of classes. Per the syllabus of the class, the instructor may remove a student's Moodle site access due to lack of participation. Students who are not active in their online courses prior to the census date of the course will be reported as a no-show for financial aid purposes.

Online students are expected to spend the same amount of time on coursework as students in "on campus" classes. A good rule of thumb is 2-3 hours of homework for every hour of class time. In an online course, this means at least 5-6 hours per week.

Students must have convenient access to a healthy computer with a stable internet connection, and many instructors do not accept computer problems as reasons for failing to submit assignments. Students are also expected to acquire any necessary materials and equipment, including textbooks, software, plug-ins and hardware (such as microphones or webcams). In addition to obtaining necessary materials, students are expected to meet weekly or other deadlines. Many online instructors have strict "no late work" policies.

Instructors expect students to follow written instructions carefully. Many students who do poorly in online classes do so because they skim or skip assignment instructions. Students also need to be willing to ask others for help when they need it. Students should use Pronto and email to get help from instructors and classmates.

What to expect from an online course

Online courses are generally reading- and writing-intensive. Students read assigned textbook and other materials, both print and electronic, participate in discussions and other collaborative activities, and complete written assignments.

Online classes are not usually self-paced or independent study courses; rather, they follow assignment schedules, with weekly or other deadlines and with required interaction between students and classmates or the instructor. Classes follow regular semester schedules as outlined on the GTCC Academic Calendar, with spring classes beginning in January and ending in May, summer classes starting in May and ending in July, and fall classes starting in August and ending in December. Students register for online classes during the registration periods identified in the annual schedule. Students may register themselves for classes using WebAdvisor or may need to meet with an academic or faculty advisor on campus for help with the registration process.

Webbed courses

Webbed courses blend classroom and online instruction, usually in a 50/50 format. For example, a class may meet online 1.5 hours on Mondays and have an online component for the other 1.5 weekly contact hours (i.e., instead of meeting from 6:00-7:30 Monday and Wednesday evenings, the class will meet in the classroom on Monday and have online activities for the other "class" meeting). Students in a webbed course are expected to complete homework assignments just like students in traditional classroom classes, in addition to completing online activities. Webbed classes also follow a typical semester schedule.

eLearning Orientation

Every semester, every GTCC curriculum student has access to a site in Moodle called eLearning Orientation. This Moodle site provides instruction on our online systems Including Moodle, Pronto, and TitanCruiser. Your Instructor may require you to complete Orientation during the first week of the semester and upload a certificate of completion to demonstrate your mastery of our online systems. Students should keep a copy of their certificate of completion for future semesters.

Where to go for help

GTCC students who need help with Moodle or Pronto can contact Michael Feeney in eLearning at 334-4822 ext. 2653. For help with WebAdvisor, contact Royal Grantham at 334-4822 ext. 2416. Students should also keep a copy of their instructors' contact information in case computer malfunction prevents logging into their course site.

If you have questions concerning Moodle, please call the Moodle Help Desk at (336) 334-4822 or (336) 454-1126 ext. 2653. For Titan Cruiser related questions, please call the help desk at (336) 334-4822 or (336) 454-1126 ext. 2133

Off-Campus Learning

Some programs require you to get experience in an off-campus setting. That might include practicums, internships, clinicals and cooperative education. See your program Department Chair for procedures and requirements for your off-campus experience.

Readmission

Non-Health Program Students

You can reapply if you have been suspended or dismissed, or have withdrawn for academic or other reasons.

If you have been suspended, you cannot apply until at least one semester has passed. You will be on probation the semester you re-enter and you must earn a C or better in all the courses you take. If you do not make C's or better, you will be suspended for a period of two semesters.

To be readmitted, you must complete the admission procedures (see page 23).

Health Program Students

If you want to be readmitted to a health program, you must meet with the program's department chair and follow the steps outlined for you. If you have withdrawn from a health program for non-academic reasons before you complete the first semester of the program, you must reapply and will be considered a new applicant. If you have been suspended or dismissed from a health program and reapply, you must meet with the appropriate program department and the program's readmission committee will decide whether to accept or deny your application. The Department Chair will notify you of the committee's decision. If you are reaccepted to the health program, you must follow the committee's recommendations on courses that you must repeat or substitute.

Repeating a Course

You may retake a course. The last grade on any course you repeat will be the grade used in computing your grade point average. All grades for courses you have taken remain on your record. The repeated course will count only once toward meeting the number of credit hours required for graduation.

To repeat a course once, register for it. You must get the approval of your advisor, Department Chair or Division Chair to repeat a course more than once. You must have approval to withdraw from a repeated course after the census date but before grades are assigned.

If you are getting veterans education assistance, you will not get benefits for a repeated course if you have already passed the course.

You can repeat a physical education course only once.

You may repeat upholstery, carpentry or cabinet-making no more than five times.

See page 57 for repeating a continuing education course.

Residency for Degree

To graduate, you must earn at least one-fourth of the required hours in your program and complete at least one-third of the major course work, applicable to graduation, at GTCC. You must take classes your last semester before graduation at GTCC as long as the courses that you need are offered at GTCC that semester. The Division Chair in your program can make an exception to the last semester rule.

Schedule Adjustment

You can drop or add a class during a term's announced schedule adjustment period. After the announced schedule adjustment period ends, you will have to follow the withdrawal process if you want to drop a class.

Withdrawal

If you formally withdraw from a class after the end of the schedule adjustment period and before 70% of the scheduled class hours are over, you will earn a grade of W.

If you do not formally withdraw, after you have stopped attending class or are not readmitted after excessive absences before 70% of the contact hours have elapsed, you will earn a grade of F.

If you stop attending class or are not readmitted after excessive absences after 70% of the contact hours have elapsed, you will get an F. An exception may be allowed if your absences are because of extenuating circumstances such as accident, illness or death in the family. If this is the case, you must contact the instructor who may assign you an I, W or F.

Note: Normally 70% of the scheduled course contact hours equals the end of the 11th week of a 16-week term.

Withdrawing From a Class or College

You can withdraw from a class or the college after the end of the schedule adjustment period by contacting the class instructor, who will help with withdrawal procedures. You must:

- Get a Schedule Change form from Enrollment Services or your faculty advisor and complete the form;
- Have the instructor sign the completed Schedule Change form; and
- Give the form, along with a photo ID, to Enrollment Services on the Jamestown campus, the main office on the Greensboro or High Point campuses or the Aviation Center departmental office.

If the course instructor is not available, you can see the Department Chair, who will try to get the instructor's signature or who will sign the form.

Complete the form for all courses if you are withdrawing from college.

Work-Based Learning

GTCC believes that you learn best if you have the chance to be in a working environment, practicing what you've learned.

The college provides opportunities for apprenticeships, internships and cooperative education. Talk to your faculty advisor or program chair about work-based learning opportunities. You may be able to earn credit and earn money while you learn.

PERFORMANCE MEASURES AND STANDARDS

The General Assembly adopted a revised performance-based budget incentive plan effective July 1, 2008. Colleges must meet standards set on eight criteria.

GTCC's performance on the twelve measures is as follows:

- 1) Performance of students who transfer to the university system (percent of students with overall GPA of 2.0 or higher after one year at a UNC institution): Graduates, 90%; non-graduates transferring with 24 or more credit hours, 78%; average, 82%; state standard, 83%.
- 2) Progress of basic skills students (a composite measure of those making progress within their level, completing a level or a predetermined goal, and completing the level at which they entered and advancing to the next level): GTCC, 77%; state standard, 75%.
- 3) Passing rate for licensure and certification examinations (The passing rate of first time test takers must be over 70% in each individual test, and 80% for the overall institutional rate.): GTCC tests students in 15 licensure/certification examinations. The aggregate institutional score was 89%. Scores for individual tests are all over 70%.
- 4) Student satisfaction of completers and non-completers (a survey of graduates and non-returning students who rate their GTCC experience good or excellent): Graduates, 96%; non-completers, 93%; average, 95%; state standard, 90%.

- 5) Passing rates of students in developmental courses (the proportion of students in developmental classes who complete with "C" or better): GTCC average, 77%; (78% Math, 77% English, 75% Reading); state standard 75%.
- 6) Success rate of developmental students in subsequent college-level courses. GTCC total: 82% (math 81%, English 83%, State Standard 80%).
- 7) Curriculum student graduation, retention, and transfer (the proportion of students who enter in the fall who graduate, continue the next fall, or transfer): GTCC, 72%; state standard, 65%.
- 8) Client satisfaction with training: GTCC, 95%, state standard, 90%

The North Carolina Community College System website (www.ncccs.cc.nc.us) contains details about the Performance Measures and Standards. Visit www.ncccs.cc.nc.us/Publications/index.html (choose Critical Success Factors 2009).

STUDENT CONDUCT

While you are on GTCC property or at a GTCC-sponsored event, you may not act in any way that negatively affects the college's educational objectives, that is illegal or that is against the rules and regulations of the college or you will be subject to disciplinary action. You also subject yourself to arrest for violation of state law. An arrest will be prosecuted through the state court system and not through the school. You will have the right to appeal. (See Appeals page 52.)

There is a chief disciplinary officer and a disciplinary officer for each campus. Contact the Student Services office on any campus for the name of the disciplinary officer. For more information on student conduct, see the college Management Manual, available in any GTCC library.

Prohibited Conduct

Prohibited conduct is illustrated by the list below. However, the list does not include all conduct that could be prohibited.

You cannot:

- Be dishonest;
- Steal, misuse or damage college property, property of a member of the college community or a college visitor; or break into a locked college facility or be in a college facility after closing hours;
- Have, make, use, distribute, sell or be under the influence of alcohol or any controlled substance on college property or at any college-sponsored activity or in a college vehicle;
- Be physically or verbally lewd or indecent or distribute obscene or libelous material;
- Assault or threaten anyone on college property or at a college-sponsored or supervised event;
- Sexually harass a student or employee;
- Obstruct or disrupt study, teaching, research, administration or disciplinary proceedings or other college activities;
- Occupy or seize college property or a college facility;

- Participate in or hold an assembly, demonstration or gathering that threatens or causes injury to anyone or anything, that interferes with access to college facilities, that is harmful to or interferes with the educational process, or stay at the scene of such a gathering when asked to leave by a college employee.
- Have, use, sell or distribute weapons of any kind;
- Issue a bomb threat; set off a fire alarm or tamper with safety equipment, except in an emergency when such equipment is needed;
- Gamble;
- Smoke or use other forms of tobacco in any GTCC facility;
- Violate college rules on the operation and parking of motor vehicles;
- Forge, alter or misuse college documents, records or instruments of identification;
- Fail to follow instructions or directions of college employees who are performing their duties;
- Violate the terms of disciplinary probation or college regulations while you are on probation;
- Fail to pay college fines, loans or write bad checks to the college;
- Violate local, state or federal criminal law on college property;
- Behave in any way that conflicts with the safety of others;
- Steal or misuse computer time;
- Abuse the college judicial system;
- Be an accessory to a violation or help someone else commit an offense.

Emergencies

If a student presents a threat to the health, safety or well-being of any member of the college community or any visitor, any college employee can call a campus police officer; call a law enforcement agency with jurisdiction if a campus police officer is not available; or ask the student to stop and suspend the student if he or she does not.

If an employee suspends a student, the suspension can be extended until the matter is resolved by the campus disciplinary officer or, if the student was arrested, until the matter is resolved in the courts.

Filing Charges

Any college employee or student can file charges with the campus disciplinary officer against a student or student organization for violating college rules. To make a charge, you must complete a charge form available from the disciplinary office, Campus Deans or Department Chairs.

A student who is charged can stay in classes until the case is resolved unless the student is suspended under emergency procedures. Within 10 school days, the disciplinary officer will complete an investigation and schedule a meeting with the student. The disciplinary officer can drop the charges, impose a sanction, or refer the student to a college office or community agency for services.

Sanctions

The disciplinary officer can impose sanctions, which include:

- Interim suspension - being excluded from class or privileges until a decision is made.
- Reprimand - written notice that any other offense will carry heavier penalties.
- General probation - the student must be willing to follow college rules without another penalty and if the student errs again, further action will be taken.
- Restrictive probation - the student loses good standing and the disciplinary action is recorded. The student will not be eligible for initiation into local or national organizations, cannot receive any college award or honorary recognition and cannot hold leadership positions in any campus organization. A violation by the student will mean immediate suspension.
- Suspension - the student is excluded from classes and other privileges or activities.
- Expulsion - a student is dismissed from campus for an indefinite period. Only the president can readmit a student who has been expelled.
- Restitution - the student must pay for damage to property.
- Loss of academic credit or grade - imposed for academic dishonesty and may result in other sanctions.

- Withholding a transcript, diploma, degree, certification or right to register or participate in graduation ceremonies.
- Group probation - a college club or organization is put on probation. Other violations may result in the college revoking the group's charter.
- Group restriction - the group will not be recognized during the semester the offense occurred. The group cannot add members, hold events or other activities.
- Group charter revocation - the group will not be recognized on campus for a minimum of two years. Only the president can recharter a group.

Appeals of Discipline

If you have been disciplined and disagree with the disciplinary officer, you can ask in writing for a hearing of the Disciplinary Review Committee within three school days of the disciplinary officer's decision. You may only appeal the severity of the penalty or alleged violation of college's procedures in the conduct of a hearing or investigation. Hearings are confidential. More information on how to appeal is available from the disciplinary officer on any campus.

If you have appealed to the Disciplinary Review Committee and disagree with its decision, you can appeal to the appropriate vice president in writing within five school days after receiving the committee's written decision. The appropriate vice president is the vice president who has administrative responsibility for the area in which the infraction occurred. The grounds for appealing to a vice president are severity of the penalty or violation of college procedures during the hearing or investigation. The decision of the vice president is final.

Student Grievance

If you have a complaint and there is no specific grievance or review process, you can discuss the complaint with the supervisor of the function or department where you think the wrong occurred. If you disagree with that outcome, you can appeal in writing within five school days to the supervisor of the person you discussed the complaint with. You must use a 'Student Grievance Form,' which is available from division chairs, department chairs, the Dean of Student Support Services or the campus disciplinary officer. The supervisor will make a written decision within 10 days.

If you still do not think the complaint has been resolved, you can appeal in writing to the appropriate vice president, including a copy of the original grievance form and a copy of the written decision from the supervisor within 5 days of the written decision. The vice president or dean will ask the campus disciplinary officer to call together a Grievance Advisory Committee within five school days. That committee will review the issue and make a recommendation to the vice president. The vice president will send you a written decision within three school days. That decision is final.

Dress Code

GTCC expects all students to dress in a manner in keeping with the serious academic intent of the college and in a manner acceptable to the community. In keeping with the mission to prepare students for success in the workforce, students are expected to dress appropriately within the generally accepted bounds of good taste. The college respects individual style and creativity as long as students dress in a manner which is not disruptive or distracting to the educational environment and conforms to the expectations and standards of the professional community.

Freedom of Expression

The First Amendment to the Constitution of the United States protects your freedom of expression.

Students have the right to determine the content of any publications produced for a student club or organization. However, students cannot publish obscene or libelous material or material that will cause a disruption of school activities. GTCC cannot ban non-school sponsored publications on campus, but may regulate distribution. Definitions and procedure can be found in the college Management Manual in any GTCC library.

STUDENT ATHLETICS

The GTCC Athletics Department fully embraces and supports the purpose of Guilford Technical Community College. As a member of the NJCAA (National Junior College Athletic Association) this Division I Junior College program is committed to providing a comprehensive and well-rounded athletic experience in support of our educational mission. Our men's basketball, men's baseball, women's basketball and women's volleyball programs promote academic, physical, social, psychological, and total development of the student athlete.

The athletics of GTCC are a cohesive and supportive part of the institutional mission and emphasis is placed on the student aspect of student-athlete. GTCC Athletics have been established to enrich the college experience for our students. We envision that some of our athletes will eventually be recruited by four-year universities and the GTCC athletics program is intended to inspire student-athletes to leadership roles on the campus and in their communities.

Men's Basketball

NJCAA Division I Junior College, Region 10; To be played at the Mary Ragsdale – Jamestown YMCA

Coach: Phillip Gaffney, ext. 2719

Women's Basketball

To be played at the Mary Ragsdale - Jamestown YMCA

Coach - Bobby Allison, ext. 2797

Women's Volleyball

To be played at the Mary Ragsdale - Jamestown YMCA

Coach: Sabrina Johnson, ext. 2796

Men's Baseball

To be played at various baseball fields/parks in Greensboro, High Point, and Jamestown.

Coach: John Barrow, ext. 2239

CORPORATE & CONTINUING EDUCATION

The primary purpose of GTCC's Corporate and Continuing Education division is to provide programs with an emphasis on upgrading work skills and work-related training. The college works closely with business and industry to meet their training needs. Unlike the rest of academic instruction at GTCC, Corporate and Continuing Education has classes scheduled continuously throughout the year. If you need a class, it is probably starting soon!

GTCC's Continuing Education offerings are divided into three areas: Basic Skills, the Center for Business & Industry, and Community Service.

Classes are provided at each of GTCC's campuses and at community and business locations throughout the county.

Basic Skills Classes

Basic Skills classes offer educational opportunities to people who are out of school and are 18 years old or older. Minor students 16 or 17 years old may attend with special permission. (See admission instructions below.) Students who are younger than 16 years of age are not allowed to take Basic Skills classes. GTCC offers day and evening classes at work sites, churches, community centers, schools, libraries, and GTCC campuses.

Adult Basic Education (ABE)

Adult Basic Education offers classes for adults who want to improve basic reading, writing, grammar and math skills. Online classes are available. Classes are free. Call ext. 4220 or 4208 in Greensboro or ext. 4129 in High Point.

Adult High School (AHS)

Adult High School covers the ninth grade through 12th grade curriculum. A student can complete requirements for a high school diploma through this program, which is offered in conjunction with the Guilford County Schools. All subjects are taught as computer based Instruction. There is a \$35 graduation fee. Call ext. 4220 in Greensboro or ext. 4129 in High Point.

Compensatory Education (CED)

This program is for adults with intellectual disabilities or traumatic brain injury. CED classes will help students to develop, improve, or master the skills needed to function as independently as possible in the community and/or workplace. The program is free. Call ext. 4220 or 4209 in Greensboro or ext. 4129 in High Point.

English for Speakers of Other Languages (ESOL)

ESOL is for adults whose first language is not English. Students can improve their listening, speaking, pronunciation, reading and writing skills. TOEFL preparation and citizenship classes are also available. Family Literacy classes are also offered for adults with pre-school aged children. Classes are free. Call ext. 4207, 4415 or 4238 in Greensboro or ext. 4129 in High Point.

General Education Development (GED)

This self-paced flexible program prepares adults who want to earn a high school equivalency diploma. GED classes prepare students to take the five-part GED exam. A GED diploma can be used to meet most college admissions and job requirements. Online classes are available. Family literacy classes are also offered for adults with pre-school aged children. There is no charge for classes, but there is a \$7.50 testing fee for the GED exam. Call ext. 4220 in Greensboro or ext. 4129 in High Point.

Admission to Basic Skills Classes

To be admitted to the Basic Skills program, you must attend orientation, take placement tests, and complete registration. Admissions are handled at the following campus locations:

- Greensboro Campus
3505 East Wendover Avenue
Building: Adult Education Center
Greensboro, NC 27405
336-334-4822, extension 4220
- High Point Campus
901 South Main Street
Building H3
High Point, NC 27260
336-454-1126, extension 4129

Admission to Basic Skills Classes - Continued

16 and 17 year old students must:

- Contact the student support specialist at their respective high schools before coming to GTCC
- Obtain and complete a minor release form. Forms may be obtained from the high school student support specialist or Basic Skills offices. Forms must be signed by the principal (or designee) and the parent or guardian. Forms must be notarized.
- Attend a Basic Skills minor release meeting. A parent or legal guardian is required to attend.

Center for Business & Industry (CBI)

Training for Individuals

You can learn new job skills or upgrade your current knowledge and skills through training classes. These classes can be a single course or a series of courses designed for a specific job area. GTCC offers courses throughout the year in several areas.

Management Courses

Course topics include communications, assertiveness, supervision, business writing and human resources.

Automotive Training Courses

Automotive training courses prepare automotive technicians to be safety and emissions inspectors.

Technology Training Courses

Computer technology courses teach participants the latest software packages so that they can stay current in the fast-changing world of technology.

In addition to basic computer classes, GTCC is able to offer students classes in preparation for internationally recognized IT certifications. GTCC has partnerships with Comp TIA, Microsoft (we are a MS IT Academy member) and Cisco. Some of the certifications we offer are A+, Net+, Security+, MCTS and CCNA, to name a few.

Licensure Programs

GTCC offers Pre-licensing and Post-licensing courses in Real Estate (Broker) and Insurance, both "Life, Accident and Health" and "Property and Casualty". We offer pre-licensing courses in Nursing Assistant 1 (C.N.A.) and Notary Public. We offer Continuing Education credits for Teacher Re-certification during the summer only in Instructor-lead courses.

In collaboration with Guilford County Schools, GTCC offers a "Lateral Entry Program" for Teachers in the summer months.

Project Management Courses

GTCC is able to offer a "PMP Essentials & PMP Exam Prep" course to prepare students to apply and sit for Project Management International's "PMP" exam. Through our partnership with Tanden LLC, a Registered Educational Provider (REP), our course meets the educational pre-requisite that PMP requires.

Criminal Justice Courses

Criminal Justice courses offer entry-level and advanced courses on the latest technology, procedures and laws in the criminal justice field. CPR, firearms training and radar certification are just three of many areas covered.

Emergency Medical Science Courses

Emergency Medical Science courses are for EMS personnel and others who want training for emergency situations.

Fire Protection Courses

Fire Protection courses train beginning firefighters, upgrade experienced firefighters and train business and industrial personnel in fire safety. Courses meet specific requirements in each field.

Small Business Center Courses

Small Business Center (SBC) courses assist small business owners and people who want to start a business. See the SBC section, page 56.

Quick Jobs with a Future

Quick Jobs with a Future is a program designed for unemployed, dislocated and under-employed workers. The courses taught in the Quick Jobs program range from four days to 90 days. By working with local businesses, the college staff determines those jobs for which there is a constant demand. Skill sets are defined by the employers for each of these identified jobs. A curriculum is designed to prepare students to develop those skills sets in the most efficient manner possible. The courses emphasize employability skills as well. One goal of the program is to empower participants to gain a job within 60 to 90 days of completing the class. There are currently 25 jobs training classes and additional classes are being added as new training opportunities are identified. The Quick Jobs Office can be reached by calling ext. 4213.

HRD - Human Resource Development

CBI offers pre-employment training, counseling, and job assistance or further training for unemployed and underemployed adults. Training focuses on developing employability skills such as job readiness, interpersonal skills, job retention skills, motivation and goal-setting, listening and oral communications, problem solving and career assessment. Call ext. 4132.

Live & Learn Schedule

Continuing education programs are featured in the "Live & Learn" schedule which is produced three times per year. "Live & Learn" is available at all campus locations, our website (www.gtcc.edu), and retail stores around the county.

Training for Businesses

The Center for Business and Industry at GTCC serves Guilford County businesses, industries and organizations through corporate and workforce training. CBI partners with companies to assess, design and deliver training specifically to help make their organizations more effective, more efficient, more productive and more successful. Training courses can be delivered on-site or at one of GTCC's four campuses. For more information call ext. 2918.

Customized Training Program

The Customized Training Program supports the economic development efforts of the State by providing education and training opportunities for eligible businesses and industries. Amended in 2008, this program integrates the New and Expanding Industry Training Program, the Customized Industry Training Program, and the former Focused Industry Training Program. The Customized Training Program offers programs and training services which assist new and existing business and industry in remaining productive and profitable.

This program is designed to react quickly to the needs of local businesses, as well as respect the confidential nature of proprietary processes and information within those businesses.

The Customized Training Program provides training assistance to full-time production and direct customer service positions created in the State of North Carolina. The training is customized to the needs of the specific industry, enhancing the growth potential of North Carolina companies, and providing our workforce with the skills essential for successful employment in emerging industries.

Resources may support training assessment, instructional design, instructional costs, and training delivery for personnel involved in the direct production of goods and services.

Call ext. 2873 or 2821

Small Business Center

The GTCC Small Business Center's mission is to help small businesses survive, prosper, and contribute to the area's economy. The SBC promotes entrepreneurship through seminars, courses, counseling, a resource library, and referrals to other sources of assistance for owners and potential owners of small businesses. The SBC delivers its programs and services at locations throughout Guilford County. The SBC's main office is located in the Nussbaum Center for Entrepreneurship, 2007 Yanceyville St., Suite 129. Call ext. 4801 for more information.

Community Service

Community Service classes are designed to contribute to the community's cultural, civic and intellectual growth and to help adults develop new skills or improve old ones. With hundreds of classes and events every year, these programs provide lifelong learning opportunities to citizens of Guilford County. Course topics range from investing, dance, health, foreign language, and much more.

Registration Information

How to Register

GTCC's Continuing Education classes are open to people 18 years old and older. If you are 16 or 17 years old, you must have written permission from your high school principal. The letter of permission must be attached to the continuing education registration form. Under the current law, North Carolina does not allow students under the age of 16 to register for Continuing Education courses.

You may register for a course any time up to the first day of class. However, you should register early to be sure you get a spot in the classes you want before the classes are filled. Late registration is discouraged and you may not be allowed to enter classes after the starting date.

There are three easy ways to register for continuing education classes:

#1 - Online

You may also use Instant Enrollment to register for your classes. Please visit our website at <http://www.gtcc.edu/programs/conEd/Index.html>. Visa and Master Card are the only cards accepted. There will be a \$25.00 service charge for each returned check. A student with a returned check will not be eligible to register for future classes or have access to other student services until the obligation is satisfied.

#2 - By Mail

You may register by mail using the continuing education course registration form found in the Live & Learn schedule. Complete the form and mail it in with your check, money order, or credit card information to the address shown on the form. GTCC accepts Visa, Mastercard, American Express and Discover cards. If paying by check, the account holder's name, address and account number must be pre-printed on the check.

Do not send cash.

#3 - In Person

You may also register in person by completing the continuing education registration form found in the Live & Learn schedule. Bring the registration form with your payment (check, cash, credit card, or money order) to one of the GTCC Campuses. Register at:

- Jamestown Campus located at 601 High Point Road
Medlin Campus Center, 2nd floor Enrollment Services
Monday - Friday 8am - 5pm
- Greensboro Campus located at 3505 East Wendover Avenue, CEC Building
Monday - Thursday 9am - 7pm, Friday 9am - 12pm
- High Point Campus located at 901 South Main Street
H1 Building Lobby
Monday - Thursday 8am - 8pm, Friday 8am - 5pm

Registration Fees

Registration fees, which are listed with each class description, do not include the cost of textbooks or supplies. Fees are set by the NC General Assembly and are based on the number of contact hours for each course. Some of the courses listed in this catalog require textbooks, which are sold at the GTCC Bookstores.

You should buy books and supplies at the bookstore of the campus you will attend. The Jamestown Bookstore is open Monday - Thursday, 8a-8p, and Friday 8a-4p. The Greensboro bookstore is open Monday through Thursday, 9 a.m. - 7 p.m. and Friday from 9 a.m. - 12 noon. The High Point bookstore is open Monday through Thursday from 9 a.m. - 7 p.m., and Friday 9 a.m. - 12 noon. The Aviation Center bookstore is open 9 a.m. - 5:00 p.m. Monday through Friday. You can also buy books online at www.gtcc.bkstr.com.

You must buy any supplies required for a course. Depending on materials used in the course, a modest fee may be charged.

Students in all continuing education classes will be assessed a \$5 CAPS fee to help cover expenses associated with providing campus access, parking and security at the college. Students can attain parking stickers at any GTCC Campus. Parking permits (stickers) are valid at all GTCC campuses.

Some programs require malpractice insurance. These fees, where applicable, are included in the published course fee. Programs requiring malpractice insurance are Certified Nursing Assistant, Direct Care Worker, and Emergency Medical Technician.

Senior Citizens (age 65 or older) who qualify as legal NC residents, may enroll for one (1) free non-credit course per semester. This does not include self-supporting classes and they should be noted in the schedule. The following Course Codes CSP-4000, SEF-3001, CPX-XXXX, REX-XXXX or ITX-XXXX indicates a self-supporting class and seniors must pay the registration fee. Senior citizen registration fee exemption does not supersede the Course Repetition Policy if the same occupational extension class is registered for more than twice in a five year period. Senior citizens are required to submit a registration form and to purchase any required supplies or textbooks.

Dropping and Adding Classes

If you want to drop a class and receive a refund, the amount of your refund will depend on when you drop the class. See the refund policy below. If you want to add a class, you can register up until the first day of class. You can replace one course with another if they have the same registration fee and occur in the same semester by filling out a drop/add form available at any GTCC registration location.

Repeating a Class

In 1993, the N.C. legislature enacted a law that requires anyone, including senior citizens, who takes the same occupational extension course more than twice within a five-year period to pay \$6.19 per scheduled hour.

Example: CAS 4040 costs \$65 first time

CAS 4040 costs \$65 second time

CAS 4040 costs \$123.80 third time

(20 class hours x \$6.19 = \$123.80)

These were the fees in effect at the time of printing and are **subject to change without notice**.

You are exempt from this policy if you are required by law to have certification/licensure.

Refunds

The College will make a 100% refund of registration fees if you officially withdraw from class before the first class meeting and make the request in writing.

The College will refund 75% of the registration fee (of tuition only) if you officially withdraw from classes on the first day of classes or before the class reaches the census date. The census date varies from class to class.

To receive a refund, a student must officially withdraw from class and request a refund in writing.

If a class is cancelled or has been filled, GTCC will make a full refund. If additional information is needed, please contact the Continuing Education department.

Refunds are processed on a monthly basis. However, please allow 6-8 weeks to receive the refund.

The College refund policy is established by state legislative action and is **subject to change without prior notice** to students. The refund policy stated above was in effect at the time this catalog was published.

CURRICULUM PROGRAMS OF STUDY

The wide variety of curriculum credit programs at GTCC are designed to meet the educational needs of individual citizens, businesses and industries in Guilford County. When you successfully complete a program of study, you can earn an associate degree, a diploma or a certificate, depending on the program. Most programs are offered on the Jamestown campus, although individual classes are offered in Greensboro and High Point. The college's sites in Greensboro and High Point also offer some curriculum programs (see below).

Greensboro Programs

GTCC offers classes at three locations in Greensboro: 3505 E. Wendover Ave. location, the Small Business Center at 2007 Yanceyville St., suite 220; and the GTCC Aviation Center at the Piedmont Triad International Airport, 260 Regional Rd and 819 Radar Rd.

The following programs are housed on the 3505 East Wendover campus: Air Conditioning, Heating and Refrigeration Technology; Plumbing; Residential Carpentry; Construction Management Technology; Architectural Technology; Civil Engineering/Surveying Technology; Mechanical Engineering/Drafting and Design Technology; Electronics Engineering Technology; Telecommunications and Network Engineering Technology; Industrial Systems Technology; Electrical Construction; Industrial Electrical/Electronics Technology; Computer Intergrated Machining; Manufacturing Technology; and Turfgrass Technology. The Paralegal Technology Program and the Associate in Arts and Associate in Science degrees can also be completed on this campus.

The Greensboro Wendover Campus offers a variety of Continuing Education classes including Basic Skills Programs (Adult Basic Education, GED, Adult High School, English for Speakers of Other Languages, and Compensatory Education). A wide variety of Occupation Extension classes such as Computer Classes, CNA training, Real Estate Certification, and other business and occupational skills training courses are offered, in addition to a host of Community Services classes designed for personal and skills enrichment (Art, photography, foreign languages, sewing, health related, retirement and personal enrichment classes).

The following curriculum programs are offered at the GTCC T.H. Davis Aviation Center: Aviation Management and Career Pilot Technology; and Aviation Systems Technology. Aviation Center #2 is located at 819 Radar Road, adjacent to the Piedmont International Airport. This facility houses the Light Jet Manufacturing, Avionics and the Non-Destructive Inspection programs; all of which are run as Continuing Education courses. Aircraft Interiors, Aircraft Painting, and customized training in Composites and Aircraft Structures are also conducted in this facility as Continuing Education programs, to serve the needs of industry partners on the airport.

Selected Accounting and Early Childhood Education classes are also offered in Greensboro. For more information about these programs see the program plans on the following pages or contact the program's department chair.

High Point Programs

The GTCC High Point campus is located at 901 S. Main St. in High Point.

The campus is home to the following curriculum programs: Entertainment Technology, Furniture Upholstery, Human Services Technology, Human Services Technology-Substance Abuse Concentration, Pharmacy Technology, and selected certificates and degree programs in Business. A variety of Continuing Education classes are offered including Basic Skills (Adult Basic Education, GED, Adult High School, English for Speakers of Other Languages and Compensatory Education), certificates in Software Applications, a variety of computer classes, and Community Service (cooking, sewing, art, writing, and other personal enrichment opportunities).

Student Development and Learning

The Developmental Education program is the backbone of GTCC's open-door admissions policy. Some students seek admission to curriculum programs and find themselves under-prepared. Developmental Education offers these students a program to develop academic skills to enable them to enter their chosen curricula with an improved chance for success.

Nearly all students who apply to associate degree programs and those who apply to some one-year diploma programs have their skills evaluated in reading, writing, and mathematics. Applicants whose scores fall below the minimum required by curriculum programs or for entry-level courses in english, reading intensive courses, and mathematics are referred to Developmental Education for course work. Developmental Education courses may be taken prior to or with some curriculum courses, depending on guidelines of the chosen program of study.

Developmental Education courses also may be selected by students who wish to improve their basic academic skills. The courses are offered in reading, English grammar and composition, academic skills, and mathematics. These courses allow students to concentrate on their individual academic needs and gain confidence in their abilities.

Program Outcomes

Upon completion of the Developmental Education program, the student should be able to:

- apply basic reading skills at the minimum level established by the curriculum;
- apply basic grammatical principles of standard written English at the minimum level established by the curriculum;
- apply basic writing skills at the minimum level established by the curriculum; and
- apply basic mathematical skills at the minimum level required by the curriculum;
- apply targeted employability skills;
- apply basic life skills.

Developmental Education, day and evening courses

Contact Information:

(336) 334-4822, ext. 2353 - from Greensboro • (336) 454-1126, ext. 2353 - from High Point

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Developmental English / Math / Reading

CIS	070	Fundamentals of Computing	0	2	0	1
ENG	070	Basic Language Skills	2	2	0	3
ENG	080	Writing Foundations	3	2	0	4
ENG	085	Reading & Writing Found	5	0	0	5
ENG	085A	Reading & Writing Fnd Lab	0	2	0	1
ENG	090	Composition Strategies	3	0	0	3
ENG	090A	Composition Strategies Lab	0	2	0	1
ENG	095	Reading & Comp Strategies	5	0	0	5
ENG	095A	Reading & Comp Strat Lab	0	2	0	1
MAT	060	Essential Mathematics	3	2	0	4
MAT	070	Introductory Algebra	3	2	0	4
MAT	080	Intermediate Algebra	3	2	0	4
RED	070	Essential Reading Skills	3	2	0	4
RED	080	Introduction to College Reading	3	2	0	4
RED	090	Improved College Reading	3	2	0	4

Academic Related Courses

Academic Related courses are offered through GTCC's Student Success Division . These courses, which have a prefix of ACA, have application to students in all programs. They count toward graduation and may provide transferable elective credit. These courses are designed to strengthen your chances of success in academic and work settings. GTCC currently offers four Academic Related courses. For course descriptions, please see page 338.

Academic Related Courses

ACA	111	College Student Success	1	0	0	1
ACA	112	Intro to Dist Learning	0	2	0	1
ACA	115	Success and Study Skills	0	2	0	2
ACA	118	College Study Skills	1	2	0	2

PROGRAM LIST

Arts & Sciences

(College Transfer Programs)

Associate in Arts

- General Studies (*available online**)
- Pre-Major Art Education
- Pre-Major Business Administration
- Pre-Major Business Education /
Marketing Education (*available online**)
- Pre-Major Communication Studies
- Pre-Major Criminal Justice (*available online**)
- Pre-Major Elementary Education
- Pre-Major English (*available online**)
- Pre-Major English Education
- Pre-Major Health Education
- Pre-Major History (*available online**)
- Pre-Major Middle Grades
- Pre-Major Nursing
- Pre-Major Physical Education
- Pre-Major Political Science
- Pre-Major Psychology
- Pre-Major Social Science
Secondary Education (*available online**)
- Pre-Major Special Education
- Pre-Major Social Work
- Pre-Major Sociology

Associate in Fine Arts

- General Studies, Drama Concentration
- Pre-Major Music

Associate in Science

- General Studies
- Pre-Major Biology and Biology Education
- Pre-Major Chemistry and Chemistry Education
- Pre-Major Engineering
- Pre-Major Mathematics

Diploma

- General Studies, College Transfer Readiness
(*available online**)

Arts & Sciences

(Non-Transfer Programs)

Associate in General Education

(*available online**)

Associate in Applied Science

- Biotechnology
- Advertising & Graphic Design

Certificate

- Advertising and Graphic Design
 - Computer Graphics
 - Photography

Business Technologies

Associate in Applied Science

- Accounting
- Business Administration (*available online**)
 - Human Resources Management
(*available online**)
 - Import/Export Compliance Option
- Computer Information Technology (*available online**)
- Computer Integration Technology
- Computer Programming (*available online**)
- Cosmetology *
- Culinary Arts
- Cyber Crime Technology
- Early Childhood Education
- Entertainment Technology
 - Sound Engineering Option
 - Sound and Lighting Option
 - Performer Option
 - Management Option
- General Occupational Technology
- Global Logistics Technology
- Hospitality Management
- Information Systems Security
- Networking Technology
- Occupational Education Associate (*available online*)
- Paralegal Technology
- Simulation and Game Development
- Web Technologies (*available online**)

* - Limited enrollment program (see page 22)

Business Technologies - Continued

Diploma

Accounting
Cosmetology
Culinary Technology
Early Childhood Education

Certificate

Accounting
Baking
Business Administration
- Human Resources Management (*available online**)
- Professional Selling

Computer Information Technology
- Basic Certificate (*available online**)
- Operating Systems

Cosmetology
Culinary Technology
Early Childhood Education
- Early Childhood Administration
- Early Childhood School-age
- Infant-Toddler Care

Lateral Entry (*available online**)

Networking Technology
- Routing

Occupational Education (*available online*)

Paralegal Technology
- Bankruptcy
- Corporate Business
- Real Estate

Web Technologies

- Basic Certificate (*available online**)
- Advanced Certificate (*available online**)

Health Sciences

Associate in Applied Science

Associate Degree Nursing (Integrated)*
Dental Hygiene*
Healthcare Management Technology
Medical Assisting*
Medical Office Administration
Office Administration (*available online only*)
Physical Therapist Assistant*
Pharmacy Technology*
Radiography*
Surgical Technology*

Diploma

Dental Assisting
Medical Transcription (*available online only*)*
Pharmacy Technology*
Practical Nursing (Integrated)*
Surgical Technology*

Certificate

Medical Office Administration
- Hospital Billing and Coding
- Medical Office Billing and Coding
- Medical Office Administration - (*available online*)
- Electronic Medical Records
Office Administration (*available online only*)
- Software Applications
- Office Administration Receptionist

* - Limited enrollment program (see page 22)

Human Services & Public Safety

Associate in Applied Science

- Criminal Justice Technology
- Emergency Medical Science*
 - Bridging Program
- Emergency Preparedness Technology
- Fire Protection Technology
- Human Services Technology
 - Substance Abuse
 - Mental Health

Diploma

- Cosmetology
- Culinary Technology
- Early Childhood Education

Certificate

- Basic Law Enforcement Training
- Emergency Preparedness Technology
- Human Services Technology
 - Mental Health Technology
 - Substance Abuse Prevention
 - Substance Abuse Treatment

Industrial, Construction, & Engineering Technologies

Associate in Applied Science

- Air Conditioning, Heating and Refrigeration Technology
- Architectural Technology
- Civil Engineering Technology
- Construction Management Technology
- Electrical/Electronics Technology
- Electronics Engineering Technology
 - Wireless Technician Option
- Industrial Systems Technology
- Computer Integrated Machining
- Manufacturing Technology
- Mechanical Engineering Technology
 - Drafting and Design Option
 - CAD Support Option
- Surveying Technology
- Telecommunications and Network Engineering Technology
- Turfgrass Management

Diploma

- Air Conditioning, Heating and Refrigeration Technology
- Architectural Technology
- Carpentry
- Construction Management Technology
- Electrical/Electronics Technology
 - Electrical Construction
 - Master Electrician
- Electronics Engineering Technology
- Furniture Upholstery
- Industrial Systems Technology
- Computer Integrated Machining
 - Machinist
- Manufacturing Technology
- Mechanical Engineering Technology
 - Drafting and Design
- Telecommunications and Network Engineering Technology
- Turfgrass Management
- Welding Technology

Certificate

- Air Conditioning, Heating and Refrigeration Technology
 - Air Conditioning
 - Comfort Systems Design
 - Commercial Control Systems
 - Control Systems
 - Heat Pumps

* - Limited enrollment program (see page 22)

- Heat Pump Service
- Refrigeration
- Year-Round Comfort Systems
- Architectural Technology
- Carpentry - Basic & Advanced
- Civil Engineering Technology
- Construction Estimation
- Construction Supervision
- Electrical/Electronics Technology
 - Basic Wiring Skills
 - Basic Electrical Construction
 - Industrial Electrician
 - Advanced Construction Electrician
- Electronics Engineering Technology
 - Basic Electronics
 - Photovoltaic Installation
- Furniture Upholstery
 - Furniture Upholstery
 - Sewing
- Industrial Systems Technology
 - Packaging
 - Troubleshooting
 - Controls
- Machining Technology
 - Basic Conventional Machining
 - Intermediate Conventional Machining
 - CNC Set-Up
 - CNC Operator
- Manufacturing Technology
 - Basic Manufacturing
- Mechanical Engineering Technology
 - CAD Certificate
 - CAD / BIM Certificate
- Surveying Technology
- Plumbing
- Telecommunications and Network Engineering Technology
 - Basic
 - Advanced
- Turfgrass Management
 - Landscape Design
 - Landscape Maintenance
- Welding Technology

Transportation Systems Technologies

Associate in Applied Science

- Automotive Systems Technology
 - Ford Option *
 - GM Option *
 - Generic Option
- Aviation Electronics (Avionics) Technology
- Aviation Management / Career Pilot Technology
 - Aviation Management Option
 - Career Pilot Option
- Aviation Systems Technology*

Diploma

- Collision Repair and Refinishing Technology *
- Heavy Equipment and Transport Technology
 - Medium/Heavy Duty Truck

Certificate

- Collision Repair and Refinishing Technology
- Automotive Systems Technology
 - Generic Option
- Aviation Management / Career Pilot Technology
 - Aviation Management Option
 - Career Pilot Option
- Aviation Systems Technology
 - Airframe and Powerplant Option
 - Airframe Rating Option
 - Powerplant Rating Option
- Heavy Equipment and Transport Technology
 - Medium/Heavy Duty Truck

* - Limited enrollment program (see page 22)

Associate in Arts Program

A 10 10 0

The Associate in Arts degree program is designed for students who intend to pursue a Bachelor of Arts degree in one of the liberal arts disciplines or a bachelor's degree in a professional school which requires a strong background in the liberal arts prior to admission to the major. Students who are uncertain of their academic major should also enroll in this program. Students may want to choose the Associate in Science degree.

This program is offered through the Comprehensive Articulation Agreement between the North Carolina Community College System and the University of North Carolina System. College students who complete the 44-hour general education core and graduate with a grade of C or better in each course will meet the general education requirements for freshmen and sophomores in North Carolina. They will then be eligible to be considered for admission with junior class standing to senior institutions in the University of North Carolina System. Graduates also will be eligible to be considered for admission with junior class standing to public institutions outside the state of North Carolina and many private institutions, including those in Guilford County and the greater Piedmont Triad.

In order to ensure appropriate selection of courses, a student should determine his/her Pre-Major and preferred university as early as possible in his/her studies at GTCC.

There are two ways to start a four-year degree at Guilford Tech:

- Complete an A.A., A.S., or A.F.A degree in an approved "pre-major" or college transfer general education degree plan.
- Complete the 44-hour general education core for the Diploma of Transfer Readiness.
- Complete at least 24 to 30 semester hours at GTCC with minimum grades of "C" in these courses.

AA/AS Completion

This is a student's best option for transfer to schools in the North Carolina University System because of the Comprehensive Articulation Agreement (CAA). This agreement states that NC community college graduates of approved pre-degree programs will, when admitted to a state university, enter as juniors and will have satisfied general education requirements (more information on the CAA is available on the web at http://www.ga.unc.edu/student_info/caa/).

Guilford Tech has established a variety of AA/AS/AFA degree plans for pre-majors as well as more generic general education college transfer degrees for students who may not wish to pursue a specific pre-major. To complete a pre-major or a general education degree, students should follow the program plan for that pre-major, working with an advisor and with the college catalog to complete the prescribed courses. Note that core courses and appropriate college transfer electives are listed in this section of the catalog.

Diploma of Transfer Readiness

The Diploma of Transfer Readiness is intended for students who do not intend to complete the associate degree but do want to transfer to a four-year institution. Students who complete the entire general education core as outlined will meet the 44 credit hour requirement for this diploma and will meet the general education core at any North Carolina system university or articulation agreement partners. The diploma, while not a 'permanent credential' in the sense of the AA or AS degree, does serve as a marker on students' transcripts so the universities know the general education core is complete.

Early Transfer

Most colleges and universities prefer that transferring students have a minimum of 24 to 30 semester hours before they transfer. The North Carolina University System also has some minimum requirements. If you transfer before getting an associate's degree, you will need to meet the University System's "minimum admission requirements" established for all high school graduates. If you did not meet these requirements in high school and if you do not have an associates degree, the following requirements will need to be met before you are eligible for transfer:

- Two college transfer social/behavioral science courses
- Two college transfer English courses (ENG 111, ENG 112)
- Two college transfer lab science courses
- Two college transfer mathematics courses

Note that appropriate college transfer courses are labeled in the catalog descriptions with the phrase, "This course has been approved to satisfy the Comprehensive Articulation Agreement...." Courses approved for the "general education core" are also clearly labeled in the course descriptions.

If you are interested in college transfer, you should contact the admissions office of the college or university you wish to attend as soon as possible. This contact may help you in making good course selections and in making a smooth transition to the university. It is recommended that you specifically ask about the foreign language requirements for your intended major. It may be necessary for you to take foreign language as part of your humanities requirement.

Program Outcomes:

The Associate in Arts program provides graduates with the liberal arts foundation needed to meet the following goals:

- 1) to understand more effectively the challenges of the modern world,
- 2) to obtain the general education core needed for baccalaureate degree programs and
- 3) to provide the academic preparation necessary for admission to the graduate's chosen field of study at a senior institution.

GTCC structures this program around mandated study of a number of academic disciplines based upon the Comprehensive Articulation Agreement between the North Carolina Community College System and the University of North Carolina System.

Upon completion of the program, graduates will be able to:

- Apply strategies to acquire new information (concepts and perspectives) in a variety of academic disciplines
Discuss how scholars in a variety of academic disciplines access and validate knowledge
- Communicate information correctly to a variety of identified audiences visually, orally, and in writing.
- Analyze academic, workplace, and societal issues presented in a variety of academic disciplines using discipline-specific concepts and underlying perspectives
- Use critical thinking (reason and creativity in problem-solving and decision-making) in a variety of academic disciplines
- Demonstrate use of technology appropriate to a variety of academic disciplines

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Grade point average requirements vary, and admission is competitive to majors and professional schools.

Only courses in which the student has earned a grade of C or better will receive transfer credit.

Cooperative Work Experience

Cooperative Education is a carefully organized and supervised program of "Experiential Learning" in which the participating student enriches his or her education with actual on the job work experiences related to his or her academic program. Interested students who are pursuing an Associate in Arts or Science degree may participate in the "Cooperative Education Experience" and receive one credit hour of academic credit. The academic credit received will be considered as an elective usually does not transfer.

Associate in Science Program

A 10 40 0

The Associate in Science degree program is designed for students who intend to pursue a Bachelor of Science degree in one of the science disciplines or a Bachelor's degree in a professional school which requires a strong background in mathematics and sciences prior to admission to the major.

This program is offered through the Comprehensive Articulation Agreement between the North Carolina Community College System and the University of North Carolina System. Students who complete the 44 hour general education core and graduate with a grade of C or better in each course will meet the general education (freshman and sophomore) requirements and be eligible to be considered for admission with junior class standing to senior institutions in the University of North Carolina System. Graduates will also be eligible to be considered for admission with junior class standing to public institutions outside the state of North Carolina and many private institutions, including those in Guilford County and the greater Piedmont Triad.

In order to ensure appropriate selection of courses, a student should determine his/her pre-major and preferred university as early as possible in his/her studies at GTCC.

Program Outcomes:

The Associate in Science program provides graduates with the liberal arts foundation needed to meet the following goals: 1) to understand more effectively the challenges of the modern world, 2) to obtain the general education core needed for baccalaureate degree programs and 3) to provide the academic preparation necessary for admission to the graduate's chosen field of study at a senior institution. GTCC structures this program around mandated study of a number of academic disciplines based upon the Comprehensive Articulation Agreement between the North Carolina Community College System and the University of North Carolina System. Upon completion of the program, graduates will be able to:

- Apply strategies to acquire new information (concepts and perspectives) in a variety of academic disciplines
- Discuss how scholars in a variety of academic disciplines access and validate knowledge
- Communicate information correctly to a variety of identified audiences visually, orally, and in writing.
- Analyze academic, workplace, and societal issues presented in a variety of academic disciplines using discipline-specific concepts and underlying perspectives
- Use critical thinking (reason and creativity in problem-solving and decision-making) in a variety of academic disciplines
- Demonstrate use of technology appropriate to a variety of academic disciplines

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Grade point average requirements vary and admission is competitive to majors and professional schools. Only courses in which the student has earned a grade of C or better will receive transfer credit.

Cooperative Work Experience

Cooperative work experience is available to students in the Pre-Major programs that follow.

College Transfer Core Courses for A.A., A.S., and A.F.A

May also be used as electives for A.A., A.S. and A.F.A. Programs

To be certain and up to date on most current transfer courses, students should check the web site for the Comprehensive Articulation Agreement: http://www.northcarolina.edu/content.php/assessment/reports/student_info/caa.htm It indicates which courses may be used as general education core classes and elective classes. Courses not on that list will not transfer. **Courses in which students receive the grade of "D" will not transfer.**

Pre-Major programs include Literature Core Courses, Science Core Courses, Humanities/Fine Arts Core Courses, Social Science Core Courses, and History Core Courses. The list of courses available in each area are shown below:

English Composition

ENG	111	Expository Writing	3	0	0	3
ENG	112	Argument-Based Research	3	0	0	3
ENG	114	Professional Research & Reporting	3	0	0	3

Literature Core

ENG	131	Introduction to Literature	3	0	0	3
ENG	231	American Literature I	3	0	0	3
ENG	232	American Literature II	3	0	0	3
ENG	241	British Literature I	3	0	0	3
ENG	242	British Literature II	3	0	0	3
ENG	251	Western World Literature I	3	0	0	3
ENG	252	Western World Literature II	3	0	0	3
ENG	261	World Literature I	3	0	0	3
ENG	262	World Literature II	3	0	0	3

Humanities/Fine Arts Core

ART	111	Art Appreciation	3	0	0	3
ART	114	Art History Survey I	3	0	0	3
ART	115	Art History Survey II	3	0	0	3
DRA	111	Theatre Appreciation	3	0	0	3
DRA	112	Literature of the Theatre	3	0	0	3
DRA	126	Storytelling	3	0	0	3
FRE	111	Elementary French I	3	0	0	3
FRE	112	Elementary French II	3	0	0	3
FRE	211	Intermediate French I	3	0	0	3
FRE	212	Intermediate French II	3	0	0	3
HUM	110	Technology and Society	3	0	0	3
HUM	115	Critical Thinking	3	0	0	3
HUM	120	Cultural Studies	3	0	0	3
HUM	121	The Nature of America	3	0	0	3
HUM	122	Southern Culture	3	0	0	3
HUM	130	Myth in Human Culture	3	0	0	3
HUM	150	American Women's Studies	3	0	0	3
HUM	160	Introduction to Film	3	0	0	3
HUM	161	Advanced Film Studies	3	0	0	3
HUM	211	Humanities I	3	0	0	3
HUM	212	Humanities II	3	0	0	3
MUS	110	Music Appreciation	3	0	0	3
MUS	112	Introduction to Jazz	3	0	0	3
MUS	210	History of Rock Music	3	0	0	3

Humanities/Fine Arts Core - Continued

PHI	210	History of Philosophy	3	0	0	3
PHI	215	Philosophical Issues	3	0	0	3
PHI	240	Introduction to Ethics	3	0	0	3
REL	110	World Religions	3	0	0	3
REL	111	Eastern Religions	3	0	0	3
REL	112	Western Religions	3	0	0	3
REL	211	Introduction to Old Testament	3	0	0	3
REL	212	Introduction to New Testament	3	0	0	3
REL	221	Religion in America	3	0	0	3
SPA	111	Elementary Spanish I	3	0	0	3
SPA	112	Elementary Spanish II	3	0	0	3
SPA	211	Intermediate Spanish I	3	0	0	3
SPA	212	Intermediate Spanish II	3	0	0	3

Mathematics Core

CIS	110	Introduction to Computers	2	2	0	3
CIS	115	Introduction to Programming & Logic	2	2	0	3
MAT	140	Survey of Mathematics*	3	0	0	3
MAT	140A	Survey of Math Lab	0	2	0	1
MAT	151	Statistics I	3	3	0	3
MAT	151A	Statistics I Lab	0	2	0	1
MAT	161	College Algebra	3	0	0	3
MAT	161A	College Algebra Lab	0	2	0	1
MAT	171	Precalculus Algebra	3	0	0	3
MAT	171A	Precalculus Algebra Lab	0	2	0	2
MAT	172	Precalculus Trigonometry	3	0	0	3
MAT	172A	Precalculus Trigonometry Lab	0	2	0	1
MAT	175	Precalculus	4	0	0	4
MAT	175A	Precalculus Lab	0	2	0	1
MAT	263	Brief Calculus	3	0	0	3
MAT	271	Calculus I	3	2	0	4
MAT	272	Calculus II	3	2	0	4
MAT	273	Calculus III	3	2	0	4

**May be applied to A.A. or A.F.A. degrees only.*

Natural Sciences Core (Note: Lab must be taken for AA/AS graduation credit.)

AST	111	Descriptive Astronomy	3	0	0	3
AST	111A	Descriptive Astronomy Lab	0	2	0	1
AST	151	General Astronomy I	3	0	0	3
AST	151A	General Astronomy I Lab	0	2	0	1
AST	152	General Astronomy II	3	0	0	3
AST	152A	General Astronomy II Lab	0	2	0	1
BIO	110	Principles of Biology	3	3	0	4
BIO	111	General Biology I	3	3	0	4
BIO	112	General Biology II	3	3	0	4
BIO	140	Environmental Biology	3	0	0	3
BIO	140A	Environmental Biology Lab	0	3	0	1
CHM	131	Introduction to Chemistry	3	0	0	3
CHM	131A	Introduction to Chemistry Lab	0	3	0	1
CHM	132	Organic and Biochemistry	3	3	0	4
CHM	151	General Chemistry I	3	3	0	4
CHM	152	General Chemistry II	3	3	0	4
GEL	111	Introduction to Geology	3	2	0	4
PHY	110	Conceptual Physics	3	0	0	3
PHY	110A	Conceptual Physics Lab	0	2	0	1
PHY	151	College Physics I	3	2	0	4
PHY	152	College Physics II	3	2	0	4
PHY	251	General Physics I	3	3	0	4
PHY	252	General Physics II	3	3	0	4

Social Sciences Core

(Note: Most GTCC college transfer pre-major degrees require TWO history classes as a part of their Social/Behavioral Sciences Core; students should choose from two different prefixes other than HIS for their other Social Sciences courses.)

ANT	210	General Anthropology	3	0	0	3
ANT	220	Cultural Anthropology	3	0	0	3
ECO	251	Principles of Microeconomics	3	0	0	3
ECO	252	Principles of Macroeconomics	3	0	0	3
GEO	111	World Regional Geography	3	0	0	3
GEO	112	Cultural Geography	3	0	0	3
HIS	111	World Civilizations I	3	0	0	3
HIS	112	World Civilizations II	3	0	0	3
HIS	121	Western Civilization I	3	0	0	3
HIS	122	Western Civilization II	3	0	0	3
HIS	131	American History I	3	0	0	3
HIS	132	American History II	3	0	0	3
POL	120	American Government	3	0	0	3
POL	210	Comparative Government	3	0	0	3
POL	220	International Relations	3	0	0	3
PSY	150	General Psychology	3	0	0	3
PSY	239	Psychology of Personality	3	0	0	3
PSY	241	Developmental Psychology	3	0	0	3
PSY	281	Abnormal Psychology	3	0	0	3
SOC	210	Introduction to Sociology	3	0	0	3
SOC	213	Sociology of the Family	3	0	0	3
SOC	220	Social Problems	3	0	0	3
SOC	225	Social Diversity	3	0	0	3
SOC	240	Social Psychology	3	0	0	3

Electives for A.A, A.S., and A.FA Programs

Students may use Core Electives as Free Electives. In addition, the list below covers the most of the other options students may use for college transfer electives. To be sure a course can serve as a transferable elective, students and advisors may want to check the website that is an excellent resource for the college transfer agreement with the state university system:

http://www.northcarolina.edu/content.php/assessment/reports/student_info/caa.htm

ACC	120	Principles of Financial Accounting	3	2	0	4
ACC	121	Principles of Managerial Accounting	3	2	0	4
ART	121	Design I	1	4	0	3
ART	122	Design II	1	4	0	3
ART	131	Drawing I	0	6	0	3
ART	132	Drawing II	0	6	0	3
ART	240	Painting I	0	6	0	3
AST	251	Observational Astronomy	1	3	0	2
BIO	163	Basic Anatomy and Physiology	4	2	0	5
BIO	165	Anatomy and Physiology I	3	3	0	4
BIO	166	Anatomy and Physiology II	3	3	0	4
BIO	250	Genetics	3	3	0	4
BIO	265	Cell Biology	3	3	0	4
BIO	275	Microbiology	3	3	0	4
BIO	280	Biotechnology	2	3	0	3
BUS	110	Introduction to Business	3	0	0	3
BUS	115	Business Law I	3	0	0	3
BUS	137	Principles of Management	3	0	0	3
CHM	251	Organic Chemistry I	3	3	0	4
CHM	252	Organic Chemistry II	3	3	0	4
CJC	111	Introduction to Criminal Justice	3	0	0	3
CJC	121	Law Enforcement Operations	3	0	0	3
CJC	141	Corrections	3	0	0	3
COM	110	Introduction to Communication	3	0	0	3
COM	111	Voice and Diction	3	0	0	3
COM	120	Interpersonal Communication	3	0	0	3
COM	130	Nonverbal Communication	3	0	0	3
COM	140	Intro to Intercultural Communication	3	0	0	3
COM	150	Intro to Mass Communication	3	0	0	3
COM	231	Public Speaking	3	0	0	3
CSC	134	C++ Programming	2	3	0	3
CSC	139	Visual Basic Programming	2	3	0	3
CSC	151	JAVA Programming	2	3	0	3
CSC	239	Advanced Visual Basic	2	3	0	3
EDU	144	Child Development I	3	0	0	3
EDU	145	Child Development II	3	0	0	3
EDU	146	Child Guidance	3	0	0	3
EDU	216	Foundations of Education	3	2	0	4
ENG	125	Creative Writing I	3	0	0	3
ENG	126	Creative Writing II	3	0	0	3
ENG	273	African-American Literature	3	0	0	3
HEA	110	Personal Health/Wellness	3	0	0	3
HEA	120	Community Health	3	0	0	3
HIS	151	Hispanic Civilizations	3	0	0	3
HIS	227	Native American History	3	0	0	3
HIS	236	North Carolina History	3	0	0	3
JOU	110	Introduction to Journalism	3	0	0	3
MAT	285	Differential Equations	3	0	0	3

PED	110	Fit and Well for Life	1	2	0	2
PED	111	Physical Fitness I	0	3	0	1
PED	112	Physical Fitness II	0	3	0	1
PED	113	Aerobics I	0	3	0	1
PED	114	Aerobics II	0	3	0	1
PED	117	Weight Training I	0	3	0	1
PED	118	Weight Training II	0	3	0	1
PED	119	Circuit Training	0	3	0	1
PED	120	Walking for Fitness	0	2	0	1
PED	121	Walk, Jog, Run	0	3	0	1
PED	122	Yoga I	0	2	0	1
PED	123	Yoga II	0	2	0	1
PED	128	Golf-Beginning	0	2	0	1
PED	129	Golf-Intermediate	0	2	0	1
PED	139	Bowling-Beginning	0	2	0	1
PED	140	Bowling-Intermediate	0	2	0	1
PED	143	Volleyball-Beginning	0	2	0	1
PED	144	Volleyball-Intermediate	0	2	0	1
PED	145	Basketball-Beginning	0	2	0	1
PED	146	Basketball-Intermediate	0	2	0	1
PED	152	Swimming-Beginning	0	2	0	1
PED	153	Swimming-Intermediate	0	2	0	1
PED	154	Swimming for Fitness	0	2	0	1
PED	155	Water Aerobics	0	2	0	1
PED	216	Indoor Cycling	0	3	0	1
PED	240	Advanced PE Skills	0	2	0	1

Associate of Applied Science / Associate of General Education

General Education Options for Two Year - Technical Degree Programs

These courses are typically offered at GTCC and most commonly used to meet technical programs' general education requirements. A complete and updated listing of all NCCCS courses satisfying general education requirements can be located on the General Ed Matrix:

www.ncccs.cc.nc.us/programs/common_course_library.htm

Prefix Number	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Humanities/Fine Arts

For Humanities/Fine Arts electives, choose from the list below:

ART	111	Art Appreciation	3	0	0	3
ART	114	Art History Survey I	3	0	0	3
ART	115	Art History Survey II	3	0	0	3
COM	140	Intro to Intercultural Communication	3	0	0	3
DRA	111	Theatre Appreciation	3	0	0	3
DRA	112	Literature of the Theatre	3	0	0	3
DRA	126	Storytelling	3	0	0	3
ENG	125	Creative Writing	3	0	0	3
ENG	131	Introduction to Literature	3	0	0	3
ENG	231	American Literature I	3	0	0	3
ENG	232	American Literature II	3	0	0	3
ENG	241	British Literature I	3	0	0	3
ENG	242	British Literature II	3	0	0	3
ENG	251	Western World Literature I	3	0	0	3
ENG	252	Western World Literature II	3	0	0	3
ENG	261	World Literature I	3	0	0	3
ENG	262	World Literature II	3	0	0	3
ENG	273	African-American Literature	3	0	0	3
HUM	110	Technology Society	3	0	0	3
HUM	115	Critical Thinking	3	0	0	3
HUM	120	Cultural Studies	3	0	0	3
HUM	121	The Nature of America	3	0	0	3
HUM	122	Southern Culture	3	0	0	3
HUM	130	Myth in Human Culture	3	0	0	3
HUM	150	American Women's Studies	3	0	0	3
HUM	160	Introduction to Film	3	0	0	3
HUM	211	Humanities I	3	0	0	3
HUM	212	Humanities II	3	0	0	3
MUS	110	Music Appreciation	3	0	0	3
MUS	111	Fundamentals of Music	3	0	0	3
MUS	112	Introduction to Jazz	3	0	0	3
MUS	121	Music Theory I	3	2	0	4
PHI	210	History of Philosophy	3	0	0	3
PHI	215	Philosophical Issues	3	0	0	3
PHI	240	Introduction to Ethics	3	0	0	3
REL	110	World Religions	3	0	0	3
REL	111	Eastern Religions	3	0	0	3
REL	112	Western Religions	3	0	0	3
REL	211	Introduction to Old Testament	3	0	0	3
REL	212	Introduction to New Testament	3	0	0	3
REL	221	Religion in America	3	0	0	3

Natural Sciences/Mathematics

For Natural Sciences/Mathematics electives, choose from the list below:

AST	111	Descriptive Astronomy (with lab)	3	2	0	4
AST	151	General Astronomy I (with lab)	3	2	0	4
BIO	110	Principles of Biology	3	3	0	4
BIO	111	General Biology I	3	3	0	4
BIO	140	Environmental Biology (with lab)	3	3	0	4
BIO	163	Basic Anatomy and Physiology	4	2	0	5
BIO	165	Anatomy and Physiology I	3	3	0	4

Natural Sciences/Mathematics - Continued

CHM	131	Introduction to Chemistry (with lab)	3	3	0	4
CHM	151	General Chemistry I	3	3	0	4
GEL	111	Introduction to Geology	3	2	0	4
PHY	110	Conceptual Physics (with lab)	3	2	0	4
PHY	121	Applied Physics I	3	2	0	4
PHY	131	Physics - Mechanics	3	2	0	4
PHY	151	College Physics I	3	2	0	4
MAT	110	Mathematical Measurement	2	2	0	3
MAT	115	Mathematical Models	2	2	0	3
MAT	120	Geometry and Trigonometry	2	2	0	3
MAT	121	Algebra/Trigonometry I	2	2	0	3
MAT	140	Survey of Mathematics	3	0	0	3
MAT	140A	Survey of Math Lab	0	2	0	1
MAT	151	Statistics I	3	3	0	3
MAT	151A	Statistics I Lab	0	2	0	1
MAT	161	College Algebra	3	0	0	3
MAT	161A	College Algebra Lab	0	2	0	1
MAT	171	Precalculus Algebra	3	0	0	3
MAT	171A	Precalculus Algebra Lab	0	2	0	2
MAT	175	Precalculus	4	0	0	4
MAT	175A	Precalculus Lab	0	2	0	1

Social/Behavioral Sciences

For Social/Behavioral Sciences electives, choose from the list below:

ANT	210	General Anthropology	3	0	0	3
ANT	220	Cultural Anthropology	3	0	0	3
ECO	251	Principles of Microeconomics	3	0	0	3
ECO	252	Principles of Macroeconomics	3	0	0	3
GEO	111	World Regional Geography	3	0	0	3
GEO	112	Cultural Geography	3	0	0	3
HIS	111	World Civilizations I	3	0	0	3
HIS	112	World Civilizations II	3	0	0	3
HIS	121	Western Civilization I	3	0	0	3
HIS	122	Western Civilization II	3	0	0	3
HIS	131	American History I	3	0	0	3
HIS	132	American History II	3	0	0	3
HIS	151	Hispanic Civilization	3	0	0	3
HIS	227	Native American History	3	0	0	3
HIS	236	North Carolina History	3	0	0	3
POL	120	American Government	3	0	0	3
POL	210	Comparative Government	3	0	0	3
POL	220	International Relations	3	0	0	3
PSY	110	Life Span Development	3	0	0	3
PSY	118	Interpersonal Psychology	3	0	0	3
PSY	150	General Psychology	3	0	0	3
PSY	281	Abnormal Psychology	3	0	0	3
SOC	210	Introduction to Sociology	3	0	0	3
SOC	213	Sociology of the Family	3	0	0	3
SOC	220	Social Problems	3	0	0	3
SOC	225	Social Diversity	3	0	0	3

Technical

Technical electives are a selected group of courses within a specific curriculum that you may choose in order to complete that curriculum.

Cooperative Education

Many programs allow you to complement your classroom learning experiences with off-campus employment while completing your degrees. Such an arrangement is called cooperative education. The work experience earned is closely related to your academic study, and you are awarded academic credit for your employment.

Cooperative education is an integral part of the learning process for many programs, as it enhances your academic knowledge, personal development and professional preparation. To determine if you meet the requirements for cooperative education in your program of study, ask your faculty advisor or department chair.

Accounting

A 25 10 0

Associate in Applied Science, Jamestown, day and evening
Diploma, Jamestown, day and evening
Certificate, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2263 - from Greensboro • (336) 454-1126, ext. 2263 - from High Point

The accounting curriculum is designed to provide students with the knowledge and the skills necessary for employment and growth in the accounting profession. Using the “language of business,” accountants assemble and analyze, process, and communicate essential information about financial operations.

In addition to course work in accounting principles, theories, and practice, students will study business law, finance, management, and economics. Related business and critical thinking skills are developed through the study of communications, computer applications, financial analysis, and ethics. The use of computers is integrated in the accounting courses to provide students with marketable job skills. Teamwork skills are enhanced through classroom practice.

Graduates should qualify for entry-level accounting positions in many types of organizations including accounting firms, small businesses, manufacturing firms, banks, hospitals, school systems and governmental agencies. With work experience and additional education, an individual may advance in the accounting profession.

Students will be required to use technology (computer, internet, etc.) in all courses in this program.

Most courses required under this program are offered in a variety of formats:

- Traditional (face to face, in a classroom setting)
- On-line (no traditional class time - lecture/labs on-line)
- Hybrid (part face-to-face classroom, part on-line)

Program Outcomes:

Upon successful completion of the Accounting program, the graduate should be able to:

- record financial transactions of a company properly
- prepare financial statements that fairly present the financial position of a company
- prepare supporting schedules to those financial statements accurately
- prepare basic individual and small business tax returns accurately
- apply the time-value of money concepts to financial transactions accurately
- use electronic spreadsheets effectively as it applies in a business environment
- use accounting software effectively for practical applications in a business environment.

Curriculum:**Accounting - Associate in Applied Science, Jamestown, day/evening****Advising Code: A 2510 0**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ACA	111	College Student Success	1	0	0	1
ACC	120	Principles of Financial Accounting	3	2	0	4
BUS	121	Business Math	2	2	0	3
ECO	251	Principles of Microeconomics	3	0	0	3
ENG	111	Expository Writing	3	0	0	3
MAT	115	Mathematical Models or	2	2	0	3
MAT	140	Survey of Mathematics or	(3)	(0)	(0)	(3)
MAT	161	College Algebra	(3)	(0)	(0)	(3)
Total			14(15)	4(6)	0	17
Spring Semester I						
ACC	121	Principles of Managerial Accounting	3	2	0	4
ACC	149	Intro to Accounting Spreadsheets	1	2	0	2
BUS	115	Business Law I	3	0	0	3
CIS	110	Introduction to Computers or	2	2	0	3
CIS	111	Basic PC Literacy or	(1)	(2)	(0)	(2)
OST	137	Office Software Applications	(2)	(2)	(0)	(3)
ECO	252	Principles of Macroeconomics	3	0	0	3
Total			11(12)	6	0	14(15)
Summer Term I						
ACC	140	Payroll Accounting	1	2	0	2
ACC	150	Accounting Software Apps	1	2	0	2
ACC	151	Accounting Spreadsheet Apps	1	2	0	2
-	-	Technical Elective	3	0	0	3
Total			6	6	0	9
Fall Semester II						
ACC	129	Individual Income Taxes	2	2	0	3
ACC	220	Intermediate Accounting I	3	2	0	4
BUS	225	Business Finance	2	2	0	3
DBA	110	Database Concepts	2	3	0	3
ENG	112	Argument Based Research or	3	0	0	3
ENG	114	Professional Research & Reporting	(3)	(0)	(0)	(3)
Total			12	8	0	16
Spring Semester II						
ACC	130	Business Income Taxes	2	2	0	3
ACC	180	Practices in Bookkeeping	3	0	0	3
ACC	221	Intermediate Accounting II	3	2	0	4
COM	120	Intro to Interpersonal Comm or	3	0	0	3
COM	231	Public Speaking	(3)	(0)	(0)	(3)
HUM	115	Critical Thinking	3	0	0	3
Total			14	4	0	16

Total credit hours required for degree: 73 **This curriculum is subject to change.**

Technical Electives: Choose 3 credits from: ACC 170, ACC 226, ACC 227, ACC 240, ACC 269, BUS 110, BUS 125, BUS 137, BUS 151, BUS 217, BUS 228, BUS 240, BUS 234, BUS 260, BUS 280, DBA 110, ECO 251, ECO 252, LOG 110, MKT 120, MKT 121, MKT 123, MKT 224, or COE 113.

Technical / Non-Transfer Degree

Curriculum:**Accounting - Diploma, Jamestown, day / evening**
Advising Code: A 2510 0 D1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
ACC	120	Principles of Financial Accounting	3	2	0	4
BUS	115	Business Law I	3	0	0	3
COM	120	Intro to Interpersonal Comm	3	0	0	3
BUS	240	Business Ethics	3	0	0	3
Totals			12	2	0	13

Spring Semester I

ACC	121	Principles of Managerial Accounting	5	3	0	4
ACC	149	Intro to Accounting Spreadsheets	1	2	0	2
ACC	220	Intermediate Accounting	3	2	0	4
ENG	111	Expository Writing	3	0	0	3
Totals			10	6	0	13

Summer Semester I

ACC	129	Individual Income Taxes	2	2	0	3
ACC	221	Intermediate Accounting II	3	2	0	4
ACC	225	Cost Accounting	3	0	0	3
Totals			8	4	0	10

Fall Semester II

ACC	130	Business Taxes	2	2	0	3
ACC	269	Audit and Assurance Services	3	0	0	3
ACC	240	Gov. & Not For Profit Accounting	3	0	0	3
BUS	225	Business Finance	2	2	0	3
Totals			10	6	0	13

Accounting - Certificate, Jamestown, day / evening
Advising Code: A 2510 0 C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
ACC	120	Principles of Financial Accounting	3	2	0	4
BUS	121	Business Math	2	2	0	3
Total			5	4	0	7
Spring Semester I						
ACC	121	Principles of Managerial Accounting	3	2	0	4
ACC	125	Mathematics of Finance	3	0	0	3
Total			6	2	0	7
Summer Term I						
ACC	140	Payroll Accounting	1	2	0	2
ACC	150	Accounting Software Applications	1	2	0	2
Total			2	4	0	4

Total credit hours required for certificate: 18 **This curriculum is subject to change.**

Advertising and Graphic Design

A 30 10 0

Associate in Applied Science, Jamestown, day
Certificate, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2230 - from Greensboro • (336) 454-1126, ext. 2230 - from High Point

The Advertising and Graphic Design curriculum is designed to provide students with the knowledge and skills necessary for employment in the graphic design profession. The program emphasizes design, advertising, illustration and digital and multimedia preparation of printed and electronic promotional materials.

Students will be trained in the development and design of promotional materials such as newspaper and magazine advertisements, posters, folders, letterheads, corporate symbols, brochures, booklets, and the preparation of art for printing, lettering, as well as typography, photography, and electronic media.

Graduates should qualify for employment opportunities with graphic design studios, advertising agencies, printing companies, department stores, and a wide variety of manufacturing industries, newspapers, and businesses with in-house graphics operations.

Capstone course: GRD 280 Portfolio Design.

Program Outcomes:

Upon successful completion of the Commercial Art and Advertising Design program, the graduate should be able to:

- prepare visual communications using the appropriate software;
- prepare traditional and electronic designs, layouts, comprehensive proofs, storyboards, illustrations;
- create projects;
- direct illustration and photography.

Curriculum:

Advertising and Graphic Design - Associate in Applied Science, Jamestown, day
Advising Code: A 3010 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ART	131	Drawing I	0	6	0	3
ENG	111	Expository Writing	3	0	0	3
GRA	151	Computer Graphics I	1	3	0	2
GRA	161	Computer Graphics Applications I	0	3	0	1
GRD	110	Typography I	2	2	0	3
GRD	141	Graphic Design I	2	4	0	4
Total			8	18	0	16
Spring Semester I						
ART	111	Art Appreciation	3	0	0	3
ENG	114	Professional Research and Reporting	3	0	0	3
GRA	152	Computer Graphics II*	1	3	0	2
GRA	162	Computer Graphics Applications II	0	3	0	1
GRD	131	Illustration I	1	3	0	2
GRD	142	Graphic Design II*	2	4	0	4
GRD	146	Design Applications II	0	3	0	1
Total			10	16	0	16

Summer Term I

GRD	160	Photo Fundamentals I*	1	4	0	3
GRD	233	Product Illustration*	1	3	0	2
Total			2	7	0	5

Fall Semester II

GRA	153	Computer Graphics III*	1	3	0	2
GRD	161	Photo Fundamentals II*	1	4	0	3
GRD	241	Graphic Design III*	2	4	0	4
GRD	246	Design Applications III	0	3	0	1
MAT	115	Mathematical Models	2	2	0	3
Total			6	16	0	13

Spring Semester II

COM	120	Intro to Interpersonal Communication	3	0	0	3
GRD	242	Graphic Design IV*	2	4	0	4
GRD	247	Design Applications IV	0	3	0	1
GRD	271	Multimedia I	1	3	0	2
GRD	285	Client/Media Relations	1	2	0	2
-	-	Graphic Design Technical Elective	1-2	2-4	0	2-3
-	-	Social / Behavior Science Elective	3	0	0	3
Total			11-12	14-16	0	17-18

Summer Term II

GRD	243	Graphic Design V*	2	4	0	4
GRD	280	Portfolio Design*	2	4	0	4
Total			4	8	0	8

Total credit hours required for degree: 75-76 **This curriculum is subject to change.**

*A student must complete the pre-requisite courses with a minimum grade of "C" or better before advancing to the next course.

Graphic Design Electives:

GRA	154	Computer Graphics IV*	1	3	0	2
GRD	111	Typography II*	2	2	0	3
GRD	272	Multimedia II*	1	3	0	2
GRD	162	Photo Portfolio*	1	4	0	3

Curriculum:**Computer Graphics - Certificate, Jamestown, day and evening****Advising Code: A 3010 0 C1**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
GRA	151	Computer Graphics I	1	3	0	2
GRA	162	Computer Graphics Applications II	0	0	3	1
GRD	141	Graphic Design I	2	4	0	4
Total			3	10	0	7

Fall Semester**Spring Semester**

GRA	152	Computer Graphics II	1	3	0	2
Total			2	5	0	2

Fall Semester II

GRA	153	Computer Graphics III	1	3	0	2
GRA	163	Computer Graphics Applications III	0	3	0	1
Total			1	6	0	3

Total credit hours required for certificate: 12 **This curriculum is subject to change.****Curriculum:****Photography - Certificate, Jamestown, day and evening****Advising Code: A 3010 0 C2**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
GRD	160	Photo Fundamentals I	1	4	0	3
Total			1	4	0	3

Fall Semester I

GRD	161	Photo Fundamentals II	1	4	0	3
Total			1	4	0	3

Spring Semester I

GRD	162	Photo Portfolio	1	4	0	3
Total			1	4	0	3

Fall Semester II

GRA	153	Computer Graphics III	1	3	0	2
GRA	163	Computer Graphics Applications III	0	3	0	1
Total			1	6	0	3

Total credit hours required for certificate: 12 **This curriculum is subject to change.**

(1) This schedule starts the student in the summer with daytime photo classes.

Students may instead begin in the Fall with evening photo classes:

Fall Semester: GRA 151, GRA 162, GRD 160.

Spring Semester: GRD 161.

Summer Term: GRD 162.

2nd Fall Semester: GRA 153.

Air Conditioning, Heating and Refrigeration Technology

A 35 10 0

Associate in Applied Science, Greensboro, day and evening
 Diploma, Greensboro, day and evening
 Certificate, Greensboro, day and evening

Contact Information:

(336) 334-4822, ext. 4429 - from Greensboro • (336) 454-1126, ext. 4429 - from High Point

The Air Conditioning, Heating and Refrigeration Technology curriculum provides students with the basic knowledge to develop the skills necessary to work with residential and light commercial systems.

Topics include mechanical refrigeration, heating and cooling theory, electricity, controls and safety. The diploma program covers air conditioning, furnaces, heat pumps, tools and instruments. In addition, the Associate in Applied Science degree covers residential building codes, residential system sizing and advanced comfort systems.

Diploma graduates should be able to assist in the start up, preventive maintenance, service, repair and/or installation of residential and light commercial systems. Associate degree graduates should be able to demonstrate an understanding of system selection and balance, and advanced systems.

Program Outcomes:

Upon successful completion of the Air Conditioning, Heating, and Refrigeration program, the graduate should be able to:

- design and install heating and cooling systems;
- service and repair heating, cooling, and accessory systems;
- perform preventive maintenance;
- use tools and equipment safely.

Curriculum:

Air Conditioning, Heating and Refrigeration Technology Associate in Applied Science, Greensboro Day Advising Code: A 3510 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
AHR	110	Introduction to Refrigeration	2	6	0	5
AHR	112	Heating Technology	2	4	0	4
MAT	110	Mathematical Measurement	2	2	0	3
AHR	210	Residential Building Codes or	1	2	0	2
AHR	220	Commercial Building Codes	(2)	(0)	(0)	(2)
ELC	111	Introduction to Electricity or	2	2	0	3
AHR	111	HVACR Electricity	(2)	(2)	(0)	(3)
Total			9(10)	14(16)	0	17
Spring Semester I						
AHR	113	Comfort Cooling	2	4	0	4
AHR	114	Heat Pump Technology	2	4	0	4
ELC	117	Motors and Controls	2	6	0	4
ENG	111	Expository Writing	3	0	0	3
CIS	111	Basic PC Literacy	1	2	0	2
AHR	160	Refrigerant Certification	1	0	0	1
Total			11	16	0	18

Technical / Non-Transfer Degree

Summer Term I

AHR	212	Advanced Comfort Systems	2	6	0	4
AHR	130	HVAC Controls	2	2	0	3
Total			4	8	0	7

Fall Semester II

AHR	255	Indoor Air Quality	1	2	0	2
AHR	240	Hydronic Heating	1	3	0	2
AHR	180	HVACR Customer Relations	1	0	0	1
–	–	Technical Elective	0-2	0-6	0-20	2-4
–	–	Social / Behavior Science Elective	3	0	0	3
COM	120	Intro to Interpersonal Comm	3	0	0	3
Total			9-11	5-11	0-20	13-15

Spring Semester II

AHR	211	Residential System Design	2	2	0	3
		or				
AHR	225	Commercial Building Design	(2)	(3)	(0)	(3)
AHR	235	Refrigeration Design	2	2	0	3
–	–	Humanities / Fine Arts Elective	3	0	0	3
ENG	114	Professional Research & Reporting or	3	0	0	3
ENG	112	Argument Based Research	(3)	(0)	(0)	(3)
PHY	121	Applied Physics I	3	2	0	4
Total			13	6(7)	0	16

Total credit hours required for degree: 71-73 **This curriculum is subject to change.**

Technical Electives selected from: AHR 263, AHR 250, and COE 111 and 121 or COE 112.

Curriculum:

**Air Conditioning, Heating and Refrigeration Technology
Associate in Applied Science, Greensboro Evening
Advising Code: A 3510 0**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

AHR	112	Heating Technology	2	4	0	4
MAT	110	Mathematical Measurement	2	2	0	3
AHR	210	Residential Building Codes	1	2	0	2
		or				
AHR	220	Commercial Building Codes	(2)	(0)	(0)	(2)
Total			5(6)	8	0	9

Spring Semester I

AHR	110	Introduction to Refrigeration	2	6	0	5
ENG	111	Expository Writing	3	0	0	3
ELC	111	Introduction to Electricity or	2	2	0	3
AHR	111	HVACR Electricity	(2)	(2)	(0)	(3)
Total			7	8	0	11

Summer Term I

AHR	160	Refrigerant Certification	1	0	0	1
AHR	211	Residential System Design	2	2	0	3
		or				
AHR	225	Commercial System Design	(2)	(3)	(0)	(3)
AHR	180	HVACR Customer Relations	1	0	0	1
Total			4	2(3)	0	5

Fall Semester II

AHR	113	Comfort Cooling	2	4	0	4
ELC	117	Motors and Controls	2	6	0	4
CIS	111	Basic PC Literacy	1	2	0	2
Total			5	12	0	10

Spring Semester II

AHR	130	HVAC Controls	2	2	0	3
AHR	114	Heat Pump Technology	2	4	0	4
COM	120	Intro to Interpersonal Communication	3	0	0	3
Total			7	6	0	10

Summer Term II

AHR	212	Advanced Comfort Systems	2	6	0	4
Total			2	6	0	4

Fall Semester III

AHR	240	Hydronic Heating	1	3	0	2
AHR	255	Indoor Air Quality	1	2	0	2
PHY	131	Physics - Mechanics <u>or</u>	3	2	0	4
PHY	110	Conceptual Physics	(3)	(0)	(0)	(3)
Total			5	7	0	8

Spring Semester III

ENG	114	Professional Research & Reporting <u>or</u>	3	0	0	3
ENG	112	Argument Based Research	(3)	(0)	(0)	(3)
AHR	235	Refrigeration Design	2	2	0	3
-	-	Social / Behavior Science Elective	3	0	0	3
-	-	Humanities / Fine Arts Elective	3	0	0	3
Total			8	4	0	12

Summer Term III

-	-	Technical Elective	0-2	0-6	0-20	2-4
Total			0-2	0-6	0-20	2-4

Total credit hours required for degree: 70-72 **This curriculum is subject to change.**

Technical Electives selected from: ELC 117, AHR 263, AHR 250, and COE 111 and 121 or COE 112.

Curriculum:**Air Conditioning, Heating and Refrigeration Technology
Diploma, Greensboro, day and evening
Advising Code: A 3510 0 D1**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
AHR	110	Introduction to Refrigeration	2	6	0	5
AHR	112	Heating Technology	2	4	0	4
MAT	110	Mathematical Measurements	2	2	0	3
AHR	210	Residential Building Codes	1	2	0	2
CIS	111	Basic PC Literacy	1	2	0	2
AHR	113	Comfort Cooling	2	4	0	4
AHR	114	Heat Pump Technology	2	4	0	4
ELC	111	Introduction to Electricity or	2	2	0	3
AHR	111	HVACR Electricity	(2)	(2)	(0)	(3)
ENG	111	Expository Writing	3	0	0	3
ELC	117	Motors and Controls	2	6	0	4
AHR	160	Refrigerant Certification	1	0	0	1
AHR	212	Advanced Comfort Systems	2	6	0	4
AHR	130	HVAC Controls	2	2	0	3
AHR	211	Residential System Design	2	2	0	3
Total			26	42	0	45

Total credit hours required for diploma: 45 **This curriculum is subject to change.**

Curriculum:**Air Conditioning - Certificate, Greensboro, Day and Evening
Advising Code: A 3510 0 C1**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
AHR	110	Introduction to Refrigeration	2	6	0	5
ELC	111	Intro. To Electricity	2	2	0	3
AHR	113	Comfort Cooling	2	4	0	4
Total			6	12	0	12

Total credit hours required for certificate: 12 **This curriculum is subject to change.**

Curriculum:**Control Systems - Certificate, Greensboro, Day and Evening
Advising Code: A 3510 0 C2**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
AHR	110	Introduction to Refrigeration	2	6	0	5
ELC	111	Intro. To Electricity	2	2	0	3
ELC	117	Motors and Controls	2	6	0	4
AHR	130	HVAC Controls	2	2	0	3
Total			8	16	0	15

Total credit hours required for certificate: 15 **This curriculum is subject to change.**

Curriculum:**Heat Pumps - Certificate, Greensboro, Day and Evening****Advising Code: A 3510 0 C3**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
AHR	110	Introduction to Refrigeration	2	6	0	5
ELC	111	Intro. To Electricity	2	2	0	3
AHR	114	Heat Pump Technology	2	4	0	4
Total			6	12	0	12

Total credit hours required for certificate: 12 **This curriculum is subject to change.****Curriculum:****Refrigeration - Certificate, Greensboro, Day and Evening****Advising Code: A 3510 0 C4**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
AHR	110	Introduction to Refrigeration	2	6	0	5
ELC	111	Intro. To Electricity	2	2	0	3
AHR	160	Refrigeration Certification	1	0	0	1
AHR	235	Refrigeration Design	2	2	0	3
Total			7	10	0	12

Total credit hours required for certificate: 12 **This curriculum is subject to change.****Curriculum:****Year Round Comfort Systems - Certificate, Greensboro, Day and Evening****Advising Code: A 3510 0 C5**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
ELC	111	Introduction to Electricity	2	2	0	3
AHR	112	Heating Technology	2	4	0	4
AHR	113	Comfort Cooling	2	4	0	4
AHR	114	Heat Pump Technology	2	4	0	4
Total			8	14	0	15

Total credit hours required for certificate: 15 **This curriculum is subject to change.****Curriculum:****Commercial Control Systems - Certificate, Greensboro, Day and Evening****Advising Code: A 3510 0 C6**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
ELC	111	Introduction To Electricity	2	2	0	3
AHR	130	HVAC Controls	2	2	0	3
ELC	117	Motors and Controls	2	6	0	4
AHR	263	Energy Management or	1	3	0	2
AHR	212	Advanced Comfort Systems	(2)	(6)	(0)	(4)
Total			9	17	0	12-14

Total credit hours required for certificate: 12-14 **This curriculum is subject to change.**

Curriculum:**Comfort System Design - Certificate, Greensboro, Day and Evening****Advising Code: A 3510 0 C7**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
AHR	210	Residential Building Codes	1	2	0	2
AHR	211	Residential System Design	2	2	0	3
AHR	220	Commercial Building Codes	1	2	0	2
AHR	225	Commercial System Design	2	3	0	3
AHR	255	Indoor Air Quality	1	2	0	2
Total			7	11	0	12

Total credit hours required for certificate: 12 **This curriculum is subject to change.**

Curriculum:**Heat Pump Service - Certificate, Greensboro, Day and Evening****Advising Code: A 3510 0 C8**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
ELC	111	Intro. To Electricity	2	2	0	3
AHR	113	Comfort Cooling	2	4	0	4
AHR	114	Heat Pump Technology	2	4	0	4
AHR	212	Advanced Comfort Systems	2	6	0	4
AHR	250	HVAC System Diagnostics	0	4	0	2
Total			8	20	0	17

Total credit hours required for certificate: 17 **This curriculum is subject to change.**

Architectural Technology

A 40 10 0

Associate in Applied Science, Greensboro, day
Diploma, Greensboro, day
Certificate, Greensboro, day/night

Contact Information:

(336) 334-4822, ext. 4438 - from Greensboro • (336) 454-1126, ext. 4438 - from High Point

The Architectural Technology curriculum provides individuals with the opportunity to gain the knowledge and skills that will lead to entry-level employment in a number of construction related fields.

Architectural technicians will be involved in work requiring knowledge of computer aided drafting (CAD); construction materials and methods of construction; structural, mechanical and electrical systems and building codes.

Graduates should qualify for initial employment opportunities as computer aided drafting (CAD) technicians; field inspectors, building materials sales representatives, cost estimators and building code inspectors. Employers typically hiring Architectural Technology graduates are architectural and engineering firms, contractors, developers, public utilities, manufacturers of building products, and municipal governments.

Program Outcomes:

Upon successful completion of the Architectural Technology program, the graduate should be able to:

- Demonstrate professional behavior.
- Communicate orally and in writing using the rules of standard English grammar.
- Communicate graphically using hand sketches, AutoCAD, Revit, and Sketchup.
- Demonstrate an understanding of construction materials and methods of construction.
- Plan, organize, and create to industry standards simplified working drawings for residential and light commercial buildings.

Curriculum:

Architectural Technology, Associate in Applied Science, Greensboro, day
Advising Code: A 4010 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ARC	111	Intro to Architectural Technology	1	6	0	3
ARC	114	Architectural CAD	1	3	0	2
ARC	114A	Architectural CAD Lab	0	3	0	1
ARC	250	Survey of Architecture	3	0	0	3
ENG	111	Expository Writing	3	0	0	3
MAT	121	Algebra / Trigonometry I or	2	2	0	3
MAT	171	Pre-calculus Algebra	(3)	(0)	(0)	(3)
Total			10-11	12-14	0	15
Spring Semester I						
ARC	112	Construction Materials, Methods	3	2	0	4
ARC	113	Residential Architectural Technology	1	6	0	3
BPR	130	Blueprint Reading	1	2	0	2
ENG	114	Professional Research and Reporting	3	0	0	3
MAT	122	Algebra / Trigonometry II or	3	0	0	3
MAT	172	Pre-calculus Trigonometry	(3)	(0)	(0)	(3)
COM	—	Communication Elective**	3	0	0	3
Total			14	10	0	18

Summer Term I

ARC	160	Residential Design	1	6	0	3
ARC	221	Arch. 3-D CAD	1	4	0	3
Total			2	10	0	6

Fall Semester II

ARC	141	Elem Structures for Architecture	4	0	0	4
ARC	210	Intro to Sustainable Design	1	3	0	2
ARC	211	Light Construction Technology	1	6	0	3
ARC	220	Advanced Architectural CAD	1	3	0	2
ARC	230	Environmental Systems	3	3	0	4
PHY	131	Physics / Mechanics or	3	2	0	4
PHY	151	College Physics	(3)	(2)	(0)	(4)
Total			12	14	0	19

Spring Semester II

ARC	213	Design Project	2	6	0	4
ARC	240	Site Planning	2	2	0	3
ARC	—	Architectural Technical Elective*	3	0	0	2-4
—	—	Humanities / Fine Arts Elective	3	0	0	3
—	—	Social / Behavioral Science Elective	3	0	0	3
Total			13	8	0	15-17

* Students must choose at least one course from the following Technical Elective List:

ARC 235, ARC 264, CIV 110, CIV 125, CIV 210, CIV 230, CIV 240, EGR 115, HOR 160, HOR 260 or SRV 110.

** Communication Elective List: COM 110, COM 120 or COM 231

Total credit hours required for degree: 73-75. **This curriculum is subject to change.**

Up to four Co-op credits may be substituted with department chair approval.

Curriculum:

Architectural Technology - Diploma, Greensboro, day (with some evening classes)
Advising Code: A 4010 0 D1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

ACA	118	College Study Skills	1	2	0	2
ARC	111	Intro to Architectural Technology	1	6	0	3
ARC	114	Architectural CAD	1	3	0	2
ARC	114A	Architectural CAD Lab	0	3	0	1
ENG	111	Expository Writing	3	0	0	3
MAT	121	Algebra / Trigonometry I or	2	2	0	3
MAT	171	Pre-calculus Algebra	(3)	(0)	(0)	(3)
Total			8-9	14-16	0	14

Spring Semester I

ARC	112	Construction Materials, Methods	3	2	0	4
ARC	113	Residential Architectural Technology	1	6	0	3
BPR	130	Blueprint Reading	1	2	0	2
COM	—	Communication Elective**	3	0	0	3
Total			8	10	0	12

Summer Term I

ARC	160	Residential Design	1	6	0	3
ARC	221	Architectural 3-D CAD	1	6	0	3
Total			2	12	0	6

Fall Semester II

ARC	220	Advanced Architectural CAD	1	3	0	2
ARC	230	Environmental Systems	3	3	0	4
ARC	250	Survey of Architecture	3	0	0	3
Total			7	6	0	9

Spring Semester II

ARC	---	Architectural Technical Elective	3	0	0	2-4
Total			3	0	0	2-4

* Students must pick at least one course from the following Technical Elective List:

ARC 235, ARC 264, CIV 110, CIV 125, CIV 210, CIV 230, CIV 240, EGR 115, HOR 160, HOR 260 or SRV 110.

** Communication Elective List: COM 110, COM 120 or COM 231

Total credit hours required for diploma: 43-45 **This curriculum is subject to change.**

Curriculum:

Architectural Technology - Certificate, Greensboro, day (with some classes evening)
Advising Code: A 4010 0 C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ARC	111	Intro to Architectural Technology	1	6	0	3
ARC	114	Architectural CAD	1	3	0	2
BPR	130	Blueprint Reading	1	2	0	2
Total			5	11	0	7
Spring Semester I						
ARC	112	Construction Materials, Methods	3	2	0	4
ARC	220	Advanced Architectural CAD	1	3	0	2
Total			4	5	0	6
Summer Term I						
ARC	221	Architectural 3-D CAD	1	4	0	3
Total			1	4	0	3

Total credit hours required for certificate: 16 **This curriculum is subject to change.**

Curriculum:**CAD/BIM - Certificate, Greensboro, day**
Advising Code: A 4010 0 C2

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ARC	111	Intro to Architectural Technology	1	6	0	3
ARC	114	Architectural CAD	1	3	0	2
ARC	114A	Architectural CAD Lab	0	3	0	1
Total			2	12	0	6
Spring Semester I						
ARC	112	Construction Materials, Methods	3	2	0	4
ARC	220	Advanced Architectural CAD	1	3	0	2
ARC	264	Digital Architecture	1	3	0	2
Total			5	8	0	8
Summer Term I						
ARC	221	Architectural 3-D CAD	1	4	0	3
Total			1	4	0	3

Total credit hours required for certificate: 17 **This curriculum is subject to change.**

Associate in General Education Program

A 10 30 0

Associate in General Education degree, Jamestown, day and evening; Greensboro, day and evening

Contact Information:

(336) 334-4822, ext. 2485 or 2509 - from Greensboro • (336) 454-1126, ext. 2485 or 2509 - from High Point

The General Education curriculum is designed for the student who is interested in pursuing a program of study in general education or who is not ready to choose a more specific educational program. This curriculum provides an introduction to the liberal arts (general education) and enables the student to tailor the program beyond that point to personal needs and interests. Students may apply any technical, general education or college transfer course to the degree. (Students should note, however, that they must satisfy any course prerequisites listed.) **This program is not intended for students who want to transfer to a four-year university.**

Program Outcomes:

Each student in the general education program will prepare an individualized program of study in consultation with his/her advisor. The program of study must be designed to ensure that the student will acquire competence in the following areas which have been identified as institution-wide student competencies. A graduate of the general education program will be able to:

- Demonstrate adult literacy in writing tasks in personal and work environments.
- Apply research skills, including locating sources, selecting sources appropriate to task, and attributing source material correctly.
- Demonstrate oral presentation skills to meet workplace standards.
- Solve problems, using evidence and reasoning skills.
- Use interpersonal skills in face-to-face and team situations.
- Demonstrate adult computational skills to support personal and work environments.

Curriculum:

General Education - Associate in General Education degree, Jamestown, day / Greensboro, day
Advising Code: A 1030 0

Prefix	Course Number	Course Title	Semester Completed
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English Composition (6 hours/ 2 courses)

ENG	111	Expository Writing	_____
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Choose one of the following:

ENG	112	Argument-Based Research	_____
ENG	114	Professional Research & Reporting	_____

Humanities/Fine Arts (9 hours/ 3 courses)

-	-	Humanities/Fine Arts course	_____
-	-	Humanities/Fine Arts course	_____

Choose one of the following:

COM	231	Public Speaking	_____
COM	110	Introduction to Communication	_____
COM	120	Intro to Interpersonal Communication	_____

Social Sciences (6 hours/2 courses)

- - Social Sciences elective _____
- - Social Sciences elective _____

Mathematics/Natural Sciences (6 hours/ 2 courses)

- - MAT elective (not developmental) _____
- - MAT or Natural Science elective _____

Computer Sciences (3 hours/1 course)

- CIS 110 Introduction to Computers _____

Other Courses (34 hours/ 12 courses)

- - General Elective _____
- - General Elective _____
- - General Elective _____
- - General Elective _____
- - General Elective _____
- - General Elective _____
- - General Elective _____
- - General Elective _____
- - General Elective _____
- - General Elective _____
- - General Elective _____
- - General Elective _____

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Automotive Systems Technology

A 60 16 0

Associate in Applied Science, Jamestown, day
Certificate, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2632 - from Greensboro • (336) 454-1126, ext. 2632 - from High Point

This curriculum prepares individuals for employment as Automotive Service Technicians. Upon completion of this curriculum, students should be prepared for ASE certification and be ready for full-time employment in dealerships and repair shops in the automotive service industry.

Classroom and lab experience integrates academic course work with technical application of automotive theory. Emphasis is placed on servicing and operation of brakes, electrical/electronic systems, engine performance, steering/suspension, automatic transmission/transaxles, engine repair, climate control, and manual drive trains.

Program Outcomes:

Upon successful completion of the Automotive Systems Technology program, the graduate should be able to:

- diagnose and repair mechanical systems of automotive engines; automatic transmissions and transaxles; manual drive trains and axles; suspension and steering systems; braking systems; electrical and electronic systems; heating and air conditioning systems; and engine performance systems;
- comply with personal and environmental safety practices associated with clothing, eye protection, hand tools, power equipment and the handling, storage and disposal of chemicals and hazardous materials in accordance with local, state, and federal safety and environmental regulations.

Limited Enrollment Program: Contact the Admissions Office for program admission requirements and program application deadlines.

Curriculum:

Ford Option / GM Option - Associate in Applied Science, Jamestown, day
Advising Code: A 6016 0 A1 (Ford Option) A 6016 0 A2 (GM Option)

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ACA	111	College Student Success	1	0	0	1
AUT	110	Introduction to Auto Technology	2	2	0	3
AUT	161	Basic Automotive Electricity	4	3	0	5
AUT	163*	Advanced Automotive Electricity	2	3	0	3
CIS	110	Introduction to Computers	2	2	0	3
COE	111	Co-op Work Experience I	0	0	10	1
Total			11	10	10	16

Note: Total curriculum contact hours for eight weeks are 30/week

*In the Ford & GM option programs, successful completion of AUT 163 (grade of C or better) is required to enroll in the following semesters.

Spring Semester I

AUT	141	Suspension and Steering Systems	2	3	0	3
AUT	151	Brake Systems	2	3	0	3
ENG	111	Expository Writing	3	0	0	3
COE	122	Co-op Work Experience II	0	0	20	2
—	—	Social/Behavioral Science	3	0	0	3
Total			10	6	20	14

Note: Total curriculum contact hours for eight weeks are 34/week

Summer Term I

AUT	116	Engine Repair	2	3	0	3
AUT	171	Auto Climate Control	2	4	0	4
COE	131	Co-op Work Experience III	0	0	10	1
Total			4	7	10	8

Note: Total curriculum contact hours for eight weeks are 33.6/week

Fall Semester II

AUT	181	Engine Performance 1	2	3	0	3
AUT	183	Engine Performance 2	2	6	0	4
COM	120	Intro to Interpersonal Communication	3	0	0	3
MAT	115	Mathematical Models	2	2	0	3
COE	132	Co-op Work Experience III	0	0	20	2
Total			9	11	20	15

Note: Total curriculum contact hours for eight weeks are 32/week

Spring Semester II

AUT	221	Auto Transmissions/Transaxles	2	3	0	3
AUT	231	Manual Trans/Axles/Drtrains	2	3	0	3
ENG	114	Prof Research and Reporting	3	0	0	3
—	—	Humanities/Fine Arts Elective	3	0	0	3
COE	212	Co-op Work Experience IV	0	0	20	2
Total			10	6	20	14

Note: Total curriculum contact hours for eight weeks are 34/week

Total credit hours required for degree: 67 **This curriculum is subject to change.**

Curriculum:

General Option - Associate in Applied Science, Jamestown, day
Advising Code: A 6016 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

ACA	111	College Student Success	1	0	0	1
AUT	110	Introduction to Auto Technology	2	2	0	3
AUT	161	Basic Auto Electricity	4	3	0	5
AUT	186	PC Skills for Auto Techs	2	2	0	3
ENG	111	Expository Writing	3	0	0	3
MAT	115	Mathematical Models	2	2	0	3
Total			14	9	0	18

Spring Semester I

AUT	123	PowerTrain Diagnosis/Service	1	3	0	2
AUT	151	Brake Systems	2	3	0	3
AUT	151A	Brake Systems Lab	0	3	0	1
AUT	171	Automotive Climate Control	2	4	0	4
ENG	114	Prof Research and Reporting	3	0	0	3
—	—	Humanities / Fine Arts Elective	3	0	0	3
Total			14	13	0	16

Summer Term I

AUT	141	Suspension and Steering Systems	2	3	0	3
AUT	141A	Suspension and Steering Lab	0	3	0	1
AUT	113	Automotive Servicing 1	0	6	0	2
Total			2	6	0	6

Fall Semester II

AUT	163	Advanced Automotive Electricity	2	3	0	3
AUT	163A	Advanced Auto Electricity Lab	0	3	0	1
AUT	181	Engine Performance 1	2	3	0	3
AUT	181A	Engine Performance 1 Lab	0	3	0	1
AUT	116	Engine Repair	2	3	0	3
AUT	116A	Engine Repair Lab	0	3	0	1
Total			9	18	0	15

Spring Semester II

AUT	231	Man Trans/Axles/Drtrains	2	3	0	3
AUT	231A	Man Trans/Ax/Drtrains Lab	0	3	0	1
AUT	183	Engine Performance 2	2	6	0	4
AUT	285	Intro to Alternative Fuels	2	2	0	3
COM	120	Intro to Interpersonal Comm	3	0	0	3
-	-	Social / Behavior Science Elective	3	0	0	3
Total			12	14	0	17

Summer Term II

AUT	221	Auto Transm/Transaxles	2	3	0	3
AUT	221A	Auto Transm/Transax Lab	0	3	0	1
AUT	213	Automotive Servicing 2	1	3	0	2
Total			3	9	0	6

Total credit hours required for degree: 75 **This curriculum is subject to change.**

Cooperative education credit hours may be substituted for some AUT courses with the approval of the department chair.

Curriculum:

General Option - Certificate, Jamestown, day and evening
Advising Code: A 6016 0 C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

AUT	110	Introduction To Auto Technology	2	2	0	3
AUT	161	Basic Automotive Electricity	4	3	0	5
Total			6	5	0	8

Spring Semester I

AUT	151	Brake Systems	2	3	0	3
AUT	151A	Brake Systems Lab	0	3	0	1
Total			4	6	0	4

Total credit hours required for certificate: 12 **This curriculum is subject to change.**

Cooperative education credit hours may be substituted for some course work by the approval of the Department Chair.

Aviation Electronics (Avionics) Technology

Pending NCCCS and GTCC Board approval.

A 60 XX 0

Associate in Applied Science, Greensboro/Aviation Center, day and evening

Contact Information:

(336) 334-4822, ext. 4901, 4902 or 4903 - from GSO • (336) 454-1126, ext. 4901 - from High Point

This curriculum provides individuals with the basic knowledge and skills needed to enter the avionics career field as a technician. It also provides the student with preparation for the Federal Communications Commission General Radio and Telephone License examination.

Course work includes a background course in general aviation maintenance subjects, sheet metal structures and fabrication, basic airframe systems, aircraft electrical and electronic systems, aircraft engine electrical systems, practical wiring, long range and tactical navigation equipment, flight management and flight control systems, flight line testing and troubleshooting, avionics systems interfaces, and FAA regulations for repair stations.

Graduates will be qualified to sit for the FCC licensing exam, and should be qualified for entry level employment as a line or shop technician in an avionics repair station, an airfield fixed base operator's avionics shop, or as an independent repair technician.

Program Outcomes:

Upon successful completion of the Aviation Electronics program, the graduate should be able to:

- Work on all aircraft electrical systems, with a specialized focus on communication, navigation, and flight management systems;
- Design, install, troubleshoot, remove and replace, and test the full spectrum of avionics equipment;
- Locate, read, interpret and apply all appropriate FAA and FCC regulations, as well as applicable aircraft and associated systems manufacturers' technical manuals, schematics and directives;
- Understand the privileges, responsibilities and limitations applying to technicians certified to perform maintenance on aircraft.

This is a limited enrollment program: Contact the Enrollment Services Office for Program admission requirements and Program application deadlines.

Curriculum: Aviation Electronics - Associate in Applied Science, Greensboro/Aviation Center, day
Advising Code: A 60XX 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
AVI	110	Aviation Maintenance - General	10	15	0	15
ACA	111	College Student Success	1	0	0	1
MAT	171	Precalculus Algebra or	3	0	0	3
MAT	140	Survey of Mathematics	(3)	(0)	(0)	(3)
Total			14	15	0	19

Fall Semester I

Spring Semester I

AET	120	Sheet Metal Aircraft Structures	1	2	0	2
AET	122	Airframe Systems	2	6	0	4
AET	124	Aircraft Electronics & Instrument Systems	1	2	0	2
AET	126	Advanced Aircraft Electrical Systems	2	4	0	4
ENG	111	Expository Writing	3	0	0	3
Total			9	14	0	15

Summer Term I

AET	130	Engine Electrical Systems	2	4	0	4
AET	132	Practical Wiring/Human Factors	1	3	0	2
ENG	112	Argument-Based Research	3	0	0	3
–	–	Humanities/Fine Arts Elective	3	0	0	3
Total			9	7	0	12

Fall Semester II

AET	210	Avionics Maintenance Theory	1	3	0	2
AET	212	Aviation Navigational Equipment	1	3	0	2
AET	214	Long Range Navigation Systems	1	3	0	2
AET	216	Tactical Navigation Systems	1	3	0	2
AET	218	Flight Management and Control	1	3	0	2
COM	231	Public Speaking	3	0	0	3
Total			8	15	0	13

Spring Semester II

AET	220	Avionics System Interconnect	1	2	0	2
AET	222	Flight Line Testing	1	2	0	2
AET	224	Advanced Avionics Troubleshooting	2	6	0	4
AET	226	FARs for Avionics Cert. Repair Station	1	2	0	2
AET	228	Avionics FCC Preparation	1	2	0	2
PSY	150	General Psychology	3	0	0	3
Total			9	14	0	15

Total credit hours required for degree: 74 **This curriculum is subject to change.**

* Students seeking an AAS may choose MAT 171 or MAT 140, depending on whether they intend to articulate to a four-year degree program.

Program is taught in block training format: 5 hours per day, 4 days a week.

Aviation Management and Career Pilot Technology

A 60 18 0

Associate in Applied Science, Greensboro/Aviation Center, day
Certificate, Greensboro/Aviation Center, evening

Contact Information:

(336) 334-4822, ext. 4901 - from Greensboro • (336) 454-1126, ext. 4901 - from High Point

The Aviation Management and Career Pilot Technology curriculum prepares individuals for a variety of aviation and aviation-related careers with commercial airlines, general aviation operations, the aerospace industry, the military, and state and federal aviation organizations.

Course work includes fundamentals of flight, aerodynamics, aircraft performance, meteorology, navigation, federal regulations, aviation management, and instrument and commercial ground training. Optional course work includes flight and simulator training or business management training.

Graduates will hold a commercial pilot certificate with an instrument rating or specialize in aviation management. Graduates may find employment as commercial, corporate, and military pilots, fixed base operators and airport managers, flight instructors, and flight dispatchers.

Program Outcomes:

Upon successful completion of the Aviation Management Option, the graduate should be able to:

- manage business/flight/ground operations;
- apply sales and marketing skills;
- communicate effectively.

Upon successful completion of the Career Pilot Option, the graduate should be able to:

- pilot an aircraft (for some positions, certain specific certifications are required; e.g., C.F.I., M.E.I., and C.F.I.I.);
- manage business/flight/ground operations.

Aviation Management Option

Curriculum:

Aviation Management Option - Associate in Applied Science, Greensboro/Aviation Center, day
Advising Code: A 6018 0 A1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
ACA	111	College Student Success	1	0	0	1
AER	110	Air Navigation	2	2	0	3
AER	111	Aviation Meteorology	3	0	0	3
AER	113	History of Aviation	2	0	0	2
AER	150	Private Pilot Flight Theory	2	2	0	3
ENG	111	Expository Writing	3	0	0	3
—	—	Humanities / Fine Arts Elective	3	0	0	3
Total			16	4	0	18

Fall Semester I

Spring Semester I

AER	112	Aviation Laws and FARS	2	0	0	2
AER	114	Aviation Management	3	0	0	3
AER	160	Instrument Pilot Theory	2	2	0	3
– (1)	–	Aviation Elective or Co-op	2	0	0	2
ENG	112	Argument-Based Research	3	0	0	3
MAT	171	Precalculus Algebra	3	0	0	3
Total			15	2	0	16

Fall Semester II

AER	170	Commercial Flight Theory	3	0	0	3
AER	216	Engines and Systems	2	2	0	3
– (1)	–	Aviation Elective or Co-op	2	0	0	2
BUS	137	Principles of Management	3	0	0	3
COM	231	Public Speaking	3	0	0	3
PHY	110	Conceptual Physics	3	0	0	3
PHY	110A	Conceptual Physics Lab	0	2	0	1
Total			16	4	0	18

Spring Semester II

AER	215	Flight Safety	3	0	0	3
AER	217	Air Transportation	3	0	0	3
– (1)	–	Aviation Elective or Co-op	2	0	0	2
BUS	153	Human Resources Management	3	0	0	3
BUS	280	REAL Small Business	4	0	0	4
PSY	150	General Psychology	3	0	0	3
Total			18	0	0	18

Total credit hours required for degree: 70 **This curriculum is subject to change.**

(1) Aviation Electives may be selected from the following courses: AER 119 Aircraft Structures; AER 211 Air Traffic Control; AER 212 Airline Transport Pilot; AER 213 Avionics; AER 214 Air Carrier Operations; AER 218 Human Factors in Aviation; AER 220 Airport Management; AER 280 Instructor Pilot Flight Theory; AER 281 Flight-CFI; AER 285 Flight-Multiengine; and COE 111,121,131,211 Co-op Work Experience.

Curriculum: Aviation Management Option - Certificate, Greensboro/Aviation Center, evening
Advising Code: A 6018 0 C2

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

AER	110	Air Navigation	2	2	0	3
AER	150	Private Pilot Flight Theory	2	2	0	3
Total			4	4	0	6

Spring Semester I

AER	111	Aviation Meteorology	3	0	0	3
AER	160	Instrument Pilot Flight Theory	2	2	0	3
Total			5	2	0	6

Fall Semester II

AER	170	Commercial Flight Theory	3	0	0	3
Total			3	0	0	3

Total credit hours required for certificate: 15 **This curriculum is subject to change.**

Career Pilot Option

Curriculum: Career Pilot Option - Associate in Applied Science, Greensboro/Aviation Center, day
Advising Code: A 6018 0 A2

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ACA	111	College Student Success	1	0	0	1
AER	110	Air Navigation	2	2	0	3
AER	111	Aviation Meteorology	3	0	0	3
AER	113	History of Aviation	2	0	0	2
AER	150	Private Pilot Flight Theory	2	2	0	3
ENG	111	Expository Writing	3	0	0	3
–	–	Humanities / Fine Arts Elective	3	0	0	3
Total			16	4	0	18

Spring Semester I						
AER	112	Aviation Laws and FARS	2	0	0	2
AER	114	Aviation Management	3	0	0	3
AER	151	Flight-Private Pilot	0	3	0	1
AER	160	Instrument Flight Theory	2	2	0	3
AER	210	Flight Dynamics	3	0	0	3
ENG	112	Argument-Based Research	3	0	0	3
MAT	171	Precalculus Algebra	3	0	0	3
Total			16	5	0	18

Fall Semester II						
AER	161	Flight-Instrument Pilot	0	6	0	2
AER	170	Commercial Flight Theory	3	0	0	3
AER	216	Engines and Systems	2	2	0	3
--(1)	--	Aviation Elective or Co-op	2	0	0	2
COM	231	Public Speaking	3	0	0	3
PHY	110	Conceptual Physics	3	0	0	3
PHY	110A	Conceptual Physics Lab	0	2	0	1
Total			13	10	0	17

Spring Semester II						
AER	171	Flight-Commercial Pilot	0	6	0	3
AER	215	Flight Safety	3	0	0	3
AER	217	Air Transportation	3	0	0	3
AER	280	Instructor Pilot Flight Theory	3	0	0	3
– (1)	–	Aviation Elective or Co-op	2	0	0	2
PSY	150	General Psychology	3	0	0	3
Total			14	6	0	17

Total credit hours required for degree: 70 **This curriculum is subject to change.**

(1) Aviation Electives may be selected from the following courses: AER 119 Aircraft Structures; AER 211 Air Traffic Control; AER 212 Airline Transport Pilot; AER 213 Avionics; AER 214 Air Carrier Operations; AER 218 Human Factors in Aviation; AER 220 Airport Management; AER 280 Instructor Pilot Flight Theory; AER 281 Flight-CFI; AER 285 Flight-Multiengine; and COE 111,121,131,211 Co-op Work Experience.

Curriculum:**Career Pilot Option - Certificate, Greensboro/Aviation Center, evening****Advising Code: A 6018 0 C1**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
AER	110	Air Navigation	2	2	0	3
AER	150	Private Pilot Flight Theory	2	2	0	3
AER	151	Flight-Private Pilot	0	3	0	1
Total			4	7	0	6
Spring Semester I						
AER	111	Aviation Meteorology	3	0	0	3
Total			3	0	0	3
Fall Semester II						
AER	170	Commercial Flight Theory	3	0	0	3
AER	160	Instrument Pilot Flight Theory	2	2	0	3
Total			5	2	0	6

Total credit hours required for certificate: 15 **This curriculum is subject to change.**

Aviation Systems Technology

A 60 20 0

**Associate in Applied Science, Greensboro/Aviation Center, day and evening
Certificate, Greensboro/Aviation Center, day and evening**

Contact Information:

(336)-334-4822, Ext 4903,4901,4902 - Aviation Center

This curriculum provides individuals with the basic knowledge and skills for a career as an aviation maintenance technician (AMT), generally known as an airframe and powerplant (A&P) mechanic. Depending on the program option the student selects, the AST program prepares the student for the written, oral, and practical examinations for the FAA mechanic certificate with either or both the airframe and powerplant ratings.

Course work includes all the subjects required by the Federal Aviation Administration (FAA) under 14 CFR Part 147. Students may enroll in certificate programs which qualify individuals for the FAA mechanic certificate with airframe or powerplant ratings, or both. The associate degree program requires completion of both airframe and powerplant courses and seven general college courses. Students who wish to continue their studies toward a four-year degree may wish to take MAT 161, College Algebra, instead of MAT 115, Mathematical Models, as the former course may transfer more readily to four-year institutions.

Students who possess the FAA mechanic certificate with either the airframe or powerplant rating, or who have obtained FAA approval for one of these ratings based on experience, may enroll in a program to obtain the other rating upon presentation of the certificate or signed FAA Form 8610-2. These students are not required to take AVI 110, Aviation Maintenance-General. Students who do not possess the FAA mechanic certificate with either the airframe or powerplant rating are discouraged from entering the program out of sequence, unless they possess considerable experience in the aviation industry (e.g., working under the supervision of a licensed mechanic, working at an FAA-approved repair station, or similar experience in military aviation). Each case must be evaluated by the department chair. Students must begin with AVI 110 as a prerequisite to airframe or powerplant courses. Advanced standing may be granted with department chair approval only if the student holds a valid FAA Mechanic Certificate with either Airframe or Powerplant rating(s) or possesses approval for same based on experience and holds a current and valid signed Federal Aviation Administration 8610-2 Form.

Graduates of either the certificate or degree programs should find career opportunities with fixed-base operators, repair stations, airlines, aircraft manufacturers, and government aviation entities. Some positions may require experience in the AMT field to qualify.

Program Outcomes:

Upon successful completion of an AST program option, the student should be able to:

- Inspect and make repairs to aircraft structures and/or engines as allowed by the FAA
- Remove, repair, and replace aircraft and/or engine components within the limits prescribed by the FAA
- Make entries in maintenance records as required by the FAA
- Understand privileges and responsibilities of individuals possessing FAA mechanic certificates

Limited Enrollment Program: Contact the Enrollment Services Office for Program admission requirements and Program application deadlines.

Technical / Non-Transfer Degree

Curriculum:

**Aviation Systems Technology - Associate in Applied Science,
Greensboro/Aviation Center, day and evening
Advising Code: A 6020 0**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ACA	115	Success and Study Skills	0	2	0	1
AVI	110	Aviation Maintenance-General	10	15	0	15
ENG	111	Expository Writing	3	0	0	3
Total			13	17	0	19
Spring Semester I						
AVI	120	Airframe Maintenance I	6	18	0	12
ENG	112	Argument-Based Research or	3	0	0	3
ENG	114	Professional Research & Reporting	(3)	(0)	(0)	(3)
Total			9	18	0	15
Summer Term I						
AVI	130	Airframe Maintenance II	6	9	0	9
MAT	140	Survey of Mathematics or	3	0	0	3
MAT	171	Precalculus Algebra	(3)	(0)	(0)	(3)
Total			9	9	0	12
Fall Semester II						
AVI	230	Airframe Maintenance III	4	9	0	7
AVI	240	Powerplant Maintenance I	3	9	0	6
COM	231	Public Speaking	3	0	0	3
Total			10	18	0	16
Spring Semester II						
AVI	250	Powerplant Maintenance II	10	15	0	15
PSY	150	General Psychology	3	0	0	3
Total			13	15	0	18
Summer Term II						
AVI	260	Powerplant Maintenance III	5	12	0	9
--	--	Humanities/Fine Arts Elective	3	0	0	3
Total			8	12	0	12

Total credit hours required for degree: 92 **This curriculum is subject to change.**

Technical / Non-Transfer Degree

Curriculum: Airframe and Powerplant - Certificate, Greensboro/Aviation Center, day and evening
Advising Code: A 6020 0 C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ACA	115	Success and Study Skills	0	2	0	1
AVI	110	Aviation Maintenance-General	10	15	0	15
Total			10	17	0	16
Spring Semester I						
AVI	120	Airframe Maintenance I	6	18	0	12
Total			6	18	0	12
Summer Term I						
AVI	130	Airframe Maintenance II	6	9	0	9
Total			6	9	0	9
Fall Semester II						
AVI	230	Airframe Maintenance III	4	9	0	7
AVI	240	Powerplant Maintenance I	3	9	0	6
Total			7	18	0	13
Spring Semester II						
AVI	250	Powerplant Maintenance II	10	15	0	15
Total			10	15	0	15
Summer Semester II						
AVI	260	Powerplant Maintenance III	5	12	0	9
Total			5	12	0	9

Total credit hours required for certificate: 74 **This curriculum is subject to change.**

Curriculum: Airframe Rating Option - Certificate, Greensboro/Aviation Center, day and evening
Advising Code: A 6020 0 C2

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ACA	115	Success and Study Skill	0	2	0	1
AVI	110	Aviation Maintenance-General	10	15	0	15
Total			10	17	0	16
Spring Semester I						
AVI	120	Airframe Maintenance I	6	18	0	12
Total			6	18	0	12
Summer Term I						
AVI	130	Airframe Maintenance II	6	9	0	9
Total			6	9	0	9
Fall Semester II						
AVI	230	Airframe Maintenance III	4	9	0	7
Total			4	9	0	7

Total credit hours required for certificate: 44 **This curriculum is subject to change.**

Students who possess an FAA mechanic certificate with powerplant rating, or who possess FAA approval for the powerplant rating based on experience (signed FAA Form 8610-2) are not required to complete AVI 110

Curriculum: Powerplant Rating Option - Certificate, Greensboro/Aviation Center, day and evening
Advising Code: A 6020 0 C3

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ACA	115	Success and Study Skills	0	2	0	1
AVI	110	Aviation Maintenance-General	10	15	0	15
Total			10	17	0	16
Spring Semester I						
AVI	250	Powerplant Maintenance II*	10	15	0	15
Total			10	15	0	15
Summer Term I						
AVI	260	Powerplant Maintenance III*	5	12	0	9
Total			5	12	0	9
Fall Semester II						
AVI	240	Powerplant Maintenance I*	3	9	0	6
Total			3	9	0	6

Total credit hours required for certificate: 46 **This curriculum is subject to change.**

Students who possess an FAA mechanic certificate with airframe rating, or who possess FAA approval for the airframe rating based on experience (signed FAA Form 8610-2) are not required to complete AVI 110

*Courses are not taken sequentially due to normal course flow mandated by AST programs for students taking combined airframe and powerplant options.

Basic Law Enforcement Training

C 55 12 0

Certificate, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2740 - from Greensboro • (336) 454-1126, ext. 2740 - from High Point

Basic Law Enforcement Training (BLET) is designed to give students essential skills required for entry-level employment as law enforcement officers with state, county, or municipal governments, or with private enterprise.

This program utilizes State-commission-mandated topics and methods of instruction. General subjects include, but are not limited to, criminal, juvenile, civil, traffic and alcoholic beverage laws; investigative, patrol, custody, and court procedures; emergency responses; and ethics and community relations.

Students must successfully complete and pass all units of study which include the certification examinations mandated by the North Carolina Criminal Justice Education and Training Standards Commission and the North Carolina Sheriffs' Education and Training Standards Commission to receive a certificate.

Closed Enrollment Program

This is a closed enrollment program. Applicants must be sponsored by a law enforcement agency or employed by a law enforcement agency. **The application process for this program goes through the Criminal Justice Department and is not routinely handled by the normal admissions process.**

Special Entrance Requirements

All students entering the Basic Law Enforcement Training program must meet the special requirements as indicated by the N.C. Criminal Justice Standards and the N.C. Sheriff's Standards Divisions of the N.C. Department of Justice. Students may not be convicted of any felony or criminal offense which requires punishment of more than two years imprisonment. They cannot be convicted of any offense of moral turpitude. Examples of moral turpitude are, but not limited to: rape, any sexual offense, indecent liberties, use, sale, or manufacture of controlled substances, or any offense which addresses public morality.

To be employed in this field, it is necessary to be a U.S. citizen.

Program Outcomes:

Upon successful completion of this program, the Basic Law Enforcement Training graduate should be able to demonstrate:

- a basic knowledge of the various areas of criminal, civil, traffic and juvenile law in North Carolina;
- investigative skills applicable to entry level law enforcement officers;
- basic precision driving skills;
- entry level law enforcement officer skills in law enforcement firearms;
- basic skills of emergency first aid as a first responder;
- the skills necessary to provide physical self-protection;
- entry level skills in the preparation and presentation of courtroom testimony;
- those skills necessary to effectively deal with a diverse population with individual needs;
- skills applicable to entry level law enforcement in the area of crisis intervention and domestic confrontations;
- successful skill levels as mandated by Training and Standards in all other topical areas of the BLET.

Curriculum: **Basic Law Enforcement Training - Certificate, Jamestown, day and evening** Advising Code: C 5512 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
CJC	100	Basic Law Enforcement Training	9	30	0	19

Total credit hours required for certificate: 19 **This curriculum is subject to change.**

Technical / Non-Transfer Degree

Biotechnology

A 20 10 0

Associate in Applied Science, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2218 - from Greensboro • (336) 454-1126, ext. 2218 - from High Point

The Biotechnology curriculum is designed to meet the increasing demands for skilled laboratory technicians in various fields of biological and chemical technology.

Course work emphasizes biology, chemistry, mathematics and technical communications. The curriculum objectives are designed to prepare graduates to serve in three distinct capacities: research assistant to a biologist or chemist; laboratory technician/instrumentation technician; and quality control/quality assurance technician.

Graduates may find employment in various areas of industry and government including research and development, manufacturing, sales, and customer service.

The Biotechnology Program at GTCC is a collaborative educational program offered by Alamance Community College (ACC), Forsyth Technical Community College (FTCC) and GTCC. Students are able to complete the first two semesters, as well as some selected general education courses from the second year, at GTCC. Students who successfully complete at least the first two semesters at GTCC will be admitted to the Alamance Community College program and will be able to complete the program requirements at ACC. Alamance Community College will award the Associate of Applied Science degree to all students who meet degree requirements.

Program Outcomes:

- Demonstrate effective oral and written communication skills.
- Evaluate the principles and concepts related to biotechnology.
- Demonstrate effective lab skills necessary for the biotechnology workforce.
- Incorporate critical thinking in a variety of independent and collaborative laboratory projects.
- Demonstrate academic skills necessary for transition into articulating educational institutions.
- Incorporate laboratory procedures in a safe and organized manner into laboratory exercises.

From Alamance Community College

Curriculum:

Biotechnology - Associate in Applied Science, Jamestown, day
Advising Code: A 2010 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Courses that may be completed at GTCC:						
BIO	111	General Biology I	3	3	0	4
BIO	112	General Biology II	3	3	0	4
BTC	181	Basic Lab Techniques	3	3	0	4
CHM	131	Introduction to Chemistry	3	0	0	3
CHM	131A	Introduction to Chemistry Lab	0	3	0	1
CHM	132	Organic and Biochemistry	3	3	0	4
CIS	110	Introduction to Computers	2	2	0	3
ENG	111	Expository Writing	3	0	0	3
MAT	110	Mathematical Measurement	2	2	0	3
ENG	114	Professional Research and Reporting	3	0	0	3
—	—	Humanities / Fine Arts Elective	3	0	0	3
—	—	Social / Behavior Science Elective	3	0	0	3

Courses that must be completed at ACC:

BIO	250	Genetics	3	3	0	4
BIO	275	Microbiology	3	3	0	4
BTC	285	Cell Culture	2	3	0	3
BTC	281	Bioprocess Techniques	2	6	0	4
BTC	286	Immunological Techniques	3	3	0	4
BTC	288	Biotech Lab Experience	1	6	0	3
CHM	263	Analytical Chemistry	3	4	0	5
COE	112	Coop Work Experience	0	0	20	2
PHY	120	Health Sciences Physics	3	2	0	4

Total credit hours required for degree: 71 **This curriculum is subject to change.**

From Forsyth Tech**Curriculum:**

Biotechnology - Associate in Applied Science, Jamestown, day
Advising Code: A 2010 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Courses that may be completed at GTCC:

BIO	111	General Biology I	3	3	0	4
BIO	112	General Biology II	3	3	0	4
CHM	131	Introduction to Chemistry	3	0	0	3
CHM	131A	Intro to Chemistry Lab	0	3	0	1
CHM	132	Organic & Biochemistry	3	3	0	4
CIS	111	Basic PC Literacy	1	2	0	2
CIS	172	Intro to the Internet	2	3	0	3
ENG	111	Expository Writing	3	0	0	3
ENG	114	Professional Research & Reporting	3	0	0	3
MAT	115	Mathematical Models	2	2	0	3
MAT	151	Statistics I	3	0	0	3
MAT	151A	Statistics Lab I	0	2	0	1
PSY	118	Interpersonal Psychology	3	0	0	3
-	-	Humanities / Fine Arts Electives	3	0	0	3

Courses that must be completed at FTCC:

COE	112	Co-op Work Experience I	0	0	20	2
BIO	285	Research & Measurement	2	4	0	4
BTC	181	Basic Lab Techniques	3	3	0	4

Technical Electives from FTCC

Select a minimum of 14 credit hours from:

BIO	250	Genetics	3	3	0	4
BIO	275	Microbiology	3	3	0	4
BTC	281	Bioprocess Techniques	2	6	0	4
BTC	285	Cell Culture	2	3	0	3
BTC	286	Immunological Techniques	3	3	0	4
BTC	288	Biotech Lab Experience	0	6	0	2
CHM	263	Analytical Chemistry	3	4	0	5

Total credit hours required for degree: 64 - 71 **This curriculum is subject to change.**

Business Administration

A 25 12 0

Associate in Applied Science, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2263 - from Greensboro • (336) 454-1126, ext. 2263 - from High Point

The Business Administration curriculum is designed to introduce students to the various aspects of the free enterprise system. Students will be provided with a fundamental knowledge of business functions, processes, and an understanding of business organizations in today's global economy.

Course work includes business concepts in accounting, business law, economics, management, and marketing. Skills related to the application of these concepts are developed through the study of computer applications, communication, team building, and decision making. Through these skills, students will have a sound business education base for lifelong learning.

Classroom activities that develop team-building skills will prepare graduates to function as contributing members of management teams. Graduates may find employment in large and small businesses, not-for-profit service organizations, government agencies, and financial institutions.

Students will be required to use technology (computer, internet, etc.) in all courses in this program.

Most courses required under this program are offered in a variety of formats:

- Traditional (face to face, in a classroom setting)
- On-line (no traditional class time - lecture/labs on-line)
- Hybrid (part face-to-face classroom, part on-line)

Program Outcomes:

Upon successful completion of the Business Administration program, the graduate should be able to:

- Use basic marketing skills effectively in a business environment
- Analyze basic logistics data to make operational decisions.
- Differentiate between ethical and unethical choices of action in a business environment
- Analyze financial transactions properly using basic accounting techniques
- Use electronic spreadsheet effectively as it applies in a business environment
- Apply the time-value of money concepts to financial transactions accurately
- Evaluate the legal impact of fundamental business transactions
- Examine globalization as it relates to markets and production in a given business.

Curriculum: Business Administration - Associate in Applied Science, Jamestown, day/evening
Advising Code: A 2512 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ACA	111	College Student Success or	1	0	0	1
ACA	112	Intro to Distance Learning	(0)	(2)	(0)	(1)
ACC	120	Principles of Financial Accounting	3	2	0	4
BUS	110	Introduction to Business	3	0	0	3
BUS	121	Business Math	2	2	0	3
ENG	111	Expository Writing	3	0	0	3
CIS	110	Introduction to Computers or	2	2	0	3
CIS	111	Basic PC Literacy or	(1)	(2)	0	(2)
OST	137	Office Applications	(2)	(2)	0	(3)
Total			14 (15)	6(8)	0	16(17)
Spring Semester I						
ACC	121	Principles of Managerial Accounting	3	2	0	4
ACC	149	Intro to Accounting Spreadsheets	1	2	0	2
BUS	137	Principles of Management	3	0	0	3
ENG	112	Argument Based Research or	3	0	0	3
ENG	114	Professional Research & Reporting	(3)	(0)	(0)	(3)
MAT	115	Mathematical Models or	2	2	0	3
MAT	140	Survey of Mathematics or	(3)	(0)	(0)	(3)
MAT	161*	College Algebra	(3)	(0)	(0)	(3)
Total			12(13)	4(6)	0	15
Summer Semester I						
ACC	151	Accounting Spreadsheet Apps	1	2	0	2
DBA	110	Database Concepts	2	3	0	3
–	–	Technical Elective	3	0	0	3
Total			6	5	0	8
Fall Semester II						
BUS	280	Real Small Business	4	0	0	4
COM	120	Intro to Interpersonal Comm or	3	0	0	3
COM	231	Public Speaking	(3)	(0)	(0)	(3)
ECO	251	Principles of Microeconomics	3	0	0	3
HUM	115	Critical Thinking	3	0	0	3
LOG	110	Introduction to Logistics	3	0	0	3
MKT	120	Principles of Marketing	3	0	0	3
Total			17	2	0	18
Spring Semester II						
BUS	115	Business Law	3	0	0	3
BUS	125	Personal Finance	3	0	0	3
BUS	225	Business Finance	2	2	0	3
BUS	228	Business Statistics	2	2	0	3
ECO	252	Principles of Macroeconomics	3	0	0	3
Total			13	4	0	15

Total credit hours required for degree: 74 **This curriculum is subject to change.**

Technical Electives: Choose 3 credits from ACC 115, ACC 129, ACC 130, ACC 140, BUS 151, BUS 153, BUS 217, BUS 228, BUS 234, BUS 240, BUS 260, ETR 270, MKT 121, MKT 224 or COE 113.

* Students planning to transfer to four-year institutions are advised to take MAT 161.

Technical / Non-Transfer Degree

Curriculum**Professional Selling - Certificate, Jamestown**
Advising Code: A 25120 C3

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

ACC	115	College Accounting <u>or</u>	3	2	0	4
ACC	120	Principles of Financial Accounting	(3)	(2)	(0)	(4)
MKT	120	Principles of Marketing	3	0	0	3
Total			6	2	0	7

Spring Semester I

BUS	110	Introduction to Business	3	0	0	3
COM	120	Intro to Interpersonal Comm	3	0	0	3
MKT	123	Fundamentals of Selling	3	0	0	3
Total			9	0	0	9

Total credit hours required for certificate: 16 **This curriculum is subject to change.**

Business Administration

Human Resources Management Concentration

A 25 12 C

Associate in Applied Science, Jamestown, evening
Certificate, Jamestown, evening

Contact Information:

(336) 334-4822, ext. 2263 - from Greensboro • (336) 454-1126, ext. 2263 - from High Point

Human Resources Management is a concentration under the curriculum title of Business Administration. The curriculum is designed to meet the demands of business and service agencies. The objective is the development of generalists and specialists in the administration, training, and management of human resources.

Course work includes studies in management, interviewing, placement, needs assessment, planning, compensation and benefits, and training techniques. Also included are topics such as “people skills,” learning approaches, skills building, and development of instructional and training materials.

Graduates of this program will have a sound business-education base for life-long learning. Students will be prepared for employment opportunities in personnel, training, and other human resources development areas.

Students will be required to use technology (computer, internet, etc.) in all courses in this program.

Program Outcomes

Upon successful completion of the Business Administration, Human Resources Management Concentration, the graduate should be able to:

- Evaluate organizational employment policies for compliance with the law
- Design, training programs that meet the needs of a company
- Recruit employees who match position requirements and fulfill organizational objectives
- Design a compensation system that meets the needs of employers by retaining good employees.

Curriculum:

Human Resources Management Concentration - Associate in Applied Science, Jamestown, evening
Advising Code: A 2512 C

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
OST	131	Keyboarding	1	2	0	2
BUS	217	Employment Law and Regulations	3	0	0	3
BUS	256	Recruit Select and Per Plan	3	0	0	3
BUS	121	Business Math	2	2	0	3
Total			9	4	0	11
Spring Semester I						
BUS	258	Compensation and Benefits	3	0	0	3
BUS	110	Introduction to Business	3	0	0	3
OST	136	Word Processing	2	2	0	3
Total			8	2	0	9
Summer Term I						
CIS	110	Introduction to Computers	2	2	0	3
ACC	120	Principles of Financial Accounting	3	2	0	4
Total			5	4	0	7

Fall Semester II

BUS	115	Business Law I	3	0	0	3
BUS	234	Training and Development	3	0	0	3
COM	120	Intro to Interpersonal Comm or	3	0	0	3
COM	231	Public Speaking	(3)	(0)	(0)	(3)
Total			9	0	0	9

Spring Semester II

BUS	259	HRM Applications	3	0	0	3
ENG	111	Expository Writing	3	0	0	3
ECO	251	Principles of Microeconomics	3	0	0	3
Total			9	0	0	9

Summer Term II

ENG	112	Argument Based Research or	(3)	(0)	(0)	(3)
ENG	114	Professional Research & Reporting	3	0	0	3
MKT	120	Principles of Marketing	3	0	0	3
Total			6	0	0	6

Fall Semester III

BUS	151	People Skills	3	0	0	3
BUS	137	Principles of Management	3	0	0	3
MAT	115	Mathematical Models or	3	0	0	3
MAT	140	Survey of Mathematics or	(3)	(0)	(0)	(3)
MAT	161	College Algebra*	(3)	(0)	(0)	(3)
ECO	252	Macroeconomics	3	0	0	3
Total			12	0	0	12

Spring Semester III

ACC	149	Intro to Acc Spreadsheets I	1	2	0	2
HUM	115	Critical Thinking	3	0	0	3
Total			4	2	0	5

Total credit hours required for degree: 68 **This curriculum is subject to change.**

*Students planning to transfer to four-year institutions are advised to take MAT 161.

Curriculum: Human Resources Management Concentration - Certificate, Jamestown, evening
Advising Code: A 2512 C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
BUS	153	Intro. To Human Resource Mgt	3	0	0	3
BUS	256	Recruit Select and Per Plan	3	0	0	3
BUS	217	Employment Law and Regulations	3	0	0	3
Total			9	0	0	9
Spring Semester I						
BUS	234	Training and Development	3	0	0	3
BUS	258	Compensation and Benefits	3	0	0	3
Total			6	0	0	6

Total credit hours required for certificate: 15 **This curriculum is subject to change.**

Small Business/Entrepreneurship - Certificate, Jamestown,
Advising Code: A 2512 C4

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ACC	115	College Accounting	3	2	0	4
ETR	270	Entrepreneurship Issues	3	0	0	3
Total			6	0	0	7
Spring Semester I						
BUS	280	REAL Small Business	4	0	0	4
ACC	170	Technical Accounting	2	3	0	3
Total			6	0	0	7

Total credit hours required for certificate: 14 **This curriculum is subject to change.**

Business Administration

Import/Export Compliance Concentration (Pending State Approval)

A 25 12 K

Contact Information:

(336) 334-4822, ext. 2263 - from Greensboro • (336) 454-1126, ext. 2263 - from High Point

Curriculum:

Import/Export Compliance - Associate in Applied Science, Jamestown, day
Advising Code: A 2512 K

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
LOG	110	Introduction to Logistics	3	0	0	3
CIS	110	Introduction to Computers	2	2	0	3
BUS	137	Principles of Management	3	0	0	3
ENG	111	Expository Writing	3	0	0	3
BUS	115	Business Law	3	0	0	3
Total			14	2	0	15
Spring Semester I						
ACC	120	Principles of Fin Accounting	3	2	0	3
IEC	225	International Shipping	3	0	0	3
ENG	114	Professional Research & Reporting or	3	0	0	3
ENG	112	Argument Based Research	(3)	(0)	(0)	(3)
MAT	115	Mathematical Models or	3	0	0	3
MAT	140	Survey of Mathematics or	(3)	(0)	(0)	(3)
MAT	161	College Algebra*	(3)	(0)	(0)	(3)
MKT	120	Principles of Marketing	3	0	0	3
Total			17	4	0	16
Summer Term I						
ACC	121	Principles of Managerial Accounting	3	2	0	4
ECO	252	Principles of Macroeconomics	3	0	0	3
LOG	240	Purchasing Logistics	3	0	0	3
Total			9	2	0	10
Fall Semester II						
ACC	149	Intro to Acc Spreadsheets	1	2	0	2
DBA	110	Database Concepts	2	3	0	3
ECO	251	Principles of Microeconomics	3	0	0	3
IEC	226	Intro to Export Admin Regulations	3	0	0	3
SPA	111	Elementary Spanish or	3	0	0	3
SPA	120	Spanish for the Workplace	(3)	(0)	(0)	(3)
Total			12	5	0	14
Spring Semester II						
ACC	151	Accounting Spreadsheets Apps	1	2	0	2
COM	120	Intro to Interpersonal Comm or	3	0	0	3
COM	231	Public Speaking	(3)	(0)	(0)	(3)
IEC	227	Electronic Import/Export Doc.	3	0	0	3
IEC	228	Importing	3	0	0	3
HUM	115	Critical Thinking	3	0	0	3
Total			16	2	0	14

Total credit hours required for degree: 72 **This curriculum is subject to change.**

*Students planning to transfer to four-year institutions are advised to take MAT 161 and SPA 111.

Carpentry

D 35 18 0

Diploma, Greensboro, day

Contact Information:

(336) 334-4822, ext. 4432 - from Greensboro • (336) 454-1126, ext. 4432 - from High Point

The Carpentry curriculum is designed to train students to construct residential structures using standard building materials and hand and power tools. Carpentry skills and a general knowledge of residential construction will also be taught.

Course work includes footings and foundations, framing, interior and exterior trim, cabinetry, blueprint reading, residential planning and estimating, and other related topics. Students will develop skills through hands-on participation.

Graduates should qualify for employment in the residential building construction field as rough carpenters, framing carpenters, roofers, maintenance carpenters, and other related job titles.

Curriculum:

Carpentry - Diploma, Greensboro, day

Advising Code: D 3518 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
CAR	110	Carpentry	2	0	0	2
CAR	111	Carpentry I	3	15	0	8
ISC	115	Construction Safety	2	0	0	2
BPR	130	Blueprint Reading/Construction	1	2	0	2
MAT	101	Applied Mathematics	2	2	0	3
Total			10	19	0	17
Spring Semester I						
CAR	112	Carpentry II	3	15	0	8
CAR	115	Residential Planning/Estimating	3	0	0	3
ENG	102	Applied Communications II	3	0	0	3
Total			9	15	0	14
Summer Term I						
CAR	113	Carpentry III	3	9	0	6
CAR	114	Residential Building Codes	3	0	0	3
Total			6	9	0	9

Total credit hours required for diploma: 40 **This curriculum is subject to change.**

Up to three cooperative education credit hours may be substituted for major courses with department chair's permission.

Curriculum:**Carpentry - Basic Certificate, Greensboro, evening****Advising Code: D 35180 C1**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
CAR	111AB	Carpentry I	3	6	0	5
CAR	111BB	Carpentry I	0	9	0	3
CAR	112AB	Carpentry II	3	6	0	5
Total			6	21	0	13

Total credit hours required for certificate: 13 **This curriculum is subject to change.****Curriculum:****Carpentry - Advanced Certificate, Greensboro, evening****Advising Code: D 35180 C2**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
CAR	112BB	Carpentry II	0	9	0	3
CAR	113AB	Carpentry III	3	6	0	4
CAR	113BB	Carpentry III	0	9	0	2
BPR	130	Blueprint Reading/Construction	1	2	0	2
CAR	114	Residential Building Codes	3	0	0	3
CAR	115	Residential Planning/Estimating	3	0	0	3
Total			10	26	0	17

Total credit hours required for certificate: 17 **This curriculum is subject to change.**

Civil Engineering Technology

A 40 14 0

Associate in Applied Science, Greensboro, day
Certificate, Greensboro, day and evening

Contact Information:

(336) 334-4822, ext. 4443 - from Greensboro • (336) 454-1126, ext. 4443 - from High Point

The Civil Engineering Technology curriculum centers on the application of relevant engineering theory needed by technicians to carry out planning and supervisory tasks in the construction of transportation systems, residential and commercial buildings, bridges, dams, and water and wastewater treatment systems.

Course work includes exploration and application of theory and technique in areas such as materials testing, structures, estimating, project management, hydraulics, environmental technology, and surveying.

Additional course work will cover the operation of computers and the use of various software applications including computer-aided drafting programs.

Graduates should qualify for technician-level jobs with both public and private engineering, construction, and surveying agencies.

Program Outcomes:

Upon successful completion of this program, the Civil Engineering Technology graduate should be able to:

- assist in project planning;
- apply basic surveying skills;
- prepare construction estimates;
- perform basic drafting skills manually or by using CAD;
- interpret construction and engineering documents;
- identify strengths and properties of materials and testing procedures.

Curriculum:

Civil Engineering Technology - Associate in Applied Science, Greensboro, day
Advising Code: A 4014 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

CIV	210	Engineering Materials	1	3	0	2
EGR	115	Introduction to Technology	2	3	0	3
EGR	115A	Introduction to Technology Lab	1	2	0	1
ENG	111	Expository Writing	3	0	0	3
MAT(1)	121	Algebra / Trigonometry I	2	2	0	3
Total			9	10	0	12

Spring Semester I

CIV(3)	110	Statics/Strength of Materials	2	6	0	4
ENG	114	Professional Research and Reporting	3	0	0	3
MAT(1)	122	Algebra / Trigonometry II	2	2	0	3
PHY(2)	131	Physics - Mechanics	3	2	0	4
SRV	110	Surveying I	2	6	0	4
Total			12	16	0	18

Summer Semester I

CIV	111	Soils and Foundations	2	3	0	3
SRV	111	Surveying II	2	6	0	4
-	-	Technical Elective (5)	0-1	0-3	0-10	1-2
Total			4-5	9-12	0-10	8-9

Fall Semester II

CIV	125	Civil / Surveying CAD	1	6	0	3
CIV	211	Hydraulics and Hydrology	2	3	0	3
CIV	230	Construction Estimating	2	3	0	3
-	-	Technical Elective (5)	0-2	0-3	0-20	2-3
COM(4)	--	Communication Elective	3	0	0	3
Total			8-10	12-15	0-20	14-15

Spring Semester II

CIV	240	Project Management	2	3	0	3
CIV	250	Civil Engineering Tech Project	1	3	0	2
-	-	Technical Elective (5)	1	3	0	2
-	-	Technical Elective (5)	2	3	0	3
-	-	Humanities/Fine Arts Elective	3	0	0	3
-	-	Social / Behavioral Science Elective	3	0	0	3
Total			12	12	0	16

Total credit hours required for degree: 68-72 **This curriculum is subject to change.**

- (1) Students may take MAT 171 and MAT 172 instead of MAT121 and MAT 122.
- (2) Students may take PHY 151 instead of PHY-131.
- (3) Students may substitute MEC 250 for CIV 110
- (4) Communication Elective may be selected from : COM 110, COM 120 or COM 231.
- (5) Students may substitute a Technical Elective from the list below for COE 111, COE 121, COE 131 or COE 211.

Technical Electives:

CIV	215	Highway Technology	1	3	0	2
CIV	220	Basic Structural Concepts	1	3	0	2
CIV	222	Reinforced Concrete	2	3	0	3
CIV	221	Steel and Timber Design	2	3	0	3
MAT	223	Applied Calculus	2	2	0	3

Curriculum:

Civil Engineering Technology - Certificate, Greensboro, day and evening
Advising Code: A 4014 0 C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

EGR	115	Introduction to Technology	2	3	0	3
EGR	115A	Introduction to Technology Lab	1	2	0	1
MAT	121	Algebra / Trigonometry I	2	2	0	3
Total			5	7	0	7

Spring Semester I

SRV	110	Surveying I	2	6	0	4
Total			2	6	0	4

Fall Semester II

CIV	125	Civil / Surveying CAD	1	6	0	3
CIV	210	Engineering Materials	1	3	0	2
Total			2	9	0	5

Total credit hours required for certificate: 16 **This curriculum is subject to change.**

College Transfer - General Studies, Associate of Arts

A 10 10 0

Associate in Arts degree, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program of study is designed for students who intend to pursue a Bachelor of Arts degree in one of the liberal arts disciplines for which a pre-major is not offered at GTCC. Students who are uncertain of their academic major should also enroll in this program. Students who complete this program of study will meet freshman and sophomore requirements at most public and private four year institutions in North Carolina. Graduates will be eligible for admission with junior class standing to a B.A. degree program at these institutions. **Note: The grade of "D" in any course invalidates the transfer agreement.**

In the second year of the program, there is an opportunity for students to select college transfer elective courses. Students are encouraged to select courses that would allow them to explore possible majors upon transferring. These electives should be chosen from the "College Transfer Electives" list.

Note: This degree is offered completely online; therefore, students have the option of taking some courses on the Jamestown campus or in a completely online format. Students must take ACA 112 Intro to Distance Learning as an entrance requirement into this eDegree program of study. For additional information on online program requirements, please contact our Online Program Degree Coordinator at extension 2492.

Curriculum:

General Studies - Associate in Arts degree, Jamestown, day
Advising Code: A 1010 0

Prefix	Course Number	Course Title	Semester Completed
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English Composition (6 hours / 2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (12 hours / 4 courses)

-	-	Literature core course	_____
-	-	Humanities/Fine Arts core course	_____
-	-	Humanities/Fine Arts core course	_____

Choose one of the following:

COM	231	Public Speaking	_____
COM	110	Intro to Communication	_____
COM	120	Intro to Interpersonal Communication	_____

Social Sciences (12 hours/4 courses)

PSY	150	General Psychology	_____
SOC	210	Introduction to Sociology	_____

Choose one of the following:

HIS	111	World Civilization I	_____
HIS	121	Western Civilization I	_____

Choose one of the following:

HIS	112	World Civilization II	_____
HIS	122	Western Civilization II	_____

Mathematics (7 hours/ 2 courses)

Choose one (or set) of the following:

- MAT 161 College Algebra
and MAT 161A College Algebra Lab
- MAT 140 Survey of Mathematics
- MAT 171 Pre Calculus Algebra
and MAT 171A Precalculus Algebra Lab

Choose one set of the following:

- MAT 151 Statistics I
and MAT 151A Statistics I Lab
- MAT 172 Precalculus Trigonometry
and MAT 172 Precalculus Trigonometry Lab

Natural Sciences (8 hours/ 2 courses)

- - Science core course w/lab
- - Science core course w/lab

Physical Education (2 hours/ 1 course)

- PED 110 Fit and Well for Life

Other Courses (17 hours/ 6 courses) (must be College Transfer Courses)

- - College Transfer Elective
- - College Transfer Elective
- - College Transfer Elective
- - College Transfer Elective
- - College Transfer Elective
- - College Transfer Elective

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in arts degree, students who meet the requirements outlined in this pre-major articulation agreement for Art Education will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree: ASU, ECU, ECSU, FSU, NCA&T, NCCU, UNC-A, UNC-C, UNC-G, UNC-P, WCU, WSSU.

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in Art Education. Admission to teacher licensure programs requires satisfactory scores on PRAXIS I and II.

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

Diploma of College Transfer Readiness - General Studies

Curriculum: General Studies - College Transfer Readiness diploma, Jamestown, day
Advising Code: A 1010 0 D1

Prefix	Course Number	Course Title	Semester Completed
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English Composition (6 hours / 2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (12 hours / 4 courses)

-	-	Literature core course	_____
-	-	Humanities/Fine Arts core course	_____
-	-	Humanities/Fine Arts core course	_____

Choose one of the following:

COM	231	Public Speaking	_____
COM	110	Intro to Communication	_____
COM	120	Intro to Interpersonal Communication	_____

Social Sciences (12 hours/4 courses)

PSY	150	General Psychology	_____
SOC	210	Introduction to Sociology	_____

Choose one of the following:

HIS	111	World Civilization I	_____
HIS	121	Western Civilization I	_____

Choose one of the following:

HIS	112	World Civilization II	_____
HIS	122	Western Civilization II	_____

Mathematics (6 hours/ 2 courses)

Choose one (or set) of the following:

MAT	161	College Algebra	_____
		and MAT 161A College Algebra Lab	
MAT	140	Survey of Mathematics	_____
MAT	171	Pre Calculus Algebra	_____
		and MAT 171A Precalculus Algebra Lab	

Choose one set of the following:

MAT	151	Statistics I	_____
		and MAT 151A Statistics I Lab	
MAT	172	Precalculus Trigonometry	_____
		and MAT 172 Precalculus Trigonometry Lab	
*CIS	110	Introduction to Computers	_____

Natural Sciences (8 hours/ 2 courses)

-	-	Science core course w/lab	_____
-	-	Science core course w/lab	_____

Total credit hours to complete 44 hours. **This curriculum is subject to change.**

*Consult your advisor before selecting CIS 110 as it is not accepted as a Mathematics General Education credit at all Universities.

College Transfer - General Studies, Associate of Fine Arts

Drama Concentration

A 10 20 0

Associate in Fine Arts degree, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program of study is designed for students who intend to pursue a career or have a significant interest in theater or in related fields. Students may emphasize either acting or technical theater within this degree program. Graduates will be eligible for admission with junior class standing at most public and private four-year institutions which offer the B.F.A. or B.A. degrees in drama or theater arts. Graduates will also be eligible for employment at entry level positions in theater and related fields. **An interview with the program coordinator is required for admission to the program.** All students in this program are required to participate in the college theater company. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Arts & Sciences / College Transfer

Curriculum: Associate in Fine Arts degree, Drama Concentration, Jamestown, day
Advising Code: A 1020 0

Prefix	Course Number	Course Title	Semester Completed
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English Composition (6 hours/ 2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (6 hours/ 2 courses)

DRA	111	Theatre Appreciation	_____
-	-	Literature Core Course	_____

Social Sciences (9 hours/3 courses)

PSY	150	General Psychology	_____
SOC	210	Introduction to Sociology	_____

Choose one of the following:

HIS	111	World Civilization I	_____
HIS	121	Western Civilization I	_____

Mathematics (3 hours/ 1 courses)

Choose one of the following:

MAT	161	College Algebra	_____
		and MAT 161A College Algebra Lab	
MAT	140	Survey of Mathematics	_____

Natural Sciences (4 hours/ 1 courses)

-	-	Science core course w/lab	_____
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Other Required Courses (24 hours/ 8 courses)

DRA	111	Theatre Appreciation	_____
DRA	130	Acting I	_____
DRA	140	Stagecraft I	_____
DRA	145	Stage Make Up	_____
DRA	170	Play Production I	_____
DRA	171	Play Production II	_____
DRA	270	Play Production III	_____
DRA	271	Play Production IV	_____

Other Courses (12-13 hours/3-5 courses)

Choose from:

CIS	110	Introduction to Computers	_____
DRA	120	Voice for Performance	_____
DRA	131	Acting II	_____
DRA	132	Stage Movement	_____
DRA	142	Costuming	_____
DRA	143	Costume Design	_____
DRA	181	Show Choir I	_____
DRA	182	Show Choir II	_____
DRA	240	Lighting for the Theatre	_____
DRA	281	Show Choir III	_____
PED	110	Fit and Well for Life or	_____
PED	-	PED activity Course	_____

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

College Transfer - General Studies, Associate of Science Science Major

A 10 40 0

Associate in Science degree, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program of study is designed for students who intend to pursue a Bachelor of Science degree in one of the liberal arts disciplines for which a pre-major is not offered at GTCC. Students who are uncertain as to which science major they plan to pursue should also enroll in this program. Students who complete this program of study will meet freshman and sophomore requirements at most public and private four year institutions in North Carolina. Graduates will be eligible for admission with junior class standing to a B.S. degree program at these institutions. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Curriculum:

**General Studies - Associate in Science degree, Jamestown, day
Advising Code A 1040 0**

Arts & Sciences / College Transfer

Prefix	Course Number	Course Title	Semester Completed
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Core Requirements (Consider intended transfer institution when selecting course options if your intent is to transfer to a private college.)

English Composition (6 hours/ 2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (9 hours/ 3 courses)

-	-	Literature core course	_____
-	-	Humanities/Fine Arts core course	_____

Choose one of the following:

COM	231	Public Speaking	_____
COM	110	Introduction to Communication	_____
COM	120	Intro to Interpersonal Communication	_____

Social Sciences (9 hours/3 courses)

PSY	150	General Psychology	_____
SOC	210	Introduction to Sociology	_____

Choose one of the following:

HIS	121	Western Civilization I or	_____
HIS	122	Western Civilization II	_____

Mathematics (12 hours/3 courses)

MAT	171	Precalculus Algebra and MAT 171A Precalculus Algebra Lab	_____
MAT	172	Precalculus Trigonometry and MAT 172A Precalculus Trigonometry Lab	_____
MAT	271	Calculus I	_____

Chemistry (8 hours/2 courses)

CHM	151	General Chemistry I	_____
CHM	152	General Chemistry II	_____

Natural Sciences and Math (15 hours/4 courses)***Choose one of the following sequences:***

AST	151/151A	General Astronomy and	_____
AST	152/152A	General Astronomy II	_____

BIO	111	General Biology I and	_____
BIO	112	General Biology II	_____

CHM	251	Organic Chemistry and	_____
CHM	252	Organic Chemistry II	_____

MAT	272	Calculus II and	_____
MAT	273	Calculus III	_____

PHY	151	College Physics I and	_____
PHY	152	College Physics II	_____

PHY	251	General Physics I and	_____
PHY	252	General Physics II	_____

Choose two of the following:

BIO	111	General Biology I	_____
AST	151/151A	General Astronomy	_____
CHM	251	Organic Chemistry	_____
MAT	272	Calculus II	_____
PHY	151	College Physics I	_____
GEL	111	Introductory Geology	_____
CIS	110*	Introduction to Computers	_____
CIS	115*	Intro to Programming and Logic	_____
CSC	134*	C++ Programming	_____

Other courses (4-6hours/2 courses)

-	-	College Transfer core courses	_____
-	-	College Transfer core courses	_____

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

* If CIS 110, CIS 115 or CSC 134 are chosen to complete Natural Sciences and Math requirements, you will need to choose 1 or 2 additional credits of other College Transfer courses to complete your degree.

College Transfer - Pre-Major Art Education

A 10 10 A

Associate in Arts degree, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program of study is designed for students who intend to pursue a Bachelor of Arts degree in Art Education. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions in North Carolina. Graduates will be eligible for admission with junior class standing in B.A. degree programs at these institutions. Admission is competitive at many colleges and GPA requirements vary. Admission to teacher licensure programs requires satisfactory scores on PRAXIS I and II. Students should consult with the four-year college they plan to attend for further information on program admission requirements. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Curriculum:

**Pre-Major Art Education - Associate in Arts degree, Jamestown, day
Advising Code: A 1010 A**

Prefix	Course Number	Course Title	Semester Completed
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English Composition (6 hours/ 2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Literature Core (12 hours/ 4 courses)

-	-	Literature core course	_____
ART	114	Art History I	_____
ART	115	Art History II	_____

Choose one of the following:

COM	231	Public Speaking	_____
COM	110	Intro to Communication	_____
COM	120	Intro to Interpersonal Communication	_____

Social Sciences (12 hours/4 courses)

PSY	150	General Psychology	_____
SOC	210	Introduction to Sociology	_____

Choose one of the following:

HIS	111	World Civilization I	_____
HIS	121	Western Civilization I	_____

Choose one of the following:

HIS	112	World Civilization II	_____
HIS	122	Western Civilization II	_____

Mathematics (7 hours/ 2 courses)

Choose one (or set) of the following:

MAT	161	College Algebra and MAT 161A College Algebra Lab	_____
MAT	140	Survey of Mathematics	_____
MAT	171	Pre Calculus Algebra and MAT 171A Precalculus Algebra Lab	_____

Choose one set of the following:

MAT	151	Statistics I and MAT 151A Statistics I Lab	_____
MAT	172	Precalculus Trigonometry and MAT 172 Precalculus Trigonometry Lab	_____

Arts & Sciences / College Transfer

Natural Sciences (8 hours/ 2 courses)

- - Science core course w/lab _____
- - Science core course w/lab _____

Physical Education (2 hours/ 1 course)

- PED 110 Fit and Well for Life _____

Art Courses (12 hours/ 4 courses)

- ART 121 Design I _____
- ART 131 Drawing I _____
- ART 122 Design II _____
- ART 132 Drawing II _____

Other (5 hours)

- - College Transfer Elective _____
- - College Transfer Elective _____

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in arts degree, students who meet the requirements outlined in this pre-major articulation agreement for Art Education will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree: ASU, ECU, ECSU, FSU, NCA&T, NCCU, UNC-A, UNC-C, UNC-G, UNC-P, WCU, WSSU.

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in Art Education. Admission to teacher licensure programs requires satisfactory scores on PRAXIS I and II.

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

College Transfer - Pre-Major Biology and Biology Education

A 10 40 A

Associate in Science degree, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program of study is designed for students who intend to pursue a Bachelor of Science degree in biology or related fields of study. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions in North Carolina. Graduates will be eligible for admission with junior class standing in B.S. degree programs at these institutions. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Curriculum:

Pre-Major Biology and Biology Education - Associate in Science degree, Jamestown, day
Advising Code: A 1040 A

Prefix	Course Number	Course Title	Semester Completed
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Core Requirements (Consult with transfer institution when selecting course options if you intent to transfer to a private college.)

English Composition (6 hours/ 2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities (9 hours/3 courses)

-	-	Literature Core Course	_____
-	-	Humanities / Fine Arts Core Course	_____

Choose one of the following:

COM	231	Public Speaking	_____
COM	110	Introduction to Communication	_____
COM	120	Intro to Interpersonal Communication	_____

Social Sciences (9 hours/3 courses)

PSY	150	General Psychology	_____
SOC	210	Introduction to Sociology	_____
HIS	121	Western Civilization I	_____

Mathematics (8 hours/2 courses)

MAT	171	Precalculus Algebra	_____
		and MAT 171A Precalculus Algebra Lab	_____
MAT	172	Precalculus Trigonometry	_____
		and MAT 172A Precalculus Trigonometry Lab	_____

Chemistry (8 hours/2 courses)

CHM	151	General Chemistry I	_____
CHM	152	General Chemistry II	_____

Biology (8 hours / 2 courses)

BIO	111	General Biology I	_____
BIO	112	General Biology II	_____

Additional Math/ Science (15-16 hours / 4 courses)

Choose one of the following sets (8 hours/2 courses):

CHM	251	Organic Chemistry and	_____
CHM	252	Organic Chemistry II	_____
MAT	271	Calculus I and	_____
MAT	272	Calculus II	_____
PHY	151	College Physics I and	_____
PHY	152	College Physics II	_____
PHY	251	General Physics I and	_____
PHY	252	General Physics II	_____

Choose one of the following (4 hours/1 course):

BIO	250	Genetics or	_____
BIO	265	Cell Biology or	_____
BIO	275	Microbiology	_____
-	-	Math/Natural Science Elective* (3-4 hours)	_____

***Choose Additional Math/Science Elective from BIO 250, BIO 275, BIO 280, CHM 251, PHY 151, PHY 251, GEL 111 or MAT 271 or higher.**

Other Courses (1 hours / 1 course)

-	-	College Transfer Elective	_____
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Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in science degree, students who meet the requirements outlined in this pre-major articulation agreement will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree:

Biology: ASU, ECU, ECSU, FSU, NCA&T, NCCU, NCSU, UNC-A, UNC-CH, UNC-C, UNC-G, UNC-P, UNC-W, WCU, WSSU

Biology Education, Secondary Education: ASU, ECSU, FSU, NCA&T, NCCU, UNC-A*, UNC-P, UNC-W, WCU

*Certification for Grades K-4; Middle Grades (4-6); Grades 6-9; Secondary Level.

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in Biology and Biology Education. Admission to teacher licensure programs requires satisfactory scores on PRAXIS I and II.

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

College Transfer - Pre-Major Business Administration

A 10 10 B

Associate in Arts degree, Jamestown, day and evening; Greensboro, day

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program is designed for students who intend to pursue a Bachelor of Arts or Bachelor of Science degree in accounting, business administration, economics, finance or related fields of study. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions which offer degrees in business administration. Individual institutions may have additional requirements for admission into the major department and graduates should expect to have a grade point average of 2.5 or higher to meet admission requirements. **Note: The grade of "D" in any course invalidates the transfer agreement.**

This program is not designed to provide entry-level job skills in business occupations. Students interested in obtaining immediate employment upon graduation should pursue one of the A.A.S. degree programs in the Business division of the college. Articulation agreements with several colleges and universities provide for limited transferability of A.A.S. degrees in accounting and business administration.

Students should consider intended transfer institution when selecting course options if your intent is to transfer to a private college.

Curriculum:

Pre-Major Business Administration - Associate in Arts degree, Jamestown, day / Greensboro, day
Advising Code: A 1010 B

Prefix	Course Number	Course Title	Semester Completed
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English Composition (6 hours/2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (12 hours/4 courses)

COM	231	Public Speaking	_____
-	-	Literature Core Course	_____
-	-	Humanities/Fine Arts Core Course	_____
-	-	Humanities/Fine Arts Core Course	_____

Social Sciences (15 hours/6 courses)

ECO	251	Principles of Microeconomics	_____
ECO	252	Principles of Macroeconomics	_____
PSY	150	General Psychology	_____
POL	120	American Government	_____

Choose one of the following:

HIS	111	World Civilization I	_____
HIS	121	Western Civilization I	_____

Natural Sciences (8 hours/2 courses)

-	-	Science core course w/lab	_____
-	-	Science core course w/lab	_____

Mathematics (11 hours/3 courses)

MAT	161	College Algebra	_____
	and MAT 161A	College Algebra Lab	_____
MAT	263	Brief Calculus	_____
MAT	151	Statistics I	_____
	and MAT 151A	Statistics I Lab	_____

Computer Science (3 hours/1 course)

CIS	110	Introduction to Computers	_____
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Accounting (8 hours/2 courses)

ACC	120	Principles of Financial Accounting	_____
ACC	121	Principles of Managerial Accounting	_____

Other (1 hours)

-	-	College Transfer Elective	_____
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Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate of arts degree, students who meet the requirements outlined in this pre-major articulation agreement for Business Administration will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree: ASU, ECU, ECSU, FSU, NCA&T, NCCU, NCSU, UNC-A, UNC-CH, UNC-C, UNC-G, UNC-P, UNC-W, WCU, WSSU.

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in Business Administration.

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

College Transfer - Pre-Major Business Education/Marketing Education

A 10 10 C

Associate in Arts degree, Jamestown, day and evening; Greensboro, day and evening

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program is designed for students who intend to pursue a Bachelor of Arts or Bachelor of Science degree in Business or Marketing Education. Students who successfully complete this program will meet freshman and sophomore requirements at most public and private four-year institutions which offer degrees in business and marketing education. Individual institutions may have additional requirements for admission into the major department. Admission is competitive and graduates should expect to have a GPA of 2.5 or higher to meet admission requirements. **Note: The grade of "D" in any course invalidates the transfer agreement.**

This program is not designed to provide entry-level job skills in business occupations. Students interested in obtaining immediate employment upon graduation should pursue one of the A.A.S. degree programs in the business division of the college. Articulation agreements with several colleges and universities provide for limited transferability of A.A.S. degrees in accounting and business administration.

Students should consider intended transfer institution when selecting course options if your intent is to transfer to a private college.

Curriculum:

**Pre-Major Business Education / Marketing Education -
Associate in Arts degree, Jamestown, day / Greensboro, day
Advising Code: A 1010 C**

Prefix	Course Number	Course Title	Semester Completed
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English Composition (6 hours/ 2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (12 hours/ 4 courses)

COM	231	Public Speaking	_____
-	-	Literature core course	_____
-	-	Humanities/Fine Arts core course	_____
-	-	Humanities/Fine Arts core course	_____

Social Sciences (12 hours/4 courses)

PSY	150	General Psychology	_____
SOC	210	Introduction to Sociology	_____
ECO	251	Principles of Microeconomics	_____

Choose one of the following:

HIS	111	World Civilization I	_____
HIS	121	Western Civilization I	_____

Arts & Sciences / College Transfer

Mathematics (13 hours/ 4 courses)

MAT	161	College Algebra	_____
		and MAT 161A College Algebra Lab	_____
CIS	110	Introduction to Computers	_____

Choose two of the following:

MAT	151	Statistics I	_____
		and MAT 151A Statistics I Lab	_____
BUS	110	Introduction to Business	_____
BUS	115	Business Law I	_____

Natural Sciences (8 hours/2 courses)

-	-	Science core course w/lab	_____
-	-	Science core course w/lab	_____

Business-related courses (14 hours/ 4 courses)

ECO	252	Principles of Macroeconomics	_____
ACC	120	Principles of Financial Accounting	_____
ACC	121	Principles of Managerial Accounting	_____
CIS	115	Intro to Programming and Logic	_____

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in arts degree, students who meet the requirements outlined in this pre-major articulation agreement will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree:

Business Education: ASU, ECU, ECSU, FSU, NCA&T, NCSU, UNC-G, WCU

Marketing Education: ASU, ECU, FSU, NCA&T, NCCU, NCSU, UNC-A, UNC-C, UNC-G, UNC-W, WCU

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in Business Education. Admission to teacher licensure programs requires satisfactory scores on PRAXIS I and II.

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

College Transfer - Pre-Major Chemistry and Chemistry Education

A 10 40 B

Associate in Science degree, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program of study is designed for students who intend to pursue a Bachelor of Science degree in chemistry or related fields of study. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions in North Carolina. Graduates will be eligible for admission with junior class standing in B.S. degree programs at these institutions. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Curriculum:

Pre-Major Chemistry and Chemistry Education - Associate in Science degree, Jamestown, day
Advising Code: A 1040 B

Prefix	Course Number	Course Title	Semester Completed
<u>English Composition (6 hours/ 2 courses)</u>			
ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____
<u>Humanities/Fine Arts (9 hours/ 3 courses)</u>			
-	-	Literature core course	_____
-	-	Humanities/Fine Arts core course	_____
COM	231	Public Speaking (required)	_____
<u>Social Sciences (12 hours/4 courses)</u>			
PSY	150	General Psychology	_____
SOC	210	Introduction to Sociology	_____
<u>Choose one of the following sets:</u>			
HIS	111	World Civilization I <u>and</u>	_____
HIS	112	World Civilization II	_____
HIS	121	Western Civilization I <u>and</u>	_____
HIS	122	Western Civilization II	_____
<u>Mathematics (8 hours/ 2 courses)</u>			
MAT	271	Calculus I	_____
MAT	272	Calculus II	_____
<u>Natural Sciences (8 hours/ 2 courses)</u>			
CHM	151	General Chemistry I	_____
CHM	152	General Chemistry II	_____
<u>Physical Education (2 hours/ 1 course)</u>			
PED	110	Fit and Well for Life	_____

Other Courses (19 hours/ 5 courses)

CHM	251	Organic Chemistry	_____
CHM	252	Organic Chemistry II	_____
PHY	251	General Physics I	_____
PHY	252	General Physics II	_____

Choose one of the following:

CIS	110	Introduction to Computers	_____
CIS	115	Introduction to Programming and Logic	_____

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in science degree, students who meet the requirements outlined in this pre-major articulation agreement will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree:

Chemistry: ASU, ECU, ECSU, FSU, NCA&T, NCCU, NCSU, UNC-A, UNC-CH, UNC-C, UNC-G, UNC-P, UNC-W, WCU, WSSU

Chemistry Education, Secondary Education: ASU, ECSU, NCA&T, NCCU, UNC-A*, UNC-W

*Certification for Grades K-4; Middle Grades (4-6); Grades 6-9; Secondary Level.

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in Chemistry and Chemistry Education. Admission to teacher licensure programs requires satisfactory scores on PRAXIS I and II.

College Transfer - Pre-Major Communication Studies

A 10 10 O

Associate in Arts degree, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program is designed for students who intend to pursue a Bachelor of Arts degree in mass communication, journalism, advertising, public relations, speech communication or related fields. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions which offer degrees in communication studies. Individual institutions may have additional requirements for admission into the major department and graduates should expect to have a GPA of 2.5 or higher to meet admission requirements. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Curriculum:

Pre-Major Communication Studies - Associate in Arts degree, Jamestown, day
Advising Code A 10 10 O

Arts & Sciences / College Transfer

Prefix	Course Number	Course Title	Semester Completed
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Core Requirements (Consider intended transfer institution when selecting course options if your intent is to transfer to a private college.)

English Composition (6 hours/2 courses)

ENG	111	Expository Writing	_____
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Choose one of the following:

ENG	112	Argument-Based Research	_____
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ENG	114	Professional Research & Reporting	_____
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Humanities/Fine Arts (12 hours/4 courses)

-	-	Literature core course	_____
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-	-	Humanities/Fine Arts core course	_____
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-	-	Humanities/Fine Arts core course	_____
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-	-	Humanities/Fine Arts core course	_____
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Social Sciences (12 hours/4 courses)

PSY	150	General Psychology	_____
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SOC	210	Introduction to Sociology	_____
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Choose one of the following sets:

HIS	111	World Civilization I <u>and</u>	_____
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HIS	112	World Civilization II	_____
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HIS	121	Western Civilization I <u>and</u>	_____
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HIS	122	Western Civilization II	_____
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Mathematics (7 hours/2 courses)

MAT	151	Statistics	_____
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		and MAT 151A Statistics Lab	_____
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-	-	Mathematics Core Course	_____
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Natural Sciences (8 hours/2 courses)

-	-	Science Core Course	_____
-	-	Science Core Course	_____

Major Core Requirements**Communication Courses (9 hours/3 courses)**

COM	110	Intro to Communication	_____
COM	120	Intro to Interpersonal Communication	_____
COM	231	Public Speaking	_____

Other Courses (10 hours from below options)

ANT	210	General Anthropology	_____
CIS	110	Introduction to Computers	_____
COM	130	Nonverbal Communication (recommended)	_____
COM	140	Intercultural Communication (recommended)	_____
COM	150	Introduction to Mass Communication	_____
PED	110	Fit and Well for Life	_____

Other electives may be chosen if recommendations are not offered.

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in arts degree, students who meet the requirements outlined in this pre-major articulation agreement for Speech/Communication will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree: ASU, ECU, NCSU, UNC-C, UNC-G.

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in Speech/Communication.

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

College Transfer - Pre-Major Criminal Justice

A 10 10 D

Associate in Arts degree, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program of study is designed for students who intend to pursue a Bachelor of Arts degree in Criminal Justice. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions in North Carolina. Graduates will be eligible for admission with junior class standing in B.A. degree programs at these institutions. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Curriculum:

Pre-Major Criminal Justice - Associate in Arts degree, Jamestown, day

Advising Code: A 1010 D

Prefix	Course Number	Course Title	Semester Completed
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Arts & Sciences / College Transfer

English Composition (6 hours/2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (12 hours/4 courses from 3 different disciplines)

-	-	Literature core course	_____
-	-	Humanities/Fine Arts Core Course	_____
-	-	Humanities/Fine Arts Core Course	_____

Choose one of the following:

COM	110	Introduction to Communication	_____
COM	120	Intro to Interpersonal Communication	_____
COM	231	Public Speaking	_____

Social Sciences (15 hours/5 courses)

POL	120	American Government	_____
PSY	150	General Psychology	_____
SOC	210	Introduction to Sociology	_____

Choose one of the following:

HIS	111	World Civilization I	_____
HIS	121	Western Civilization I	_____

Choose one of the following:

HIS	112	World Civilization II	_____
HIS	122	Western Civilization II	_____

Mathematics (8 hours/2 courses)

Choose one of the following:

MAT	161	College Algebra and MAT 161A College Algebra Lab	_____
MAT	171	Precalculus Algebra and MAT 171A Precalculus Algebra Lab	_____

Choose one of the following:

MAT	151	Statistics I (required at transferring institution) and MAT 151A Statistics I Lab	_____
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Natural Sciences (8 hours/2 courses)

- - Science Core Course _____
- - Science Core Course _____

Physical Education (2 hours/1 course)

- PED 110 Fit and Well for Life _____

Criminal Justice (9 hours/3 required courses)

- CJC 111 Introduction to Criminal Justice _____
- CJC 121 Law Enforcement Operations _____
- CJC 141 Corrections _____

Additional Transfer Electives (4 hours)

- - College Transfer Elective _____
- - College Transfer Elective _____

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in arts degree, students who meet the requirements outlined in this pre-major articulation agreement for Criminal Justice will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree: ASU, ECU, ECSU, FSU, NCCU, NCSU, UNC-C, UNC-P, UNC-W, WCU.

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in Criminal Justice.

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

College Transfer - Pre-Major Elementary Education

A 10 10 R

Associate in Arts degree, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2789 - from Greensboro • (336) 454-1126, ext. 2789 - from High Point

This program is designed for students who intend to pursue a Bachelor of Arts or Bachelor of Science degree in elementary education or related fields of study. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions which offer degrees in teacher education. Individual institutions do have additional requirements for admission into the major department. Graduates must have a GPA of 2.5 or higher and pass the PRAXIS I exam to meet admission requirements to any teacher education program. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Curriculum:

**Pre-Major Elementary Education - Associate in Arts degree, Jamestown, day
Advising Code: A 1010 R**

Prefix	Course Number	Course Title	Semester Completed
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Core Requirements (Consider intended transfer institution when selecting options. Specific requirements for various colleges available.)

Note: Elementary Education pre-majors transferring to a public university must declare a second academic concentration from a list of approved options from the transfer institution. Elementary Education pre-majors transferring to a private college/university will need to meet the special requirements for those institutions. The coordinator will assist you with selecting your core courses and your second concentration courses to fill the additional 12 hours / 4 courses listed at the bottom of your program course guide and to meet the requirements at the senior/transfer institution.

English Composition (6 hours/2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (12 hours/4 courses)

COM	231	Public Speaking	_____
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****Choose one of the following:***

ENG	131	Introduction to Literature**	
ENG	231	American Literature I	
ENG	232	American Literature II	_____

**recommended

****Choose one of the following:***

MUS	110	Music Appreciation	
ART	111	Art Appreciation	
ART	114	Art History Survey I	
ART	115	Art History Survey II	_____

Humanities/Fine Arts (12 hours/4 courses) - Continued

****Choose one of the following:***

- HUM 115 Critical Thinking _____
- REL 110 World Religions _____
- REL 211 Introduction to Old Testament _____
- REL 212 Introduction to New Testament _____
- PHI 210 History of Philosophy _____
- PHI 240 Introduction to Ethics _____

Social Sciences (15 hours/5 courses)

- PSY 150 General Psychology _____
- PSY 241 Developmental Psychology _____

****Choose one of the following:***

- SOC 210 Introduction to Sociology _____
- SOC 225 Social Diversity _____

****Choose one of the following:***

- HIS 121 Western Civilization I _____
- HIS 122 Western Civilization II _____
- HIS 111 World Civilization I _____
- HIS 112 World Civilization II _____

****Choose one of the following:***

- HIS 131 American History I _____
- HIS 132 American History II _____

Mathematics (7 hours/2 courses)

- MAT 140 Survey of Mathematics _____
- MAT 161 College Algebra _____
- and MAT 161A College Algebra Lab _____

Natural Sciences (8 hours/2 courses)

****Choose one of the following:***

- BIO 110 Principles of Biology _____
- BIO 111 General Biology _____

****Choose one of the following sets:***

- CHM 131 Introduction to Chemistry **and** _____
- CHM 131A Introduction to Chemistry Lab _____

- PHY 110 Conceptual Physics **and** _____

- PHY 110A Conceptual Physics Lab _____

Physical Education (1 hour/1 course)

- - PED Activity Course _____

Education Course (4 hours / 1 course)

- EDU 216 Foundations of Education _____

Additional courses (12 hours/4 courses):

Additional hours for concentration and/or requirements at transfer institution: To select these additional courses, program planning to meet your needs is required. See GTCC's Teacher Education Coordinator, ext. 2789, for program planning and appropriate course options.

Course 1: _____

Course 2: _____

Course 3: _____

Course 4: _____

Elementary Education Pre-major Program students may want to take advantage of the Greater Greensboro Consortium Agreement. All consortium policies will be followed.

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in arts degree, students who meet the requirements outlined in this pre-major articulation agreement for Elementary Education will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree as listed at www.northcarolina.edu/content.php/aa/planning/traditional/htm. Students are encouraged to contact the senior institution to confirm degree offerings.

Students must meet any transfer institution foreign language requirements, if any.

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in Elementary Education. Minimum statewide requirements are:

1. Minimum 2.5 GPA on a 4.0 scale.
2. Satisfactory passing scores as established by the State Board of Education on Praxis I PPST-Reading; PPST-Writing; PPST-Math.

College Transfer - Pre-Major Engineering

A 10 40 D

Associate in Science degree, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program is designed for students who intend to pursue a Bachelor of Science degree in engineering at N.C. A&T State University, N.C. State University or the University of North Carolina at Charlotte. Individual institutions may have additional requirements for admission into the major department. Students seeking to acquire entry-level job skills should enroll in one of the engineering technologies programs at GTCC. Those programs also may transfer to N.C. A&T and UNC-Charlotte under certain conditions. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Students planning to enroll in this program should have completed Algebra I, Algebra II, Geometry and Advanced Math at the high school level. Students also should have completed two years of a foreign language at the high school level.

Curriculum:

Pre-Major Engineering - Associate in Science degree, Jamestown, day
Advising Code: A 1040 D

Prefix	Course Number	Course Title	Semester	Completed
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Core Requirements (Consider intended transfer institution when selecting course options if your intent is to transfer to a private college.)

English Composition (6 hours/ 2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Literature (3 hours/1 course)

-	-	Literature Core Course	_____
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Humanities/Communication (9 hours/3 courses)

SPA	111	Elementary Spanish I and	_____
SPA	112	Elementary Spanish II	_____

Choose one of the following:

COM	231	Public Speaking	_____
COM	110	Introduction to Communication	_____
COM	120	Intro to Interpersonal Communication	_____
HUM	110	Technology and Society	_____

Social Sciences (9 hours/3 courses)

Choose one of the following:

PSY	150	General Psychology	_____
SOC	210	Introduction to Sociology	_____

Choose one of the following:

ECO	251	Principles of Microeconomics	_____
ECO	252	Principles of Macroeconomics	_____

Choose one of the following:

HIS	111	World Civilization I	_____
HIS	121	Western Civilization I	_____

Mathematics (15 hours/4 courses)

MAT	271	Calculus I*	_____
MAT	272	Calculus II	_____
MAT	273	Calculus III	_____
MAT	285	Differential Equations	_____

Chemistry (8 hours/2 courses)

CHM	151	General Chemistry I	_____
CHM	152	General Chemistry II	_____

Computer Science (6 hours/2 course)

CIS	115	Intro to Programming & Logic	_____
CSC	134	C++ Programming	_____

Physics (8 hours/2 courses)

PHY	251	General Physics I	_____
PHY	252	General Physics II	_____

Physical Education (1 hour/1 course)

-	-	PED Activity Course	_____
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Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

*Students must place into or complete the pre-requisites for MAT 271.

College Transfer - Pre-Major English

A 10 10 E

Associate in Arts degree, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program of study is designed for students who intend to pursue a Bachelor of Arts degree in English. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions in North Carolina. Graduates will be eligible for admission with junior class standing in B.A. degree programs at these institutions. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Curriculum:

Pre-Major English - Associate in Arts degree, Jamestown, day
Advising Code: A 1010 E

Prefix	Course Number	Course Title	Semester Completed
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English Composition (6 hours/2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (15 hours/5 courses)

ENG	131	Introduction to Literature	_____
COM	231	Public Speaking	_____

Choose one of the following:

ENG	231	American Literature I	_____
ENG	241	British Literature II	_____
ENG	261	World Literature I	_____

Choose one of the following:

ENG	232	American Literature II	_____
ENG	242	British Literature II	_____
ENG	262	World Literature II	_____

Choose one of the following:

-	-	Drama Core Course	_____
-	-	Religion Core Course	_____
-	-	Music Core Course	_____
-	-	Humanities Core Course	_____
-	-	Philosophy Core course	_____

Social Sciences (12 hours/4 courses)

PSY	150	General Psychology	_____
SOC	210	Introduction to Sociology	_____

Choose one of the following sets:

HIS	111	World Civilization I and	_____
HIS	112	World Civilization I	_____

HIS	121	Western Civilization I and	_____
HIS	122	Western Civilization II	_____

HIS	131	American History I and	_____
HIS	132	American History II	_____

Mathematics (8 hours/2 courses)

Choose one of the following:

- MAT 161 College Algebra
and MAT 161 College Algebra Lab
- MAT 171 Precalculus Algebra
and MAT 171A Precalculus Algebra Lab

Choose one of the following:

- MAT 151 Statistics I
and MAT 151A Statistics I Lab
- MAT 172 Precalculus Trigonometry
and MAT 172A Precalculus Trigonometry Lab

Natural Sciences (8 hours/2 courses)

- - Science core course w/lab
- - Science core course w/lab

Physical Education (2 hours/1 course)

- PED 110 Fit and Well for Life

Foreign Language (6 hours/2 courses)

Choose one of the following sets:

- SPA 111 Beginning Spanish I **and**
- SPA 112 Beginning Spanish II

- FRE 111 Beginning French I **and**
- FRE 112 Beginning French II

Additional Transfer Electives (9-10 hours/3 courses)

Choose one of the following sets:

- SPA 211 Intermediate Spanish I **and**
- SPA 212 Intermediate Spanish II

- FRE 211 Intermediate French I **and**
- FRE 212 Intermediate French II

Other (1 hour / 1 course)

- - College Transfer Elective*

**Literature course recommended*

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in arts degree, students who meet the requirements outlined in this pre-major articulation agreement for English will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree: ASU, ECU, ECSU, FSU, NCA&T, NCCU, NCSU, UNC-A, UNC-CH, UNC-C, UNC-G, UNC-P, UNC-W, WCU, WSSU.

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in English.

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

College Transfer - Pre-Major English Education

A 10 10 F

Associate in Arts degree, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program of study is designed for students who intend to pursue a Bachelor of Arts degree in English Education. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions in North Carolina. Graduates will be eligible for admission with junior class standing in B.A. degree programs at these institutions. Admission is competitive at many colleges and GPA requirements vary. Admission to teacher licensure programs requires satisfactory scores on PRAXIS I and II (standardized academic skills exams). Students should consult with the four-year college they plan to attend for further information on program admission requirements. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Curriculum:

Pre-Major English Education - Associate in Arts degree, Jamestown, day
Advising Code: A 1010 F

Prefix	Course Number	Course Title	Semester Completed
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English Composition (6 hours/2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (12 hours/ 4 courses)

-	-	Humanities/Fine Arts core course	_____
-	-	Literature core course	_____

Choose one of the following sets:

SPA	111	Elementary Spanish I and	
SPA	112	Elementary Spanish II	

FRE	111	Elementary French I and	_____
FRE	112	Elementary French II	_____

Social Sciences (12 hours/4 courses)

PSY	150	General Psychology	_____
SOC	210	Introduction to Sociology	_____

Choose one of the following:

HIS	111	World Civilization I	
HIS	121	Western Civilization I	_____

Choose one of the following:

HIS	112	World Civilization II	
HIS	122	Western Civilization II	_____

Arts & Sciences / College Transfer

Mathematics (7 hours/2 courses)

Choose one of the following:

- MAT 140 Survey of Mathematics _____
- MAT 161 College Algebra
and MAT 161A College Algebra Lab _____
- MAT 171 Precalculus Algebra
and MAT 171A Precalculus Algebra Lab _____

Choose one of the following:

- MAT 172 Pre-Calculus Trigonometry
and MAT 172A Precalculus Trigonometry Lab _____
- MAT 151 Statistics I (required at transferring institution)
and MAT 151A Statistics I Lab _____

Natural Sciences (8 hours/2 courses)

- - Science Core Course _____
- - Science Core Course _____

Physical Education (2 hours/1 course)

- PED 110 Fit and Well for Life _____

Other Courses (12 hours/ 4 courses)

- EDU 216 Foundations of Education _____
- COM 231 Public Speaking _____
- - 200 level literature course _____
- - 200 level literature course _____

Other Recommended Courses (6 hours/ 2 courses)

- ENG 273 African American Literature _____
- SOC 225 Social Diversity _____
- SPA 211 Intermediate Spanish I **and** _____
- SPA 212 Intermediate Spanish II _____
- FRE 211 Intermediate French I **and** _____
- FRE 212 Intermediate French II _____

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in arts degree, students who meet the requirements outlined in this pre-major articulation agreement for English Education will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree: ASU, ECU, ECSU, FSU, NCA&T, NCCU, NCSU, UNC-A, UNC-CH, UNC-C, UNC-G, UNC-P, UNC-W, WCU, WSSU.

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in English Education. Admission to teacher licensure programs requires satisfactory scores on PRAXIS I and II.

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

College Transfer - Pre-Major Health Education

A 10 10 G

Associate in Arts degree, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program is designed for students who intend to pursue a Bachelor of Arts or Bachelor of Science degree in health education or related fields of study. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions which offer degrees in teacher education. Individual institutions may have additional requirements for admission into the major department and graduates should expect to have a GPA of 2.5 or higher to meet admission requirements. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Curriculum:

Pre-Major Health Education - Associate in Arts degree, Jamestown, day
Advising Code: A 1010 G

Prefix	Course Number	Course Title	Semester Completed
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English Composition (6 hours/2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (12 hours/ 4 courses)

COM	231	Public Speaking	_____
-	-	Literature core course	_____
-	-	Humanities/Fine Arts core course	_____
-	-	Humanities/Fine Arts core course	_____

Social Sciences (12 hours/4 courses)

PSY	150	General Psychology	_____
SOC	210	Introduction to Sociology	_____

Choose one of the following:

HIS	111	World Civilization I	_____
HIS	121	Western Civilization I	_____

Choose one of the following:

HIS	112	World Civilization II	_____
HIS	122	Western Civilization II	_____

Mathematics (8 hours/ 2 courses)

MAT	151	Statistics I	_____
		and MAT 151A Statistics I Lab	_____
MAT	161	College Algebra	_____
		and MAT 161A College Algebra Lab	_____

Arts & Sciences / College Transfer

Natural Sciences (16 hours/ 4 courses)

BIO	165	Anatomy and Physiology I	_____
BIO	166	Anatomy and Physiology II	_____

Choose one of the following:

BIO	111	General Biology I	_____
CHM	151	General Chemistry I	_____

Choose one of the following:

BIO	112	General Biology II	_____
CHM	152	General Chemistry II	_____

Health/Physical Education (8 hours/ 3 courses)

HEA	110	Personal Health/Wellness	_____
HEA	112	First Aid and CPR	_____
HEA	120	Community Health	_____

Other Course (3 hours/ 1 course)

CIS	110	Introduction to Computers	_____
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Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in arts degree, students who meet the requirements outlined in this pre-major articulation agreement for Health Education will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree: ASU, ECU, FSU, NCCU, UNC-C, UNC-G, UNC-P.

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in Health Education. Admission to teacher licensure programs requires satisfactory scores on PRAXIS I and II.

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

College Transfer - Pre-Major History

A 10 10 H

Associate in Arts degree, Jamestown, day and evening; Greensboro, day and evening

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program of study is designed for students who intend to pursue a Bachelor of Arts degree in History. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions in North Carolina. Graduates will be eligible for admission with junior class standing in B.A. degree programs at these institutions. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Curriculum:

**Pre-Major History - Associate in Arts degree,
Jamestown, day and evening / Greensboro, day and evening
Advising Code: A 1010 H**

Prefix	Course Number	Course Title	Semester Completed
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English Composition (6 hours/2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (12 hours/4 courses)

—	—	Literature Core Course	_____
—	—	Humanities/Fine Arts Core Course*	_____
—	—	Humanities/Fine Arts Core Course*	_____

Choose one of the following:

COM	110	Introduction to Communication	_____
COM	120	Intro to Interpersonal Communication	_____
COM	231	Public Speaking	_____

Social Sciences (18 hours/6 courses)

PSY	150	General Psychology	_____
SOC	210	Introduction to Sociology	_____
HIS	131	American History I	_____
HIS	132	American History II	_____

Choose one of the following:

HIS	111	World Civilization I	_____
HIS	121	Western Civilization I	_____

Choose one of the following:

HIS	112	World Civilization II	_____
HIS	122	Western Civilization II	_____

Mathematics (8 hours/2 courses)

MAT 161 College Algebra
and MAT 161A College Algebra Lab

Choose one of the following:

MAT 151 Statistics I
and MAT 151A Statistics I Lab

Natural Sciences (8 hours/2 courses)

- - Science Core Course
 - - Science Core Course
- _____
- _____

Physical Education (2 hours/1 course)

PED 110 Fit and Well for Life

Additional Transfer Electives (10 hours/4 courses)

- - College Transfer Elective
 - - College Transfer Elective
 - - College Transfer Elective
 - - College Transfer Elective
- _____
- _____
- _____
- _____

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

* A beginning and intermediate foreign language sequence is recommended.

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in arts degree, students who meet the requirements outlined in this pre-major articulation agreement for History will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree: ASU, ECU, ECSU, FSU, NCA&T, NCCU, NCSU, UNC-A, UNC-CH, UNC-C, UNC-G, UNC-P, UNC-W, WCU, WSSU.

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in History.

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

College Transfer - Pre-Major Mathematics

A 10 40 E

Associate in Science degree, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2639- from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program of study is designed for students who intend to pursue a Bachelor of Science degree in mathematics or related fields of study. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions in North Carolina. Graduates will be eligible for admission with junior class standing in B.S. degree programs at these colleges. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Curriculum:

Pre-Major Mathematics - Associate in Science degree, Jamestown, day
Advising Code: A 1040 E

Prefix	Course Number	Course Title	Semester Completed
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English Composition (6 hours/ 2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (12 hours/4 courses)

-	-	Literature Core Course	_____
-	-	Humanities/Fine Arts Core Course	_____
-	-	Humanities/Fine Arts Core Course	_____

Choose one of the following:

COM	231	Public Speaking	_____
COM	120	Intro to Interpersonal Communication	_____

Social Sciences (12 hours/4 courses)

SOC	210	Introduction to Sociology	_____
PSY	150	General Psychology	_____

Choose one of the following:

HIS	111	World Civilization I	_____
HIS	121	Western Civilization I	_____

Choose one of the following:

HIS	112	World Civilization II	_____
HIS	122	Western Civilization II	_____

Natural Sciences (8 hours/2 courses)

PHY	251	General Physics I	_____
PHY	252	General Physics II	_____

Mathematics (22 hours/6 courses)

MAT	175	Precalculus	_____
MAT	175A	Precalculus Lab	_____
MAT	271	Calculus I	_____
MAT	272	Calculus II	_____
MAT	273	Calculus III	_____
CIS	115	Intro to Programming and Logic	_____
CSC	134	C++ Programming	_____
MAT	285	Differential Equations	_____

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in science degree, students who meet the requirements outlined in this pre-major articulation agreement for Mathematics will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree: ASU, ECU, ECSU, FSU, NCA&T, NCCU, NCSU, UNC-A, UNC-CH, UNC-C, UNC-G, UNC-P, UNC-W, WCU, WSSU.

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in Mathematics.

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

College Transfer - Pre-Major Middle Grades Education

A 10 11 A

Associate in Arts degree, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2789 - from Greensboro • (336) 454-1126, ext. 2789 - from High Point

This program is designed for students who intend to pursue a Bachelor of Arts or Bachelor of Science degree in middle grades education, special education, or related fields of study. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions which offer degrees in teacher education. Individual institutions do have additional requirements for admission into the major department. Graduates must have a GPA of 2.5 or higher and pass the PRAXIS I exam to meet admission requirements to any teacher education program. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Note: Middle Grades Education pre-majors transferring to a public university must declare a primary and a secondary concentration from these options: Language Arts, Social Studies, Science, and Math. Middle Grades Education pre-majors transferring to private colleges/universities need to meet specific requirements for those institutions.

GTCC's Teacher Education Coordinator will assist you with selecting your core courses and your primary and secondary (middle grades) concentration courses to fill the additional 12 hours / 4 courses listed at the bottom of your program course guide and to meet the requirements at the senior/transfer institution.

Curriculum: Pre-Major Middle Grades Education - Associate in Arts degree, Jamestown, day
Advising Code: A 1011 A

Prefix	Course Number	Course Title	Semester Completed
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Core Requirements (Consider intended transfer institution when selecting options.)

English Composition (6 hours/2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (12 hours/4 courses)

COM	231	Public Speaking	_____
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****Choose one of the following:***

ENG	131	Introduction to Literature**	_____
ENG	231	American Literature I	_____
ENG	232	American Literature II	_____

****recommended**

****Choose one of the following:***

MUS	110	Music Appreciation	_____
ART	111	Art Appreciation	_____
ART	114	Art History Survey I	_____
ART	115	Art History Survey II	_____

Humanities/Fine Arts (12 hours/4 courses) - Continued

****Choose one of the following:***

- HUM 115 Critical Thinking
- REL 110 World Religions
- REL 211 Introduction to Old Testament
- REL 212 Introduction to New Testament
- PHI 210 History of Philosophy
- PHI 240 Introduction to Ethics

Social Sciences (15 hours/5 courses)

- PSY 150 General Psychology
- PSY 241 Developmental Psychology

****Choose one of the following:***

- SOC 210 Introduction to Sociology
- SOC 225 Social Diversity

****Choose one of the following:***

- HIS 121 Western Civilization I
- HIS 122 Western Civilization II
- HIS 111 World Civilization I
- HIS 112 World Civilization II

****Choose one of the following:***

- HIS 131 American History I
- HIS 132 American History II

Mathematics (7 hours/2 courses)

- CIS 110 Introduction to Computers
- MAT 161 College Algebra
and MAT 161A College Algebra Lab

Natural Sciences (8 hours/2 courses)

****Choose one of the following:***

- BIO 110 Principles of Biology
- BIO 111 General Biology

****Choose one of the following sets:***

- CHM 131 Introduction to Chemistry and
- CHM 131A Introduction to Chemistry Lab

- PHY 110 Conceptual Physics and
- PHY 110A Conceptual Physics Lab

Physical Education (2 hours/1 or 2 course[s])

****Choose one of the following:***

- PED 110 Fit and Well for Life
- or**
- - PED Activity Course and
- - PED Activity Course

Education Course (4 hours / 1 course)

- EDU 216 Foundations of Education

Additional courses (11 hours / 4 courses):

Additional hours for concentration and/or requirements at transfer institution: To select these additional courses, program planning to meet your needs is required. See GTCC's Teacher Education Coordinator, ext. 2789, for program planning and appropriate course options.

Course 1: _____

Course 2: _____

Course 3: _____

Course 4: _____

Middle Grades Education Pre-major Program students may want to take advantage of the Greater Greensboro Consortium Agreement. All consortium policies will be followed.

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in arts degree, students who meet the requirements outlined in this pre-major articulation agreement for Special or Middle Grades Education will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree as listed at www.northcarolina.edu/content.php/aa/planning/traditional/htm. Students are encouraged to contact the senior institution to confirm degree offerings.

Students must meet any transfer institution foreign language requirements, if any.

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in Special or Middle Grades Education. Minimum statewide requirements are:

1. Minimum 2.5 GPA on a 4.0 scale.
2. Satisfactory passing scores as established by the State Board of Education on Praxis I PPST-Reading; PPST-Writing; PPST-Math.

College Transfer - Pre-Major Music

A 10 20 D

Associate in Fine Arts degree, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2639- from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program of study is designed to prepare students for the transfer to a senior institution. Students will receive a foundation in music theory, music history, and applied music performance skills. They should be able to audition on their primary instrument or voice and complete theory and history placement exams to allow them to continue work as juniors and to begin an area of concentration at the transfer institution.

An articulation agreement has been developed and approved by the NC Community College System and the UNC College System. Students who successfully complete this course of study and who meet the requirements for admission to the university may be eligible to apply for admission to the major with junior standing. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Curriculum:

Pre-Major Music - Associate in Fine Arts degree, Jamestown, day
Advising Code A 1020 D

Prefix	Course Number	Course Title	Semester Completed
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English Composition (6 hours/2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (6 hours/2 courses)

-	-	Literature Core Course	_____
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Choose one of the following:

-	-	Drama Core Course	_____
-	-	Religion Core Course	_____
-	-	Humanities Core Course	_____
-	-	Philosophy Core Course	_____

Social Sciences (9 hours/3 courses)

PSY	150	General Psychology	_____
SOC	210	Introduction to Sociology	_____

Choose one of the following:

HIS	121	Western Civilization I	_____
HIS	122	Western Civilization II	_____

Mathematics (3 hours/1 course)

Choose one of the following:

MAT	161	College Algebra and MAT 161A College Algebra Lab	_____
MAT	140	Survey of Mathematics	_____

Natural Sciences (4 hours/1 course)

-	-	Science Core Course	_____
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Music Theory (16 hours/4 courses)

MUS	121	Music Theory I	_____
MUS	122	Music Theory II	_____
MUS	221	Music Theory III	_____
MUS	222	Music Theory IV	_____

Applied Music (8 hours/4 courses)

MUS	161	Applied Music I	_____
MUS	162	Applied Music II	_____
MUS	261	Applied Music III	_____
MUS	262	Applied Music IV	_____

Ensemble (4 hours/4 courses)

Choose one of the following:

MUS	131	Chorus I	_____
MUS	141	Ensemble I	_____

Choose one of the following:

MUS	132	Chorus II	_____
MUS	142	Ensemble II	_____

Choose one of the following:

MUS	231	Chorus III	_____
MUS	241	Ensemble III	_____

Choose one of the following:

MUS	232	Chorus IV	_____
MUS	242	Ensemble IV	_____

Class Music (2 hours/2 courses)

MUS	151	Class Music I	_____
MUS	152	Class Music II	_____

Electives (6-7 hours from other MUS courses)

-	-	Music Elective	_____
-	-	Music Elective	_____

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

College Transfer - Pre-Major Nursing

A 10 10 I

Associate in Arts degree, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

(NOTE: This is not the program to gain admission to GTCC's Nursing Program. For information on that process, please call the Admissions Department and speak with an admissions counselor for limited enrollment programs.)

This program is designed for students who intend to pursue a Bachelor of Science degree in nursing or related fields of study in the health care professions. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions which offer degrees in nursing. Individual institutions may have additional requirements for admission into the major department and graduates should expect to have a GPA of 2.5 or higher to meet admission requirements. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Students planning to enter the Associate Degree Nursing program at GTCC or other community colleges may have additional requirements to meet in order to be accepted into the program. Students who have completed the Associate Degree in Nursing program at GTCC or another community college may be able to complete additional general college requirements for admission to a Bachelor of Science in Nursing program by enrolling in this pre-major.

Curriculum:

**Pre-Major Nursing - Associate in Arts degree, Jamestown, day
Advising Code A 1010 I**

Prefix	Course Number	Course Title	Semester Completed
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English Composition (6 hours/2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (12 hours/ 4 courses)

-	-	Literature Core Course	_____
-	-	Humanities/Fine Arts Core Course	_____
-	-	Humanities/Fine Arts Core Course	_____

Choose one of the following:

COM	110	Intro to Communication	_____
COM	120	Intro to Interpersonal Communication	_____
COM	231	Public Speaking	_____

Social Sciences (12 hours/4 courses)

PSY	150	General Psychology	_____
SOC	210	Introduction to Sociology	_____
PSY	241	Developmental Psychology	_____

Choose one of the following:

HIS	112	World Civilization II or	_____
HIS	122	Western Civilization II	_____

Mathematics (8 hours/ 2 courses)

MAT	151	Statistics I	_____
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and MAT 151 Statistics I Lab _____
MAT 161 College Algebra _____
and MAT 161A College Algebra Lab _____

Natural Sciences (20 hours/ 5 courses)

BIO 165 Anatomy and Physiology I _____
BIO 166 Anatomy and Physiology II _____

Choose one of the following:

BIO 175 General Microbiology **or** _____
BIO 275 Microbiology _____

Choose one of the following sets:

CHM 131/131A Introduction to Chemistry **and** _____
CHM 132/132A Organic and Biochemistry _____

CHM 151 General Chemistry I **and** _____
CHM 152 General Chemistry II _____

Other Courses (7 hours/ 3 courses)

SOC 213 Sociology of the Family _____
PSY 281 Abnormal Psychology _____
– – College Transfer Elective Course _____

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in arts degree, students who meet the requirements outlined in this pre-major articulation agreement for Nursing will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree: ECU, NCA&T, NCCU, UNC-CH, UNC-C, UNC-G, UNC-W, WCU, WSSU.

Admission to the Major

Admission across the several programs in Nursing is competitive. Other professional admission requirements may be designated by individual programs. Grade point average requirements vary and admission is competitive across the several programs in Nursing.

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

College Transfer - Pre-Major Physical Education

A 10 10 J

Associate in Arts degree, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program is designed for students who intend to pursue a Bachelor of Arts or Bachelor of Science degree in Physical Education or related fields of study. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions which offer degrees in teacher education. Individual institutions may have additional requirements for admission into the major department and graduates should expect to have a GPA of 2.5 or higher to meet admission requirements. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Curriculum: Pre-Major Physical Education - Associate in Arts degree, Jamestown, day
Advising Code A 1010 J

Prefix	Course Number	Course Title	Semester Completed
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English Composition (6 hours/2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (12 hours/ 4 courses)

COM	231	Public Speaking	_____
-	-	Literature core course	_____
-	-	Humanities/Fine Arts core course	_____
-	-	Humanities/Fine Arts core course	_____

Social Sciences (12 hours/4 courses)

PSY	150	General Psychology	_____
SOC	210	Introduction to Sociology	_____

Choose one of the following:

HIS	111	World Civilization I	_____
HIS	121	Western Civilization I	_____

Choose one of the following:

HIS	112	World Civilization II	_____
HIS	122	Western Civilization II	_____

Mathematics (7 hours/ 2 courses)

MAT	161	College Algebra and MAT 161A College Algebra Lab	_____
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Choose one of the following:

MAT	151	Statistics I and MAT 151A Statistics I Lab	_____
CIS	110	Introduction to Computers	_____

Natural Sciences (8 hours/ 2 courses)

BIO	111	General Biology I	_____
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BIO	112	General Biology II	_____
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Physical Education (7 hours/4 courses)

PED	110	Fit and Well for Life	_____
HEA	120	Community Health	_____
-	-	PED activity course	_____
-	-	PED activity course	_____

Other Science Courses (8 hours/ 2 courses)

PHY	110/110A	Conceptual Physics	_____
BIO	165	Anatomy and Physiology I	_____

Other Courses (4 hours/2 courses)

HEA	110	Personal Health/Wellness	
		or	
PSY	241	Developmental Psychology	_____
-	-	College Transfer Elective Course	_____

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in arts degree, students who meet the requirements outlined in this pre-major articulation agreement for Physical Education will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree: ASU, ECU, ECSU, FSU, NCA&T, NCCU, UNC-CH, UNC-G, UNC-P, UNC-W, WCU, WSSU.

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in Physical Education. Admission to teacher licensure programs requires satisfactory scores on PRAXIS I and II.

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

College Transfer - Pre-Major Political Science

A 10 10 K

Associate in Arts degree, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program of study is designed for students who intend to pursue a Bachelor of Arts degree in Political Science. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions in North Carolina. Graduates will be eligible for admission with junior class standing in B.A. degree programs at these institutions. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Curriculum:

Pre-Major Political Science - Associate in Arts degree, Jamestown, day
Advising Code: A 1010 K

Prefix	Course Number	Course Title	Semester Completed
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English Composition (6 hours/2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (12 hours/ 4 courses)

-	-	Literature core course	_____
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Choose one of the following:

COM	110	Intro to Communication	
COM	120	Intro to Interpersonal Communication	
COM	231	Public Speaking	_____

Choose one of the following sets:

SPA	111	Elementary Spanish I and	
SPA	112	Elementary Spanish II	
FRE	111	Elementary French I and	_____
FRE	112	Elementary French II	_____

Social Sciences (21 hours/7 courses)

POL	120	American Government	_____
POL	210	Comparative Government	_____
POL	220	International Relations	_____
PSY	150	General Psychology	_____
SOC	210	Introduction to Sociology	_____

Choose one of the following:

HIS	111	World Civilization I	
HIS	121	Western Civilization I	_____

Choose one of the following:

HIS	112	World Civilization II	
HIS	122	Western Civilization II	_____

Mathematics (7 hours/2 courses)

CIS	110	Introduction to Computers	_____
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Choose one of the following:

- MAT 140 Survey of Mathematics _____
- MAT 161 College Algebra
and MAT 161A College Algebra Lab _____
- MAT 171 Precalculus Algebra
and MAT 171A Precalculus Algebra Lab _____

Natural Sciences (8 hours/2 courses)

- - Science core course w/lab _____
- - Science core course w/lab _____

Physical Education (2 hours/ 1 course)

- PED 110 Fit and Well for Life _____

Other Courses (9 hours/ 3 courses)

- GEO 111 World Regional Geography _____
- ECO 251 Principles of Microeconomics _____
- ECO 252 Principles of Macroeconomics _____

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in arts degree, students who meet the requirements outlined in this pre-major articulation agreement for Political Science will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree: ASU, ECU, ECSU, FSU, NCA&T, NCCU, NCSU, UNC-A, UNC-CH, UNC-C, UNC-G, UNC-P, UNC-W, WCU, WSSU.

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in Political Science.

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

College Transfer - Pre-Major Psychology

A 10 10 L

Associate in Arts degree, Jamestown, day and evening; Greensboro, day and evening

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program of study is designed for students who intend to pursue a Bachelor of Arts degree in Psychology. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions in North Carolina. Graduates will be eligible for admission with junior class standing in B.A. degree programs at these institutions. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Curriculum:

**Pre-Major Psychology - Associate in Arts degree,
Jamestown, day and evening / Greensboro, day and evening
Advising Code: A 1010 L**

Prefix	Course Number	Course Title	Semester Completed
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English Composition (6 hours/2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (12 hours/4 courses from 3 different disciplines)

-	-	Literature core course required	_____
-	-	Humanities/Fine Arts core course	_____
-	-	Humanities/Fine Arts core course	_____

Choose one of the following:

COM	110	Intro to Communication	_____
COM	120	Intro to Interpersonal Communication	_____
COM	231	Public Speaking	_____

Social Sciences (15 hours/5 courses)

SOC	210	Introduction to Sociology	_____
PSY	150	General Psychology	_____
PSY	241	Developmental Psychology	_____

Choose one of the following:

HIS	111	World Civilization I	_____
HIS	121	Western Civilization I	_____

Choose one of the following:

HIS	112	World Civilization II	_____
HIS	122	Western Civilization II	_____

Mathematics (8 hours/2 courses)

Choose one of the following:

MAT 151 Statistics I (Required at transferring institution)
and MAT 151A Statistics I Lab

Choose one of the following:

MAT	161	College Algebra and MAT 161A College Algebra Lab	_____
MAT	171	Precalculus Algebra and MAT 171A Precalculus Algebra Lab	_____

Natural Sciences (8 hours/2 courses)

– – Science Core Course _____

Choose one of the following:

BIO 110 Principles of Biology _____

BIO 111 General Biology _____
(Required at transferring institution)

Physical Education (2 hours/1 course)

PED 110 Fit and Well for Life _____

Additional Transfer Electives (13 hours)

– – College Transfer Elective* _____

– – College Transfer Elective** _____

– – College Transfer Elective** _____

– – College Transfer Elective _____

– – College Transfer Elective _____

*PSY 239 Psychology of Personality or PSY 281 Abnormal Psychology is recommended.

** SPA 111 Elementary Spanish I and SPA 112 Elementary Spanish II is recommended for two of the electives.

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the Associates in Arts degree graduates will be eligible to be considered for admissions as juniors to the universities offering the baccalaureate degree: ASU, ECU, ECSU, FSU, NCA&T, NCCU, NCSU, UNC-A, UNC-CH, UNC-C, UNC-G, UNC-P, UNC-W, WCU, WSSU.

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in Psychology.

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

College Transfer - Pre-Major Social Science Secondary Education

A 10 10 M

Associate in Arts degree, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program of study is designed for students who intend to pursue a Bachelor of Arts degree in Social Science Secondary Education. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions in North Carolina. Graduates will be eligible for admission with junior class standing in B.A. degree programs at these institutions. Admission is competitive at many colleges and GPA requirements vary. Admission to teacher licensure programs requires satisfactory scores on PRAXIS I and II. Students should consult with the four-year college they plan to attend for further information on program admission requirements. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Curriculum:

**Pre-Major Social Science Secondary Education - Associate in Arts degree, Jamestown, day
Advising Code: A 1010 M**

Prefix	Course Number	Course Title	Semester Completed
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English Composition (6 hours/ 2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (12 hours/4 courses from 3 different disciplines)

COM	231	Public Speaking	_____
-	-	Literature core course required	_____
-	-	Humanities/Fine Arts core course	_____
-	-	Humanities/Fine Arts core course	_____

Social Sciences (12 hours/4 courses)

PSY	150	General Psychology	_____
SOC	210	Introduction to Sociology	_____

Choose one sequence:

HIS	111	World Civilization I <u>and</u>	
HIS	112	World Civilization II	_____
HIS	121	Western Civilization I <u>and</u>	
HIS	122	Western Civilization II	_____

Mathematics (7 hours/ 2 courses)

Choose one of the following:

MAT 151 Statistics I (Required at transferring institution)
and MAT 151A Statistics I Lab

Choose one of the following:

MAT 161 College Algebra
and MAT 161A College Algebra Lab
MAT 140 Survey of Mathematics

Natural Sciences (8 hours/2 courses)

- - Science core course w/lab
- - Science core course w/lab

Other Courses (18 hours/ 6 courses)

HIS 131 American History I
HIS 132 American History II
ECO 251 Principles of Microeconomics
ECO 252 Principles of Macroeconomics
POL 120 American Government
GEO 111 World Regional Geography

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in arts degree, students who meet the requirements outlined in this pre-major articulation agreement for Social Science Secondary Education will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree: ASU, FSU, NCSU, UNC-CH, WCU.

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in Social Science Secondary Education. Admission to teacher licensure programs requires satisfactory scores on PRAXIS I and II.

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

College Transfer - Pre-Major Social Work

A 10 10 Q

Associate in Arts degree, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 from High Point

This program is designed for students who intend to pursue a Bachelor of Arts or Bachelor of Science degree in social work or related fields of study. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions which offer degrees in social work. Individual institutions may have additional requirements for admission into the major department and graduates should expect to have a GPA of 2.5 or higher to meet admission requirements. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Curriculum:

Pre-Major Social Work - Associate in Arts degree, Jamestown, day
Advising Code: A 1010 Q

Prefix	Course Number	Course Title	Semester Completed
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English Composition (6 hours/2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (12 hours/4 courses)

—	—	Literature core course	_____
SPA	111	Elementary Spanish I	_____
SPA	112	Elementary Spanish II	_____

Choose one of the following:

COM	110	Intro to Communication	_____
COM	120	Intro to Interpersonal Communication	_____
COM	231	Public Speaking	_____

Social Sciences (30 hours/10 courses)

ANT	210	General Anthropology	_____
ECO	251	Principles of Microeconomics	_____
POL	120	American Government	_____
PSY	150	General Psychology	_____
PSY	241	Developmental Psychology	_____
PSY	281	Abnormal Psychology	_____
SOC	210	Introduction to Sociology	_____

Choose one of the following:

ECO	252	Principles of Macroeconomics	_____
HIS	132	American History	_____

Choose one of the following:

HIS	111	World Civilization I	_____
HIS	121	Western Civilization I	_____

Choose one of the following:

HIS	112	World Civilization II	_____
HIS	122	Western Civilization II	_____

Mathematics (7 hours/2 courses)

Choose one of the following:

- MAT 151 Statistics I (Required at transferring institution)
and MAT 151A Statistics I Lab
- CIS 110 Introduction to Computers

Choose one of the following:

- MAT 161 College Algebra
and MAT 161A College Algebra Lab
- MAT 171 Precalculus Algebra
and MAT 171A Precalculus Algebra Lab

Natural Sciences (8 hours/2 courses)

- – Science Core Course*

Choose one of the following:

- BIO 110 Principles of Biology
- BIO 111 General Biology I

**BIO 112 General Biology is recommended if BIO 111 was taken.*

Physical Education (2 hours/1 course)

- PED 110 Fit and Well for Life

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in arts degree, students who meet the requirements outlined in this pre-major articulation agreement for Social Work Education will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree: ASU, ECU, ECSU, FSU, NCA&T, NCCU, NCSU, UNC-A, UNC-CH, UNC-C, UNC-G, UNC-P, UNC-W, WCU, WSSU.

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

College Transfer - Pre-Major Sociology

A 10 10 N

Associate in Arts degree, Jamestown, day and evening; Greensboro, day and evening

Contact Information:

(336) 334-4822, ext. 2639 - from Greensboro • (336) 454-1126, ext. 2639 - from High Point

This program of study is designed for students who intend to pursue a Bachelor of Arts degree in Sociology. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions in North Carolina. Graduates will be eligible for admission with junior class standing in B.A. degree programs at these institutions. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Curriculum:

**Pre-Major Sociology - Associate in Arts degree,
Jamestown, day and evening / Greensboro, day and evening
Advising Code: A 1010 N**

Prefix	Course Number	Course Title	Semester Completed
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Communications (6 hours/2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (12 hours/4 courses from 3 different disciplines)

-	-	Literature core course	_____
-	-	Humanities/Fine Arts core course	_____
-	-	Humanities/Fine Arts core course	_____

Choose one of the following:

COM	110	Introduction to Communication	
COM	120	Intro to Interpersonal Communication	
COM	231	Public Speaking	_____

History (6 hours/2 courses)

Choose one of the following:

HIS	111	World Civilization I	
HIS	121	Western Civilization I	_____

Choose one of the following:

HIS	112	World Civilization II	
HIS	122	Western Civilization II	_____

Social Sciences (12 hours/4 courses)

SOC	210	Introduction to Sociology	_____
PSY	150	General Psychology	_____

Choose two of the following:

SOC	213	Sociology of the Family	
SOC	220	Social Problems	
SOC	225	Social Diversity	_____
SOC	240	Social Psychology	_____

Mathematics (8 hours/2 courses)

Choose one of the following:

MAT 151 Statistics I (Required at transferring institution)
and MAT 151A Statistics I Lab

Choose one of the following:

MAT 161 College Algebra
and MAT 161A College Algebra Lab
MAT 171 Precalculus Algebra
MAT 171A Precalculus Algebra Lab

Natural Sciences (8 hours/2 courses)

- - Science Core Course
- - Science Core Course

Physical Education (2 hours/1 course)

PED 110 Fit and Well for Life

Additional Transfer Electives (10 hours)

- - College Transfer Elective*
- - College Transfer Elective**
- - College Transfer Elective**
- - College Transfer Elective

* Other SOC (Sociology) courses are recommended.

** SPA 111 Elementary Spanish I and SPA 112 Elementary Spanish II are recommended for two of the above electives.

Total credit hours to graduate: 64-65 hours **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in arts degree, students who meet the requirements outlined in this pre-major articulation agreement for Sociology will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree: ASU, ECU, ECSU, FSU, NCA&T, NCCU, NCSU, UNC-A, UNC-CH, UNC-C, UNC-G, UNC-P, UNC-W, WCU, WSSU.

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in Sociology.

Cooperative Education

You may receive one credit hour of elective academic credit for your participation in Cooperative Education for career exploration. However, this credit will not apply toward the number of credits needed for graduation.

College Transfer - Pre-Major Special Education

A 10 10 Z

Associate in Arts degree, Jamestown, day and evening

Contact Information: Teacher Education Academy

(336) 334-4822, ext. 2789 - from Greensboro • (336) 454-1126, ext. 2789 - from High Point

This program is designed for students who intend to pursue a Bachelor of Arts or Bachelor of Science degree in middle grades education, special education, or related fields of study. Students who complete this program will meet freshman and sophomore requirements at most public and private four-year institutions which offer degrees in teacher education. Individual institutions do have additional requirements for admission into the major department. Graduates must have a GPA of 2.5 or higher and pass the PRAXIS I exam to meet admission requirements to any teacher education program. **Note: The grade of "D" in any course invalidates the transfer agreement.**

Note: Special Education pre-majors transferring to a public university must declare a second academic concentration from a list of approved options from the transfer institution. Special Education pre-majors transferring to a private college/university will need to meet the special requirements for those institutions.

GTCC's Teacher Education Coordinator will assist you with selecting your core courses and your second academic (special education) concentration courses to fill the additional 12 hours / 4 courses listed at the bottom of your program course guide and to meet the requirements at the senior/transfer institution.

Curriculum:

Pre-Major Special Education - Associate in Arts degree, Jamestown, day
Advising Code: A 1010 Z

Prefix	Course Number	Course Title	Semester Completed
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Core Requirements (Consider intended transfer institution when selecting options.)

English Composition (6 hours/2 courses)

ENG	111	Expository Writing	_____
ENG	112	Argument-Based Research	_____

Humanities/Fine Arts (12 hours/4 courses)

COM	231	Public Speaking	_____
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****Choose one of the following:***

ENG	131	Introduction to Literature**	_____
ENG	231	American Literature I	_____
ENG	232	American Literature II	_____

**recommended

****Choose one of the following:***

MUS	110	Music Appreciation	_____
ART	111	Art Appreciation	_____
ART	114	Art History Survey I	_____
ART	115	Art History Survey II	_____

Humanities/Fine Arts (12 hours/4 courses)

****Choose one of the following:***

- HUM 115 Critical Thinking _____
- REL 110 World Religions _____
- REL 211 Introduction to Old Testament _____
- REL 212 Introduction to New Testament _____
- PHI 210 History of Philosophy _____
- PHI 240 Introduction to Ethics _____

Social Sciences (15 hours/5 courses)

- PSY 150 General Psychology _____
- PSY 241 Developmental Psychology _____

****Choose one of the following:***

- SOC 210 Introduction to Sociology _____
- SOC 225 Social Diversity _____

****Choose one of the following:***

- HIS 121 Western Civilization I _____
- HIS 122 Western Civilization II _____
- HIS 111 World Civilization I _____
- HIS 112 World Civilization II _____

****Choose one of the following:***

- HIS 131 American History I _____
- HIS 132 American History II _____

Mathematics (7 hours/2 courses)

- MAT 140 Survey of Mathematics _____
- MAT 161 College Algebra _____
and MAT 161A College Algebra Lab _____

Natural Sciences (8 hours/2 courses)

****Choose one of the following:***

- BIO 110 Principles of Biology _____
- BIO 111 General Biology _____

****Choose one of the following sets:***

- CHM 131 Introduction to Chemistry and _____
- CHM 131A Introduction to Chemistry Lab _____

- PHY 110 Conceptual Physics and _____
- PHY 110A Conceptual Physics Lab _____

Physical Education (2 hours/1 or 2 course[s])

- — PED Activity Course and _____
- — PED Activity Course _____

Education Course (4 hours / 1 course)

- EDU 216 Foundations of Education _____

Additional courses (11 hours / 4 courses):

Additional hours for concentration and/or requirements at transfer institution: To select these additional courses, program planning to meet your needs is required. See GTCC's Teacher Education Coordinator, ext. 2789, for program planning and appropriate course options.

Course 1: _____

Course 2: _____

Course 3: _____

Course 4: _____

Special Education Pre-major Program students may want to take advantage of the Greater Greensboro Consortium Agreement. All consortium policies will be followed.

Total credit hours to graduate: 64-65 hours. **This curriculum is subject to change.**

Application to a University

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate in arts degree, students who meet the requirements outlined in this pre-major articulation agreement for Special or Middle Grades Education will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree as listed at www.northcarolina.edu/content.php/aa/planning/traditional/htm. Students are encouraged to contact the senior institution to confirm degree offerings.

Students must meet any transfer institution foreign language requirements, if any.

Admission to the Major

Grade point average requirements vary and admission is competitive across the several programs in Special or Middle Grades Education. Minimum statewide requirements are:

1. Minimum 2.5 GPA on a 4.0 scale.
2. Satisfactory passing scores as established by the State Board of Education on Praxis I PPST-Reading; PPST-Writing; PPST-Math.

Collision Repair & Refinishing Technology

D 60 13 0

Diploma, Jamestown, day and evening
Certificate, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2258 - from Greensboro • (336) 454-1126, ext. 2258 - from High Point

The Autobody Repair curriculum provides training in the use of equipment and materials of the autobody repair trade. The student studies the construction of the automobile body and techniques for autobody repairing, and refinishing.

Course work will include autobody fundamentals, industry overview, and safety. Students will perform structural and non-structural repairs using mig welding, plastics and adhesives, and a variety of paints and finishes.

Graduates should qualify for a certificate or diploma in Autobody Repair and be able to seek entry-level employment in the automotive body and refinishing industry. Persons completing this curriculum may find employment with franchised independent garages, dealerships, race teams, truck companies, glass shops, boat shops, or may seek self-employment.

Program Outcomes:

Upon successful completion of the Autobody Repair Diploma program, the graduate should be able to:

- perform structural analysis and damage repair;
- paint or refinish vehicles or vehicle components;
- read and write estimates;
- diagnose and service mechanical and electrical components;
- repair or replace plastics and adhesives.

Curriculum:

Collision Repair and Refinish Technology - Diploma, Jamestown, day and evening
Advising Code: D 60130

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I*

AUB	111	Painting and Refinishing I**	2	6	0	4
AUB	121	Non-Structural Damage I	1	4	0	3
AUB	131	Structural Damage I	2	4	0	4
AUB	134	Autobody MIG Welding	1	4	0	3
ENG	102	Applied Communications II	3	0	0	3
Total			9	18	0	17

*Completion of first semester fulfills requirements for certificate.

**AUB 121 Non-Structural Damage I is a Co-requisite for AUB 111 Painting and Refinishing, AUB 122 Non-Structural Damage II, and AUB 136 Plastics and Adhesives.

Spring Semester I

AUB	112	Painting and Refinishing II	2	6	0	4
AUB	122	Non-Structural Damage II	2	6	0	4
MAT	101	Applied Mathematics I	2	2	0	3
AUB	136	Plastics and Adhesives	1	4	0	3
*AUB	162	Autobody Estimating	1	2	0	2
Total			8	20	0	16

Summer Term I

AUB	114	Special Finishes	1	2	0	2
AUB	132	Structural Damage II	2	6	0	4
AUB	141	Mechanical and Electrical Components I	2	2	0	3
Total			5	10	0	9

Total credit hours required for diploma: 42 **This curriculum is subject to change.**

* COE 112 or (COE 111 and COE 121) may be substituted for AUB 162 with instructor approval.

Curriculum:

Collision Repair and Refinish Technology- Certificate – Fall Semester only, Jamestown day and evening

Advising Code: D 60130 C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

AUB	111	Painting and Refinishing I	2	6	0	4
AUB	121	Non-Structural Damage I	1	4	0	3
AUB	131	Structural Damage I	2	4	0	4
AUB	134	Autobody MIG Welding	1	4	0	3
Total			6	18	0	14

Total credit hours required for certificate: 14 **This curriculum is subject to change.**

Computer Information Technology

A 25 26 0

Associate in Applied Science, Jamestown, day
Associate in Applied Science, online*
Certificate, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2263 - from Greensboro • (336) 454-1126, ext. 2263 - from High Point

The Computer Information Technology curriculum is designed to prepare graduates for employment with organizations that use computers to process, manage, and communicate information. This is a flexible curriculum that can be customized to meet community information systems needs.

Course work will develop a student's ability to communicate complex technical issues related to computer hardware, software, and networks in a manner that computer users can understand. Classes cover computer operations and terminology, operating systems, database, networking, security, and technical support.

Graduates should qualify for employment in entry-level positions with businesses, educational systems, and governmental agencies which rely on computer systems to manage information. Graduates should be prepared to sit for industry-recognized certification exams.

*** This degree is also offered completely online. For additional information on this format please contact our Online Program Degree Coordinator at extension 2492.**

Program Outcomes:

Upon completion, students should be able to:

- Analyze the technical needs of end-users
- Use appropriate application software to fulfill business requirements
- Design a program to meet end-user specifications
- Code a program to meet end-user specifications
- Develop a relational database
- Assess various network topologies
- Identify basic security threats
- Design a website using industry standard tools
- Explain the difference between various common operating systems
- Examine various hardware components and their purpose.

Curriculum:

Computer Information Technology - Associate in Applied Science, Jamestown, day
Advising Code: A25260

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
ACA	111	College Student Success or	1	0	0	1
ACA	112	Intro to Distance Learning	(0)	(2)	(0)	(1)
CIS	110	Introduction to Computers	2	2	0	3
ENG	111	Expository Writing	3	0	0	3
CTS	115	Info Sys Bus Concepts	3	0	0	3
NET	110	Networking Concepts	2	2	0	3
COM	120	Intro to Interpersonal Comm	3	0	0	3
Total			14	4(6)	0	16

Spring Semester I

CTS	120	Hardware/Software Support	2	3	0	3
ENG	114	Professional Research and Reporting	3	0	0	3
NOS	110	Operating System Concepts	2	3	0	3
WEB	110	Internet/Web Fundamentals	2	2	0	3
–	–	Humanities / Fine Arts	3	0	0	3
Total			12	8	0	15

Summer Term I

DBA	110	Database Concepts	2	3	0	3
CIS	115	Intro to Programming & Logic	2	3	0	3
Total			4	6	0	6

Fall Semester II

CTS	210	Computer Ethics	3	0	0	3
CTS	285	Systems Analysis & Design	3	0	0	3
MAT	140	Survey of Mathematics	3	0	0	3
NOS	130	Windows Single User	2	2	0	3
SEC	110	Security Concepts	3	0	0	3
–	–	Technical Elective	2	2	0	3
Total			16	4	0	18

Spring Semester II

CTS	289	System Support Project	1	4	0	3
NOS	230	Windows Admin I	2	2	0	3
–	–	Technical Elective	2	2	0	3
–	–	Technical Elective	2	2	0	3
–	–	Social / Behavior Science	3	0	0	3
Total			10	10	0	15

Total credit hours required for degree: 70. **This curriculum is subject to change.**

Technical Electives: CCT 250, CCT 251, CSC 139, CSC 151, CTS 130, CTS 287, DBA 115, DBA 120, NOS 120, NOS 220, NOS 231, SEC 150 and SEC 160

Gateway Courses: CTS 120 and NET 110. A minimum grade of C required in both.

Curriculum: Computer Information Technology – Basic Certificate, Jamestown
Advising Code: A25260 C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
CIS	110	Introduction to Computers	2	2	0	3
CTS	120	Hardware/Software Support	2	3	0	3
NET	110	Networking Concepts	2	2	0	3
NOS	110	Operating System Concepts	2	3	0	3
Total			8	10	0	12

Total credit hours required for certificate: 12. **This curriculum is subject to change.**

Curriculum:**Operating Systems Certificate, Jamestown
Advising Code: A25260 C3**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Courses						
CIS	110	Introduction to Computers	2	2	0	3
NOS	110	Operating System Concepts	2	3	0	3
NOS	120	Linux/Unix Single User	2	2	0	3
NOS	130	Windows Single User	2	2	0	3
Total			8	10	0	12

Total credit hours required for certificate: 12. **This curriculum is subject to change.**

Computer-Integrated Machining

A 50 21 0

Associate in Applied Science, Greensboro, day
Diploma, Greensboro, day
Certificate, Greensboro, day and evening

Contact Information:

(336) 334-4822, ext. 4430 - from Greensboro • (336) 454-1126, ext. 4430 - from High Point

The Computer-Integrated Machining curriculum prepares students with the analytical, creative and innovative skills necessary to take a production idea from an initial concept through design, development and production, resulting in a finished product.

Coursework may include manual machining, computer applications, engineering design, computer-aided drafting (CAD), computer-aided machining (CAM), blueprint interpretation, advanced computerized numeric control (CNC) equipment, basic and advanced machining operations, precision measurement and high-speed multi-axis machining.

Graduates should qualify for employment as machining technicians in high-tech manufacturing, rapid-prototyping and rapid-manufacturing industries, specialty machine shops, fabrication industries, and high-tech or emerging industries such as aerospace, aviation, medical, and renewable energy, and to sit for machining certification examinations.

Program Outcomes:

Upon successful completion of the Machining Technology program, the graduate should be able to:

- act as a CNC parts programmer and a CNC machine set-up operator;
- operate milling machine, bench grinders, power saws, lathes, drill press, and surface grinders;
- interpret drawings to develop CAD/CAM and CNC programs;
- develop and produce rapid prototyping models;
- perform quality control operations to industry standards;

Curriculum:

Computer-Integrated Machining - Associate in Applied Science, Greensboro, day
Advising Code: A 5030 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
CIS	070	Fundamental of Computing or	0	2	0	1
ACA	111	College Student Success	(1)	(0)	(0)	(1)
BPR	111	Blueprint Reading	1	2	0	2
COM	120	Intro to Interpersonal Comm	3	0	0	3
DFT	119	Basic CAD	1	2	0	2
MAC	111	Machining Technology I	2	12	0	6
MAC	114	Introduction to Metrology	2	0	0	2
MAC	121	Introduction to CNC	2	0	0	2
MAC	151	Machining Calculation	1	2	0	2
Total			13	20	0	20

Spring Semester I

MAC	112	Machining Technology II	2	12	0	6
MAC	122	CNC Turning	1	3	0	2
MAC	124	CNC Milling	1	3	0	2
BPR	121	Blueprint Reading: Mechanical	1	2	0	2
MEC	110	Introduction to CAD/CAM	1	2	2	2
ENG	111	Expository Writing	3	0	0	3
Total			9	22	0	17

Summer Term I

MAC	113	Machining Technology III	2	12	0	6
Total			2	12	0	6

Fall Semester II

–	–	Social Science Elective	3	0	0	3
MAT	120	Geometry & Trigonometry or	2	2	0	3
MAT	121	Algebra/Trigonometry	(2)	(2)	(0)	(3)
MEC	231	CAM I	1	4	0	3
MAC	222	Advanced CNC Turning	1	3	0	2
–	–	Humanities/Fine Arts Elective	3	0	0	3
Total			10	9	0	14

Spring Semester II

MAC	248	Production Procedures	1	2	0	2
–	–	Technical Elective*	2	0	0	2
ENG	114	Professional Research and Reporting	3	0	0	3
MEC	232	CAM II	1	4	0	3
MAC	224	Advanced CNC Milling	1	3	0	2
Total			8	9	0	12

***Technical Electives**

COE	112	Co-op Work Experience I	0	0	20	2
ISC	112	Industrial Safety	2	0	0	2
MAC	115	Grinding Operations	2	2	0	3
MAC	152	Advanced Machining Calculations	1	2	0	2
MAC	214	Machining Technology IV	2	12	0	6
MAC	229	CNC Programming	2	0	0	2
MEC	142	Physical Metallurgy	1	2	0	2
WLD	112	Basic Welding Processes	1	3	0	2

Total credit hours required for degree: 69 **This curriculum is subject to change.**

Curriculum:

**Machinist - Diploma, Greensboro, day
Advising Code: A 5030 0 D1**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
BPR	111	Blueprint Reading	1	2	0	2
COM	120	Intro to Interpersonal Communication	3	0	0	3
MAC	111	Machining Technology I	2	12	0	6
MAC	114	Introduction to Metrology	2	0	0	2
MAC	121	Introduction to CNC or	2	0	0	2
DFT	119	Basic Cad	(1)	(2)	(0)	(2)
MAC	151	Machining Calculation	1	2	0	2
Total			10 (11)	14(16)	0	17

Spring Semester I

MAC	112	Machining Technology II	2	12	0	6
MAC	122	CNC Turning	1	3	0	2
MAC	124	CNC Milling	1	3	0	2
BPR	121	Blueprint Reading: Mechanical	1	2	0	2
MAT	120	Geometry & Trigonometry	2	2	0	3
Total			7	22	0	15

Summer Term I

MAC	113	Machining Technology III	2	12	0	6
MAC	115	Grinding Operations	2	2	0	3
Total			4	14	0	9

Total credit hours required for degree: 42 **This curriculum is subject to change.**

Curriculum:

**Basic Conventional Machining - Certificate, Greensboro, day and evening
Advising Code: A 5030 0 C1**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I (Evening)						
MAC	111A	Machining Technology I-A	1	6	0	3
BPR	111	Blueprint Reading	1	2	0	2
MAC	114	Introduction to Metrology	2	0	0	2
Total			4	8	0	7

Spring Semester I (Evening)

MAC	111B	Machining Technology I-B	1	6	0	3
MAC	151	Machining Calculations	1	2	0	2
MAC	121	Introduction to CNC or	2	0	0	2
DFT	119	Basic CAD	(1)	(2)	(0)	(2)
Total			3(4)	8(10)	0	7

Total credit hours required for certificate: 14 **This curriculum is subject to change.**

Curriculum:**Intermediate Conventional Machining - Certificate, Greensboro, day
Advising Code: A 5030 0 C2**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
MAC	112	Machining Technology II	2	12	0	6
Total			2	12	0	6
Spring Semester I						
MAC	113	Machining Technology III	2	12	0	6
Total			2	12	0	6
Summer Semester I						

Total credit hours required for certificate: 12 **This curriculum is subject to change.**

Curriculum:**CNC Set-Up - Certificate, Greensboro, day and evening
Advising Code: A 5030 0 C3**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Spring Semester I (Evening)						
MAC (2)	121	Introduction to CNC	2	0	0	2
MAC	122	CNC Turning	1	3	0	2
MAC	124	CNC Milling	1	3	0	2
MAC	151	Machining Calculations	1	2	0	2
Total			5	8	0	8
Fall Semester I (Evening)						
MAC	229	CNC Programming	2	0	0	2
MAC	248	Production Procedures	1	2	0	2
DFT	119	Basic CAD or	1	2	0	2
BPR	121	Blueprint Reading: Mechanical	(1)	(2)	(0)	(2)
BPR (1)	221	Interpretation of GD&T or	2	0	0	2
MEC	110	Introduction to CAD/CAM	(1)	(2)	(2)	(2)
Total			5(6)	6(7)	0(2)	8

Total credit hours required for certificate: 16 **This curriculum is subject to change.**

(1) Requires BPR 121 as a pre-requisite.

(2) Students who have not meet the pre-requisites of BPR 111 and either MAC 111 or MEC 111 (or equivalent) for the CNC Certificate program may take BPR 111 and MEC 111 in the Fall Semester.

Curriculum:**CNC Operator - Certificate, Greensboro, day and evening**
Advising Code: A 5030 0 C4

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
BPR	111	Blueprint Reading	1	2	0	2
MAC (1)	111	Machining Technology I	2	12	0	6
MAC	114	Introduction to Metrology	2	0	0	2
MAC	121	Introduction to CNC	2	0	0	2
MAC	122	CNC Turning	1	3	0	2
MAC	124	CNC Milling	1	3	0	2
DFT	119	Basic CAD	1	2	0	2
Total			10	22	0	18

Total credit hours required for certificate: 18 **This curriculum is subject to change.**

(1) Students may substitute MEC 111 for MAC 111.

Computer Programming

A 25 13 0

Associate in Applied Science, Jamestown, day
Associate in Applied Science, online*

Contact Information:

(336) 334-4822, ext. 2263 - from Greensboro • (336) 454-1126, ext. 2263 - from High Point

* This degree is also offered completely online. For additional information on this format please contact our Online Program Degree Coordinator at extension 2492.

The Computer Programming curriculum prepares individuals for employment as computer programmers and related positions through study and applications in computer concepts, logic, programming procedures, languages, generators, operating systems, networking, data management, and business operations.

Students will solve business computer problems through programming techniques and procedures, using appropriate languages and software. The primary emphasis of the curriculum is hands-on training in programming and related computer areas that provide the ability to adapt as systems evolve.

Graduates should qualify for employment in business, industry, and government organizations as programmers, programmer trainees, programmer/analysts, computer operators, systems technicians, or database specialists.

Program Outcomes:

Upon completion, students should be able to:

- Analyze the technical needs of end-users
- Analyze a problem using the Software Development Life Cycle
- Design a program to meet end-user specifications
- Code a program to meet end-user specifications
- Develop a program that integrates with a relational database
- Develop a program that incorporates Object-Oriented programming methodologies
- Develop a programming solution within a 3-tier architecture
- Identify inefficiencies in programming practices
- Select an appropriate programming language to most effectively meet project requirements
- Examine emerging technologies within the industry.

Curriculum:

Computer Programming - Associate in Applied Science, Jamestown, day
Advising Code: A25130

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

ACA	111	College Student Success or	1	0	0	1
ACA	112	Intro to Distance Learning	(0)	(2)	(0)	(1)
CIS	110	Introduction to Computers	2	2	0	3
CIS	115	Intro to Prog & Logic	2	3	0	3
MAT	140	Survey of Mathematics	3	0	0	3
NOS	110	Operating System Concepts	2	3	0	3
ENG	111	Expository Writing	3	0	0	3
Total			13	7	0	16

Spring Semester I

CSC	139	Visual BASIC Prog	2	3	0	3
ENG	114	Professional Research and Reporting	3	0	0	3
CTS	115	Info Sys Bus Concepts	3	0	0	3
NET	110	Networking Concepts	2	2	0	3
WEB	180	Active Server Pages	2	3	0	3
–	–	Technical Elective	3	0	0	3
Total			14	12	0	18

Summer Term I

DBA	110	Database Concepts	2	3	0	3
SEC	110	Security Concepts	3	0	0	3
Total			5	3	0	6

Fall Semester II

CSC	239	Adv Visual BASIC Prog	2	3	0	3
CSC	151	JAVA Programming	2	3	0	3
COM	120	Intro to Interpersonal Communication	3	0	0	3
CTS	285	Systems Analysis & Design	3	0	0	3
NOS	120	Linux/UNIX Single User	3	0	0	3
–	–	Social / Behavior Science	3	0	0	3
Total			16	6	0	18

Spring Semester II

CSC	289	Programming Capstone Project	1	4	0	3
DBA	120	Database Programming I	2	2	0	3
CSC	251	Adv JAVA Programming	2	3	0	3
–	–	Technical Elective	3	0	0	3
–	–	Humanities / Fine Arts	3	0	0	3
Total			11	9	0	15

Total credit hours required for degree: 73. **This curriculum is subject to change.**

Technical Electives: CSC 134, CSC 153, CSC 234, CSC 253, CSC 258, DBA 115, NOS 130.

Gateway Courses: CIS 115 and CSC 139. A minimum grade of C required in both.

Computer Technology Integration

Database Management Concentration

Pending NCCCS Approval

A 25 50 0-D1

Associate in Applied Science, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2263 - from Greensboro • (336) 454-1126, ext. 2263 - from High Point

Curriculum: Computer Technology Integration - Associate in Applied Science, Jamestown, day
 Database Management Concentration
 Advising Code: A 25 50 0-D1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
CIS	110	Introduction to Computers	2	2	0	3
DBA	110	Database Concepts	2	3	0	3
CTI	110	Web, Pgm, and Db Foundation	2	2	0	3
CTI	120	Network & Sec Foundation	2	2	0	3
WEB	110	Internet/Web Fundamentals	2	2	0	3
Total			10	11	0	15
Spring Semester I						
CIS	115	Intro to Programming & Logic	2	3	0	3
CIS	155	Database Theory/Analysis	2	2	0	3
CTS	115	Info Sys Bus Concepts	3	0	0	3
NOS	110	Operating System Concepts	2	3	0	3
WEB	140	Web Development Tools	2	2	0	3
Total			11	10	0	15
Summer Term I						
ENG	111	Expository Writing	3	0	0	3
-	-	Humanities / Fine Arts	3	0	0	3
-	-	Social / Behavior Science	3	0	0	9
Fall Semester II						
DBA	120	Database Programming I	2	2	0	3
DBA	210	Database Administration	2	3	0	3
ENG	114	Professional Research and Reporting	3	0	0	3
MAT	140	Survey of Mathematics	3	0	0	3
WEB	250	Database Driven Websites	2	2	0	3
Total			12	7	0	15
Spring Semester II						
COM	120	Intro to Interpersonal Comm	3	0	0	3
CTS	120	Hardware/Software Support	2	3	0	3
DBA	230	Databases in Corp Environs	3	0	0	3
DBA	240	Database Analysis/Design	2	3	0	3
-	-	Technical Elective	2	2(3)	0	3
Total			12	8(9)	0	15

Total credit hours required for degree: 69. **This curriculum is subject to change.**

Technical Electives: CSC 139, CSC 151, CSC 153, NET 110, NOS 120, NOS 130

Technical / Non-Transfer Degree

Construction Management Technology

A 3519 0

Construction Management Technology, Associate in Applied Science, Greensboro, evening
 Diploma, Greensboro, evening
 Construction Estimation Certificate, Greensboro, evening
 Construction Supervision Certificate, Greensboro, Evening

Contact Information:

(336) 334-4822, ext. 4432 - from Greensboro • (336) 454-1126, ext. 4432 - from High Point

This curriculum is designed to prepare individuals for careers in the construction management field. Such positions may include project manager, superintendent, estimator, or foreman.

Course work includes safety, planning, scheduling, cost control, productivity, human relations, estimating, and building codes. Students will also gain proficiency in specific construction related skills.

Graduates should qualify for entry-level positions in the field of construction management.

**Curriculum: Construction Management Technology - Associate in Applied Science, evening
 Advising Code: A 3519 0**

Technical / Non-Transfer Degree

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
-	-	Specialization Elective(s)	2	0-9	0	2-3
-	-	Humanities/Fine Arts Elective	3	0	0	3
Total			5	0-9	0	5-6
Spring Semester I						
-	-	Specialization Elective(s)	--	---	---	2-3
-	-	Social Science Elective	3	0	0	3
Total			---	---	---	5-6
Summer Term I						
-	-	Specialization Elective(s)	--	---	---	2-4
Total			---	---	---	2-4
Fall Semester II						
-	-	Specialization Elective(s)	---	---	---	2-3
ENG	111	Expository Writing	3	0	0	3
Total			---	---	---	5-6
Spring Semester II						
-	-	Specialization Elective(s)	---	---	---	3-4
BPR	130	Blueprint Reading/Construction	1	2	0	2
ENG	114	Prof. Research and Reporting	3	0	0	3
Total			---	---	---	8-9
Summer Term II						
CAR	115	Residential Planning/Estimating <u>or</u>	3	0	0	3
PLU	160	Plumbing Estimating	(1)	(2)	(0)	(2)
Total			1-3	0-2	0	2-3
Fall Semester III						
CMT	210	Professional Construction Supervision	3	0	0	3
SPA	120	Spanish for the Workplace	3	0	0	3
ARC	112	Construction Materials and Methods	3	2	0	4
CIS	110	Introduction to Computers <u>or</u>	2	2	0	3
CIS	111	Basic PC Literacy	(1)	(2)	(0)	(2)
Total			10-11	4	0	12-13

Spring Semester III

CMT	212	Total Safety Performance	3	0	0	3
COM	120	Intro to Interpersonal Comm	3	0	0	3
ACC	115	College Accounting or	3	2	0	4
ACC	120	Principles of Financial Accounting	(3)	(2)	(0)	(4)
Total			8	3	0	10

Summer Semester III

COE	111	Co-op Work Experience	0	0	10	1
Total			0	0	10	1

Fall Semester IV

CMT	214	Planning and Scheduling	3	0	0	3
CIV	230	Construction Estimating	2	3	0	3
-	-	Technical Elective (May be taken in a previous semester)	1-3	0-2	0	2-3
Total			7-10	2-4	0	8(9)

Spring Semester IV

CMT	216	Costs and Productivity	3	0	0	3
CMT	218	Human Relations Issues	3	0	0	3
MAT	110	Mathematical Measurement or	(2)	(2)	(0)	3
MAT	115	Mathematical Models or	(2)	(2)	(0)	(3)
MAT	120	Geometry and Trigonometry or	(2)	(2)	(0)	(3)
MAT	121	Algebra/Trigonometry I or	(2)	(2)	(0)	(3)
MAT	140	Survey of Mathematics	3	0	(0)	(3)
Total			8-9	0-2	0	9

Total credit hours required for degree: 67 - 76 **This curriculum is subject to change.**

Curriculum:

Construction Management Technology - Diploma, Greensboro, evening
Advising Code: A 3519 0 D1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

-	-	Specialization Elective(s)	---	---	---	1-4
Total			---	---	---	1-4

Spring Semester I

-	-	Specialization Elective(s)	---	---	---	2-4
BPR	130	Blueprint Reading/Construction	1	2	0	2
Total			---	---	---	4-6

Summer Semester I

CAR	115	Residential Planning/Estimating or	3	0	0	3
PLU	160	Plumbing Estimating	(1)	(2)	(0)	(2)
Total			1-3	0-2	0	2-3

Fall Semester II

CMT	210	Professional Construction Supervision	3	0	0	3
SPA	120	Spanish for the Workplace	3	0	0	3
CIS	110	Introduction to Computers or	2	2	0	3
CIS	111	Basic PC Literacy	(1)	(2)	(0)	(2)
Total			7-8	2	0	8-9

Spring Semester II

CMT	212	Total Safety Performance	3	0	0	3
COM	120	Intro to Interpersonal Communication	3	0	0	3
ACC	115	College Accounting or	3	2	0	4
ACC	120	Principles of Financial Accounting	(3)	(2)	(0)	(4)
Total			8	3	0	10

Summer Semester II

COE	111	Co-op Work Experience	0	0	10	1
Total			0	0	10	1

Fall Semester III

CMT	214	Planning and Scheduling	3	0	0	3
CIV	230	Construction Estimating	2	3	0	3
Total			5	3	0	6

Spring Semester III

CMT	216	Costs and Productivity	3	0	0	3
CMT	218	Human Relations Issues	3	0	0	3
MAT	110	Mathematical Measurement or	(2)	(2)	(0)	3
MAT	115	Mathematical Models or	(2)	(2)	(0)	(3)
MAT	120	Geometry and Trigonometry or	(2)	(2)	(0)	(3)
MAT	121	Algebra/Trigonometry I or	(2)	(2)	(0)	(3)
MAT	140	Survey of Mathematics	(3)	(0)	(0)	(3)
Total			8(9)	0(2)	(0)	9

Total credit hours required for diploma: 41-48

Curriculum:

Construction Management Technology - Construction Estimation Certificate, Greensboro, evening
Advising Code: A 3519 0 C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I (Evening)

ARC	112	Construction Materials and Methods	3	2	0	4
CIS	110	Intro. to Computers or	2	2	0	3
CIS	111	Basic PC Literacy	(1)	(2)	(0)	(2)
Total			2-5	4	0	6-7

Spring Semester I (Evening)

BPR	130	Blueprint Reading/Construction	1	2	0	2
Total			1	2	0	2

Summer Semester I

CAR	115	Residential Planning/Estimating or	3	0	0	3
PLU	160	Plumbing Estimating	(1)	(2)	(0)	(2)
Total			1-3	0-2	0	2-3

Fall Semester II

-	-	Technical Elective (May be taken in a previous semester)	1-3	0-2	0	3
Total			1-3	0-2	0	2-3

Spring Semester II

CIV	230	Construction Estimating	2	3	0	3
Total			2	3	0	3

Total credit hours required for certificate: 15-18

Curriculum:**Construction Management Technology - Construction Supervision Certificate, Greensboro, evening
Advising Code: A 3519 0 C2**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
CMT	210	Professional Construction Supervision	3	0	0	3
Total			3	0	0	3
Spring Semester I						
CMT	212	Total Safety Performance	3	0	0	3
BPR	130	Blueprint Reading/Construction	1	2	0	2
Total			4	2	0	5
Fall Semester II						
CMT	214	Planning and Scheduling	3	0	0	3
Total			3	0	0	3
Spring Semester II						
CMT	216	Costs and Productivity	3	0	0	3
CMT	218	Human Relations Issues	3	0	0	3
Total			6	0	0	6

Total credit hours required for certificate: 17

Technical Electives:

AHR 210, AHR 220, CAR 114, ELC 118 or PLU 140

Specialization Electives:

11-17 SHC selected from one* of the following 6 areas of specialization:

- Either: 1) AHR 110, AHR 112, AHR 113, AHR 114, AHR 211, AHR 225, AHR 160
2) CAR 110, CAR 111, CAR 112, CAR 113,
3) CAR 120, CAR 125, CAR 130, CAR 135, CAR 150
4) EGR 115, CIV 125, CIV 210, CIV 240, SRV 110
5) (ELC 111 or ELC 112, not both), ELC 113, ELC 114, ELC 115, ELC 117, PLU 111
6) (WLD 112 or WLD 110, not both), WLD 115, WLD 121, WLD 131, WLD 141

* Unless approved by the department chairperson, students can select courses from only one specialty area.

Cosmetology

A 55 14 0

Associate in Applied Science, Jamestown, day
Diploma, Jamestown, day and evening
Certificate, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2395 or 2394 - from Greensboro • (336) 454-1126, ext. 2395 or 2394 - from High Point

The Cosmetology curriculum is designed to provide competency based knowledge, scientific/artistic principles and hands-on fundamentals associated with the cosmetology industry. The curriculum provides a simulated salon environment which enables students to develop manipulative skills.

Course work includes instruction in all phases of professional imaging, hair design, chemical processes, skin care, nail care, multi-cultural practices, business/computer principles, product knowledge, and other selected topics.

Graduates should qualify to sit for the State Board of Cosmetic Arts examination. Upon successfully passing the State Board exam, graduates will be issued a license. Employment is available in beauty salons, and related businesses

Cosmetology Licensing Preparation Options

To qualify to sit for the licensing exam, students may choose to complete 1,200 hours of cosmetology instruction at GTCC and then serve a six-month apprenticeship in a licensed beauty salon, or complete 1,500 clock hours of instruction at GTCC.

Veterans and eligible recipients can be certified to receive VA educational assistance benefits for only those actual cosmetology hours required to sit for the state exam. Veterans and eligible recipients must take courses that equal 1,200 or 1,500 clock hours.

Program Outcomes:

Upon successful completion of the Cosmetology program, the graduate should be able to:

- style hair according to accepted professional standards;
- perform manicures and pedicures according to accepted professional standards;
- provide skin care services according to accepted professional standards;
- restructure hair using chemical services according to accepted professional standards;
- market services and products;
- manage finances;
- provide a safe and sanitized environment.

Curriculum:

Cosmetology - Associate in Applied Science, Jamestown, day
Advising Code: A 5514 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

COS	111	Cosmetology Concepts I	4	0	0	4
COS	112	Salon I	0	24	0	8
COS	—	Elective	1	3	0	2
COS	250	Computerized Salon Operations	1	0	0	1
COM	120	Intro to Interpersonal Comm	3	0	0	3
Total			9	27	0	18

Limited Enrollment Program: Contact the Admissions Office for Program admission requirements and Program application deadlines.

Spring Semester I

COS	113	Cosmetology Concepts II	4	0	0	4
COS	114	Salon II	0	24	0	8
COS	—	Elective	1	3	0	2
—	—	Social / Behavioral Science Elective	3	0	0	3
Total			8	27	0	17

Summer Term I

COS	115	Cosmetology Concepts III	4	0	0	4
COS	116	Salon III	0	12	0	4
Total			4	12	0	8

Fall Semester II

COS	117	Cosmetology Concepts IV	2	0	0	2
COS	118	Salon IV	0	21	0	7
COS	—	Elective	1	3	0	2
ENG	111	Expository Writing	3	0	0	3
—	—	Humanities / Fine Arts Elective	3	0	0	3
Total			9	24	0	17

Spring Semester II

ENG	114	Professional Research and Reporting	3	0	0	3
MAT	110	Mathematical Measurements	2	2	0	3
COS	—	Elective	1	3	0	2
CIS	111	Basic PC Literacy	1	2	0	2
Total			7	7	0	10

Total credit hours required for degree: 70 **This curriculum is subject to change.**

COS electives can be chosen from: COS 119 Esthetics, COS 223 Contemporary Hair Coloring, COS 224 Trichology and Chemistry, COS 240 Contemporary Design, or a maximum of 9 credit hours with a BUS prefix.

Curriculum:

Cosmetology - Diploma, Jamestown, day Advising Code: A 5514 0 D1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

COM	120	Intro to Interpersonal Communication	3	0	0	3
COS	111	Cosmetology Concepts I	4	0	0	4
COS	112	Salon I	0	24	0	8
COS	—	Elective	1	3	0	2
COS	250	Computerized Salon Operations	1	0	0	1
Total			9	27	0	18

Spring Semester I

COS	113	Cosmetology Concepts II	4	0	0	4
COS	114	Salon II	0	24	0	8
—	—	General Education Elective	3	0	0	3
Total			7	27	0	15

Summer Term I

COS	115	Cosmetology Concepts III	4	0	0	4
COS	116	Salon III	0	12	0	4
Total			4	12	0	8

Total credit hours required for diploma: 41 **This curriculum is subject to change.**

Cosmetology - Diploma, Jamestown, evening
Advising Code: A 5514 0 D1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
COS	111A	Cosmetology Concepts I	2	0	0	2
COS	112A	Salon I	0	12	0	4
Total			2	12	0	6
Spring Semester I						
COS	111B	Cosmetology Concepts I	2	0	0	2
COS	112B	Salon I	0	12	0	4
Total			2	12	0	6
Summer Term I						
COS	115A	Cosmetology Concepts III	2	0	0	2
COS	116A	Salon III	0	6	0	2
Total			2	6	0	4
Fall Term II						
COS	113A	Cosmetology Concepts II	2	0	0	2
COS	114A	Salon II	0	12	0	4
COM	120	Intro to Interpersonal Comm	3	0	0	3
Total			5	12	0	9
Spring Term II						
COS	113B	Cosmetology Concepts II	2	0	0	2
COS	114B	Salon II	0	12	0	4
-	-	General Education Elective	3	0	0	3
Total			5	12	0	9
Summer Term II						
COS	115B	Cosmetology Concepts III	2	0	0	2
COS	116B	Salon III	0	6	0	2
Total			4	6	0	4
Fall Term III						
COS	250	Computerized Salon Operations	1	0	0	1
COS	118A	Salon IV	0	10.5	0	3.5
Total			1	10.5	0	4.5
Spring Term II						
COS	223	Contemporary Hair Coloring	1	3	0	2
COS	118B	Salon IV	0	10.5	0	3.5
Total			1	13.5	0	5.5

Total credit hours required for diploma: 48 **This curriculum is subject to change.**

Technical / Non-Transfer Degree

Curriculum:**Cosmetology - Certificate, Jamestown, day**
Advising Code: A 5514 0 C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

COS	111	Cosmetology Concepts I	4	0	0	4
COS	112	Salon I	0	24	0	8
Total			4	27	0	12

Spring Semester I

COS	113	Cosmetology Concepts II	4	0	0	4
COS	114	Salon II	0	24	0	8
Total			4	24	0	12

Summer Term I

COS	115	Cosmetology Concepts III	4	0	0	4
COS	116	Salon III	0	12	0	4
Total			4	12	0	8

Total credit hours required for certificate: 32 **This curriculum is subject to change.**

Criminal Justice Technology

A 55 18 0

Associate in Applied Science, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2740 - from Greensboro • (336) 454-1126, ext. 2740 - from High Point

This curriculum is designed to provide practical knowledge of criminal justice systems and operations. Study will focus on local, state and federal law enforcement, judicial processes, corrections and security services. The criminal justice system's role within society will be explored.

Emphasis is on criminal justice systems, criminology, juvenile justice, criminal and constitutional law, investigative principles, ethics and community relations. Additional study may include issues and concepts of government, counseling, communications, computers and technology.

Employment opportunities exist in a variety of local, state and federal law enforcement, corrections and security fields. Examples include police officer, deputy sheriff, county detention officer, state trooper, intensive probation/parole surveillance officer, correctional officer and retail loss prevention officer.

Special Entrance Requirements

All students entering the Criminal Justice Technology curriculum, in a part-time or full-time capacity, must meet the special requirements as indicated on the curriculum brochure by the N.C. Criminal Justice Standards and the N.C. Sheriff's Standards Divisions of the N.C. Department of Justice. Students may not be convicted of any felony or criminal offense which requires punishment of more than two years imprisonment. They cannot be convicted of any offense of moral turpitude. Examples of moral turpitude are, but are not limited to: rape, any sexual offense, indecent liberties, use, sale, or manufacture of controlled substances, or any offense which addresses public morality.

To be employed in this field, it is necessary to be a U.S. citizen.

Program Outcomes:

Upon successful completion of this program, the Criminal Justice Technology graduate should be able to:

- Explain goals, processes and organizational components of the American Justice System.
- Apply statutory and case law to various legal scenarios.
- Compare theories involving causes of adult and juvenile delinquent behavior and motivations for criminal activity.
- Demonstrate detection, investigation, and enforcement procedures.
- Analyze ethical dilemmas as they apply to victims, suspects, and the public.
- Facilitate community problem solving strategies.

Curriculum:

Criminal Justice Technology - Associate in Applied Science, Jamestown, day and evening
Advising Code: A 5518 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
ENG	111	Expository Writing	3	0	0	3
CJC	111	Introduction to Criminal Justice	3	0	0	3
CJC	112	Criminology	3	0	0	3
CJC	113	Juvenile Justice	3	0	0	3
CJC	131	Criminal Law	3	0	0	3
Total			15	0	0	15

Spring Semester I

ENG	112	Argument-Based Research or	3	0	0	3
ENG	114	Professional Research and Reporting	(3)	(0)	(0)	(3)
CJC	122	Community Policing	3	0	0	3
CJC	132	Courts and Evidence	3	0	0	3
CJC	141	Corrections	3	0	0	3
--	--	Social/Behavioral Science Elective	3	0	0	3
Total			15	0	0	15

Summer Term I

CJC	120	Interviews/interrogations	1	2	0	2
CJC	213	Substance Abuse	3	0	0	3
-	-	Criminal Justice Elective*	1-3	0-2	0	2-3
Total			5-7	0-2	0	7-8

Fall Semester II

COM	120	Intro to Interpersonal Comm or	3	0	0	3
COM	231	Public Speaking	(3)	(0)	(0)	(3)
CJC	221	Investigative Principles	3	2	0	4
CJC	231	Constitutional Law	3	0	0	3
-	-	Criminal Justice Elective*	1-3	0-2	0	2-3
-	-	Nat. Sciences/Math. Elective	3-4	0-3	0	3-5
Total			13-16	2-7	0	15-18

Spring Semester II

-	-	Humanities / Fine Arts Elective	3	0	0	3
CJC	121	Law Enforcement Operations	3	0	0	3
CJC	212	Ethics and Community Relations	3	0	0	3
CJC	214	Victimology	3	0	0	3
CJC	222	Criminalistics	3	0	0	3
Total			15	0	0	15

Criminal Justice Electives*

CJC	114	Investigative Photography	1	2	0	2
CJC	145	Crime Scene CAD	2	3	0	3
CJC	161	Introduction to Homeland Security	3	0	0	3
CJC	162	Intelligence Analysis & Sec Mgmt	3	0	0	3
CJC	163	Transportation and Border Security	3	0	0	3
CJC	211	Counseling	3	0	0	3
CJC	215	Organization & Administration	3	0	0	3
CJC	223	Organized Crime	3	0	0	3
CJC	225	Crisis Intervention	3	0	0	3
CJC	232	Civil Liability	3	0	0	3
CJC	233	Correctional Law	3	0	0	3

Total credit hours required for degree: 67-71 **This curriculum is subject to change.**

Up to four co-op credit hours may be substituted for course work with Department Chair approval.

Curriculum**Homeland Security – Certificate, Jamestown, day**
Advising Code: A 55180 C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
CJC	111	Introduction to Criminal Justice	3	0	0	3
CJC	112	Criminology	3	0	0	3
Total			6	0	0	6
Spring Semester I						
CJC	161	Intro to Homeland Security	3	0	0	0
Total			3	0	0	3
Fall Term II						
CJC	162	Intel Analysis & Sec Mgmt	3	0	0	3
CJC	231	Constitutional Law	3	0	0	3
Total			6	0	0	6
Spring Semester II						
CJC	163	Trans and Border Security	3	0	0	0
Total			3	0	0	3

Total credit hours required for Certificate: 18 This curriculum is subject to change.

Culinary Arts

A 55 20 0

Associate in Applied Science, Jamestown, day and evening
Diploma, Jamestown, day and evening
Certificate, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2949 - from Greensboro • (336) 454-1126, ext. 2949 - from High Point

The Culinary Technology curriculum provides specific training required to prepare students to assume positions as trained culinary professionals in a variety of food service settings including full service restaurants, hotels, resorts, clubs, catering operations, contract food service and health care facilities.

Course offerings emphasize practical application, a strong theoretical knowledge base, and professionalism and provides critical competencies to successfully meet industry demands. Courses also include sanitation, food/beverage service and control, baking, garde manager, American/international cuisines, food production, and hospitality supervision.

Graduates should qualify for entry-level positions such as line cook, station chef and assistant pastry chef. American Culinary Federation certification assistance is available to graduates. With experience, graduates may advance to positions such as sous-chef, executive chef or food service manager.

Program Outcomes:

Upon successful completion of the Culinary Technology program, the graduate should be able to:

- Design nutritional menus for a food service setting.
- Create hot foods using classical techniques.
- Create cold foods using classical techniques.
- Produce baked goods to include breads, cakes, pies, cookies, pastries and desserts.
- Organize a food service operation.
- Apply sanitation and safety standards in a food service operation.
- Manage inventory in a food service operation.
- Manage cost controls in a food service operation.

Curriculum:

Culinary Arts - Associate in Applied Science, Jamestown, day and evening
Advising Code: A 5520 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
CUL	110	Sanitation and Safety	2	0	0	2
CUL	110A	Sanitation and Safety Lab	0	2	0	1
CUL	135	Food and Beverage Service	2	0	0	2
CUL	135A	Food and Beverage Service Lab	0	2	0	1
CUL	140	Basic Culinary Skills	2	6	0	5
CUL	160	Baking I	1	4	0	3
HRM	110	Introduction to Hospitality	2	0	0	2
MAT	110	Mathematical Measurements	2	2	0	3
Total			11	16	0	19

Spring Semester I

CIS	111	Basic PC Literacy	1	2	0	2
CUL	112	Nutrition for Foodservice	3	0	0	3
CUL	240	Advanced Culinary Skills	1	8	0	5
ENG	111	Expository Writing	3	0	0	3
HRM	145	Hospitality Supervision	3	0	0	3
Total			11	10	0	16

Summer Term I

COE	111	Co-op Work Experience I	0	0	10	1
CUL	120	Purchasing	2	0	0	2
CUL	130	Menu Design	2	0	0	2
CUL	170	Garde Manger I	1	4	0	3
Total			5	4	10	8

Fall Semester II

CUL	250	Classical Cuisine	1	8	0	5
CUL	270	Garde Manger II	1	4	0	3
-	-	Technical Elective	0-1	0-8	0-10	1-5
-	-	Social / Behavior Science Elective	3	0	0	3
-	-	Humanities / Fine Arts Elective	3	0	0	3
Total			8-9	12-20	0-10	15-19

Spring Semester II

COM	120	Intro to Interpersonal Communication	3	0	0	3
CUL	180	International and American Cuisine	1	8	0	5
CUL	260	Baking II	1	4	0	3
ENG	114	Professional Research and Reporting	3	0	0	3
Total			8	12	0	14

Total credit hours required for degree: 72-76 **This curriculum is subject to change.**

Technical Electives: BPA 210, BPA 250, COE 121 and CUL 285.

Curriculum:

Culinary Arts - Diploma, Jamestown, day and evening
Advising Code: A 5520 0 D1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

CUL	110	Sanitation and Safety	2	0	0	2
CUL	110A	Sanitation and Safety Lab	0	2	0	1
CUL	135	Food and Beverage Service	2	0	0	2
CUL	135A	Food and Beverage Service Lab	0	2	0	1
CUL	140	Basic Culinary Skills	2	6	0	5
CUL	160	Baking I	1	4	0	3
HRM	110	Introduction To Hospitality	2	0	0	2
MAT	110	Mathematical Measurements	2	2	0	3
Total			1	16	0	19

Spring Semester I

CIS	111	Basic PC Literacy	1	2	0	2
CUL	240	Advanced Culinary Skills	1	8	0	5
ENG	111	Expository Writing	3	0	0	3
HRM	145	Hospitality Supervision	3	0	0	3
CUL	112	Nutrition for Foodservice	3	0	0	3
Total			11	10	0	16

Summer Term I

CUL	170	Garde Manger I	1	4	0	3
Total			1	4	0	3

Total credit hours required for diploma: 38

This curriculum is subject to change.

Curriculum:

Culinary Technology - Certificate, Jamestown, day and evening
Advising Code: A 5520 0 C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

CUL	110	Sanitation and Safety	2	0	0	2
CUL	110A	Sanitation and Safety Lab	0	2	0	1
CUL	140	Basic Culinary Skills	2	6	0	5
CUL	160	Baking	1	4	0	3
Total			5	12	0	11

Spring Semester I

CUL	112	Nutrition for Foodservice	3	0	0	3
HRM	145	Hospitality Supervision	3	0	0	3
Total			6	0	0	6

Total credit hours required for certificate: 17

This curriculum is subject to change.

Curriculum:

Baking - Certificate, Jamestown, day and evening
Advising Code: A 5520 0 C2

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

CUL	110	Sanitation and Safety	2	0	0	2
CUL	110A	Sanitation and Safety Lab	0	2	0	1
CUL	160	Baking	1	4	0	3
Total			3	6	0	6

Spring Semester I

CUL	260	Baking II	1	4	0	3
Total			1	4	0	3

Fall Semester II

BPA	210	Cake Design & Decorating	1	4	0	3
Total			1	4	0	3

Spring Semester II

BPA	250	Dessert & Bread Production	1	8	0	5
Total			1	8	0	5

Total credit hours required for certificate: 17

This curriculum is subject to change.

Cyber Crime Technology

A 55 21 0

Associate in Applied Science, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2740 - from Greensboro • (336) 454-1126, ext. 2740 - from High Point

This curriculum will prepare students to enter the field of computer crime investigations and private security. Students completing this curriculum will be capable of investigating computer crimes, properly seize and recover computer evidence and aid in the prosecution of cyber criminals.

Course work in this curriculum will include a division of work in the disciplines of criminal justice and computer information systems. Additionally, students will be required to take specific cyber crime classes.

Graduates should qualify to become computer crime investigators for local or state criminal justice agencies. Also these graduates should be competent to serve as computer security specialists or consultants with private business.

Program Outcomes:

Upon successful completion of the Cyber Crime Technology program, the graduate should be able to:

- Identify current ethical issues in computer technology
- Use appropriate software to monitor network traffic
- Identify network vulnerabilities
- Create strategic plans to enhance network security
- Assess various network topologies
- Identify emerging network technologies
- Use industry standard tools and procedures to recover data
- Identify methods for gathering technical evidence to be used in criminal prosecution

Curriculum:

Cyber Crime - Associate in Applied Science Jamestown, day
Advising Code: A 55210

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

CCT	110	Introduction to Cyber Crime	3	0	0	3
ENG	111	Expository Writing	3	0	0	3
NET	110	Networking Concepts	2	2	0	3
NOS	110	Operating Systems Concepts	2	3	0	3
CIS	110	Introduction to Computers	2	2	0	3
Total			12	7	0	15

Spring Semester I

CCT	121	Computer Crimes Investigation	3	2	0	4
CCT	285	Trends in Cyber Crime	2	2	0	3
NOS	120	Linux/UNIX Single User	2	2	0	3
CTS	120	Hardware/Software Support	2	3	0	3
SEC	110	Security Concepts	3	0	0	3
Total			12	9	0	16

Summer Semester I

CCT	112	Ethics and High Technology	3	0	0	3
CCT	240	Data Recovery Techniques	2	3	0	3
–	–	Social/Behavioral Science	3	0	0	3
Total			8	3	0	9

Fall Semester II

CCT	231	Technology Crimes and Law	3	0	0	3
CCT	250	Network Vulnerabilities	2	2	0	3
CJC	231	Constitutional Law	3	0	0	3
ENG	114	Professional Research & Writing	3	0	0	3
--	--	Natural Sciences/Mathematics	2-4	0-3	0	3-5
Total			14	2	0	15

Spring Semester II

CJC	132	Court Procedure & Evidence	3	0	0	3
CCT	251	Network Vulnerabilities II	2	2	0	3
CCT	289	Capstone Project	1	6	0	3
COM	110	Introduction to Communication	3	0	0	3
--	--	Humanities/Fine Arts Elective	3	0	0	3
Total			12(14)	6(9)	0	15(20)

Total credit hours required for degree: 70-72 **This curriculum is subject to change.**

Dental Assisting

D 45 24 0

Diploma, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2212 - from Greensboro • (336) 454-1126, ext. 2212 - from High Point

The Dental Assisting curriculum prepares individuals to assist the dentist in the delivery of dental treatment and to function as integral members of the dental team while performing chairside and related office and laboratory procedures.

Course work includes instruction in general studies, biomedical sciences, dental sciences, clinical sciences, and clinical practice. A combination of lecture, laboratory, and clinical experiences provide students with knowledge in infection/hazard control, radiography, dental materials, preventive dentistry, and clinical procedures.

Graduates may be eligible to take the Dental Assisting National Board Examination to become Certified Dental Assistants. As a Dental Assistant II, defined by the Dental Laws of North Carolina, graduates work in dental offices and other related areas.

Program Outcomes:

Upon successful completion of the program, the student should be able to:

- demonstrate professionalism;
- perform administrative management procedures, chairside procedures, clinical support procedures, dental laboratory procedures, and preventive procedures;
- prepare and assess medical and clinical documentation;
- expose, process and evaluate radiographs for diagnostic and technique quality;
- assess and manage emergency situations;
- design and implement individualized patient education strategies;
- assist with restorative and diagnostic procedures;
- write medical documentation that adheres to legal standards

Curriculum:

Dental Assisting - Diploma, Jamestown, day
Advising Code: D 4524 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
DEN	110	Orofacial Anatomy	2	2	0	3
DEN	111	Infection/Hazard Control	2	0	0	2
DEN	101	Preclinical Procedures	4	6	0	7
DEN	112	Dental Radiography	2	3	0	3
BIO	106	Intro to Anatomy / Phys/Micro	2	2	0	3
Total			12	13	0	18

Fall Semester I

Limited Enrollment Program: Contact the Enrollment Services Office for Program admission requirements and Program application deadlines.

Spring Semester I

DEN	103	Dental Sciences	2	0	0	2
DEN	104	Dental Health Education	2	2	0	3
DEN	102	Dental Materials	3	4	0	5
DEN	105	Practice Management	2	0	0	2
DEN	106	Clinical Practice I	1	0	12	5
PSY	150	General Psychology	3	0	0	3
Total			13	6	12	20

Summer Term I

DEN	107	Clinical Practice II	1	0	12	5
ENG	111	Expository Writing	3	0	0	3
Total			4	0	12	8

Total credit hours required for diploma: 46 **This curriculum is subject to change.**

While it is expected that most students will enroll full-time, a limited number of students may enroll as part-time students, with approval of the department chair. The part-time option requires two (2) years to complete.

Dental Hygiene

A 45 26 0

Associate in Applied Science, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2452 - from Greensboro • (336) 454-1126, ext. 2452 - from High Point

The Dental Hygiene curriculum prepares individuals with the knowledge and skills to assess, plan, implement, and evaluate dental hygiene care for the individual and the community.

Students will learn to prepare the operatory, take patient histories, note abnormalities, plan care, teach oral hygiene, clean teeth, take x-rays, apply preventive agents, complete necessary chart entries, and perform other procedures related to dental hygiene care.

Graduates of this program may be eligible to take national and state/regional examinations for licensure which are required to practice dental hygiene. Employment opportunities include dental offices, clinics, schools, public health agencies, industry, and professional education.

Program Outcomes:

In accordance with the North Carolina Dental Practice Act, including rules and regulations, upon successful completion of the dental hygiene program, the graduate should be able to:

- demonstrate professionalism;
- prepare and assess medical and clinical documentation;
- design and implement individualized patient education strategies;
- perform prophylaxis and preventive procedures, clinical support procedures, and administrative management procedures;
- expose, process and evaluate radiographs for diagnostic and technique quality;
- write medical documentation that adheres to legal standards;
- assess and manage emergency situations;
- develop and implement oral health strategies for individuals and groups.

Curriculum:

Dental Hygiene - Associate in Applied Science, Jamestown, day

Advising Code: A 4526 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
DEN	110	Orofacial Anatomy	2	2	0	3
DEN	111	Infection/Hazard Control	2	0	0	2
DEN	120	Dental Hygiene Preclinic Lecture	2	0	0	2
DEN	121	Dental Hygiene Preclinic Lab	0	6	0	2
BIO	165	Anatomy and Physiology I	3	3	0	4
CHM	131	Introduction to Chemistry	3	0	0	3
Total			12	11	0	16

Limited Enrollment Program: Contact the Enrollment Services Office for Program admission requirements and Program application deadlines.

Spring Semester I

DEN	112	Dental Radiography	2	3	0	3
BIO	175	General Microbiology	2	2	0	3
DEN	130	Dental Hygiene Theory I	2	0	0	2
DEN	131	Dental Hygiene Clinic I	0	0	9	3
DEN	125	Dental Office Emergencies	0	2	0	1
BIO	166	Anatomy and Physiology II	3	3	0	4
Total			9	10	9	16

Summer Term I

DEN	124	Periodontology	2	0	0	2
DEN	140	Dental Hygiene Theory II	1	0	0	1
DEN	141	Dental Hygiene Clinic II	0	0	6	2
DEN	222	General and Oral Pathology	2	0	0	2
ENG	111	Expository Writing	3	0	0	3
Total			8	0	6	10

Fall Semester II

DEN	123	Nutrition/Dental Health	2	0	0	2
DEN	220	Dental Hygiene Theory III	2	0	0	2
DEN	221	Dental Hygiene Clinic III	0	0	12	4
DEN	224	Materials and Procedures	1	3	0	2
DEN	223	Dental Pharmacology	2	0	0	2
ENG	112	Argument Based Research	3	0	0	3
COM	231	Public Speaking	3	0	0	3
Total			13	3	12	18

Spring Semester II

DEN	230	Dental Hygiene Theory IV	1	0	0	1
DEN	231	Dental Hygiene Clinic IV	0	0	12	4
DEN	232	Community Dental Health	2	3	0	3
DEN	233	Professional Development	2	0	0	2
SOC	240	Social Psychology	3	0	0	3
—	—	Humanities / Fine Arts Elective	3	0	0	3
Total			11	3	12	16

Total credit hours required for degree: 76 **This curriculum is subject to change.**

Students must demonstrate math, computer competency at the following course level prior to graduation:
MAT 110 or MAT 115 and CIS 110.

Early Childhood Education

A 55 22 0

Associate in Applied Science, Jamestown, day
 Diploma, Jamestown, day and evening
 Certificate, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2789 - from Greensboro • (336) 454-1126, ext. 2789 - from High Point

The Early Childhood Education curriculum prepares individuals to work with children from infancy through middle childhood in diverse learning environments. Students will combine learned theories with practice in actual settings with young children under the supervision of qualified teachers.

Course work includes child growth and development; physical/nutritional needs of children; care and guidance of children; and communication skills with parents and children. Students will foster the cognitive/language, physical/motor, social/emotional and creative development of young children.

Graduates are prepared to plan and implement developmentally appropriate programs in early childhood settings. Employment opportunities include child development and child care programs, preschools, public and private schools, recreational centers, Head Start Programs, and school age programs.

Technical / Non-Transfer Degree

Program Outcomes:

Upon successful completion of this program, the Early Childhood Education graduate should be able to:

- Demonstrate knowledge of child development and education;
- Design safe and healthy environments for children;
- Facilitate an optimal learning environment that supports the diverse needs of ALL children;
- Enhance the development of children’s communication skills;
- Plan assessment-based experiences that stimulate ALL children’s development;
- Provide positive child guidance that supports children’s social and emotional development;
- Establish respectful, collaborative relationships with ALL families;
- Characterize community resources that support children, families, and early childhood professionals;
- Practice professionalism and ethical conduct;
- Integrate appropriate technology in environments for children;
- Perform supplementary responsibilities related to children’s programs.

Curriculum:

Early Childhood Education - Associate in Applied Science, Jamestown, day
Advising Code: A 5522 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
EDU	119	Intro to Early Childhood Education	4	0	0	4
EDU	144	Child Development I	3	0	0	3
EDU	146	Child Guidance	3	0	0	3
EDU	151	Creative Activities	3	0	0	3
ENG	111	Expository Writing	3	0	0	3
Total			16	0	0	16

Fall Semester I

Spring Semester I

EDU	131	Children, Family and Community	3	0	0	3
EDU	145	Child Development II	3	0	0	3
EDU	153	Health, Safety and Nutrition	3	0	0	3
EDU	214	Early Childhood intermediate Pract	1	9	0	4
COM	110	Introduction to Communication	3	0	0	3
-	-	Social/Behavioral Science	3	0	0	3
Total			16	9	0	19

Summer Term I

EDU	(1)	EDU elective	2(3)	0(2)	0	2(3)
EDU	221	Children with Exceptionalities	3	0	0	3
EDU	271	Educational Technology	2	2	0	3
Total			7(8)	2(4)	0	8(9)

Fall Semester II

EDU	251	Exploration Activities	3	0	0	3
EDU	251A	Exploration Activities Lab	0	2	0	1
EDU	259	Curriculum Planning	3	0	0	3
EDU	280	Literacy Experiences	3	0	0	3
EDU	280A	Literacy Experiences Lab	0	2	0	1
EDU	284	Early Child Capstone Prac	1	9	0	4
Total			10	13	0	15

Spring Semester II

ENG	114	Professional Research and Reporting	3	0	0	3
COE	131	Co-op Work Experience III	0	0	10	1
COE	135	Work Experience Seminar III	1	0	0	1
COE	211	Co-op Work Experience IV	0	0	10	1
COE	215	Work Experience Seminar IV	1	0	0	1
MAT	140	Survey of Mathematics	3	0	0	3
-	-	Humanities / Fine Arts Elective	3	0	0	3
Total			11	0	20	13

Total credit hours required for degree: 72 **This curriculum is subject to change.**

(1) Summer Term Electives: (Choose one)

EDU	154	Social/Emotional/Behav Dev	3	0	0	3
EDU	157	Active Play	2	2	0	3
EDU	234	Infants, Toddlers, Two's	3	0	0	3
EDU	235	School-Age Dev & Prog	3	0	0	3
EDU	261	Early Childhood Administration I	3	0	0	3
EDU	262	Early Childhood Administration II	3	0	0	3

Curriculum:

Early Childhood Education - Diploma, Jamestown, day
Advising Code: A 5522 0 D1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
EDU	119	Intro to Early Childhood Education	4	0	0	4
EDU	144	Child Development I	3	0	0	3
EDU	151	Creative Activities	3	0	0	3
EDU	146	Child Guidance	3	0	0	3
ENG	111	Expository Writing	3	0	0	3
Total			16	0	0	16

Spring Semester I

EDU	131	Children, Family and Community	3	0	0	3
EDU	145	Child Development II	3	0	0	3
EDU	153	Health, Safety and Nutrition	3	0	0	3
EDU	214	Early Childhood intermediate Pract	1	9	0	4
COM	110	Introduction to Communication	3	0	0	3
-	-	Social/Behavioral Science	3	0	0	3
Total			16	9	0	19

Summer Term I

EDU	-	Early Childhood Elective	2(3)	0(2)	0	3
EDU	221	Children with Exceptionalities	3	0	0	3
EDU	271	Educational Technology	2	2	0	3
Total			7(8)	2(4)	0	8(9)

Total credit hours required for diploma: 44 **This curriculum is subject to change.**

Curriculum:

Early Childhood Education - Diploma, Jamestown, evening
Advising Code: A 5522 0 D1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
EDU	119	Intro Early Childhood Education	4	0	0	4
EDU	151	Creative Activities	3	0	0	3
Total			7	0	0	7

Spring Semester I

EDU	146	Child Guidance	3	0	0	3
EDU	153	Health, Safety and Nutrition	3	0	0	3
Total			6	0	0	6

Summer Term I

EDU	-	Early Childhood Elective	2(3)	0(2)	0	2(3)
EDU	271	Educational Technology	2	2	0	3
Total			4(5)	2(4)	0	5(6)

Fall Semester II

EDU	144	Child Development I	3	0	0	3
ENG	111	Expository Writing	3	0	0	3
Total			6	0	0	6

Spring Semester II

EDU	145	Child Development II	3	0	0	3
EDU	131	Children, Family and Community	3	0	0	3
Total			6	0	0	6

Summer Term II

EDU	221	Children with Exceptionalities	3	0	0	3
Total			3	0	0	3

Fall Semester III

COM	110	Introduction to Communication	3	0	0	3
-	-	Social / Behavior Science Elective	3	0	0	3
Total			6	0	0	6

Spring Semester III

EDU	214	Early Childhood intermediate Pract	1	9	0	4
Total			1	9	0	4

Total credit hours required for diploma: 44 **This curriculum is subject to change.**

(1) Students need to be employed full-time in a 4 or 5 star child care or have day time hours for EDU 214.

Curriculum: Early Childhood Education - Certificate, Jamestown, day and evening
Advising Code: A 5522 0 C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

EDU	119	Intro to Early Childhood Education	4	0	0	4
EDU	151	Creative Activities	3	0	0	3
Total			7	0	0	7

Spring Semester I

EDU	146	Child Guidance	3	0	0	3
EDU	153	Health, Safety and Nutrition	3	0	0	3
Total			6	0	0	6

Fall Semester II

EDU	144	Child Development I	3	0	0	3
Total		or	3	0	0	3

Spring Semester II

EDU	145	Child Development II	3	0	0	3
Total			3	0	0	3

Total credit hours required for certificate: 16 **This curriculum is subject to change.**

Curriculum: Early Childhood Administration - Certificate, Jamestown, day and evening
Advising Code: A 5522 0 C2

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

EDU	119	Introduction to Early Childhood Education	4	0	0	4
EDU	261	Early Childhood Administration I	3	0	0	3
Total			7	0	0	7

Spring Semester I

EDU	131	Children, Family and Community	3	0	0	3
EDU	262	Early Childhood Administration II	3	0	0	3
Total			6	0	0	6

Fall Semester II

EDU	144	Child Development I	3	0	0	3
Total			3	0	0	3

-OR-

Spring Semester II

EDU	145	Child Development II	3	0	0	3
Total			3	0	0	3

Total credit hours required for certificate: 16 **This curriculum is subject to change.**

Curriculum: Early Childhood Schoolage - Certificate, Jamestown, day and evening
Advising Code: A 5522 0 C3

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

EDU	251	Exploration Activities	3	0	0	3
EDU	251A	Exploration Activities Lab	0	2	0	1
Total			3	2	0	4

Spring Semester I

EDU	145	Child Development II	3	0	0	3
Total			3	0	0	3

Summer Semester I

EDU	271	Educational Technology	2	2	0	3
EDU	235	Schoolage Dev and Program	3	0	0	3
Total			5	2	0	6

Fall Semester II

EDU	280	Literacy Experiences	3	0	0	3
EDU	280A	Literacy Experiences Lab	0	2	0	1
Total			3	2	0	4

Total credit hours required for certificate: 17 **This curriculum is subject to change**

Curriculum:**Infant –Toddler Care Certificate, Jamestown, day and evening
Advising Code: A 5522 0 C4**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

EDU	119	Intro to Early Childhood Education	4	0	0	4
EDU	144	Child Development I	3	0	0	3
Total			7	0	0	7

Spring Semester I

EDU	131	Child, Family & Community	3	0	0	3
EDU	153	Health, Safety & Nutrition	3	0	0	3
Total			6	0	0	6

Summer Semester I

EDU	234	Infants, Toddlers & Twos	3	0	0	3
Total			3	0	0	3

Total credit hours required for certificate: 16 **This curriculum is subject to change.**

Electrical/Electronics Technology

A 35 22 0

Associate in Applied Science, Greensboro, day and evening
Diploma, Greensboro, day and evening

Contact Information:

(336) 334-4822, ext. 4427 - from Greensboro • (336) 454-1126, ext. 4427 - from High Point

The Electrical/Electronics Technology curriculum is designed to provide training for persons interested in the installation and maintenance of electrical/electronic systems found in residential, commercial and industrial facilities.

Training, most of which is hands-on, will include such topics as AC/DC theory, basic wiring practices, digital electronics, programmable logic controllers, industrial motor controls, the National Electric Code, and other subjects as local needs require.

Graduates should qualify for a variety of jobs in the electrical/electronics field as an on-the-job trainee or apprentice, assisting in the layout, installation, and maintenance of electrical/electronic systems.

Curriculum:

Electrical/Electronics Technology - Associate in Applied Science, Greensboro, day and evening

Advising Code: A 3522 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

BPR	111	Blueprint Reading or	1	2	0	2
BPR	135	Schematics and Diagrams	2	0	0	2
ELC	112	DC/AC Electricity	3	6	0	5
ELC	113	Basic Wiring I	2	6	0	4
ELC	126	Electrical Computations	2	2	0	3
ENG	111	Expository Writing	3	0	0	3
MAT	110	Mathematical Measurement or	2	2	0	3
MAT	115	Mathematical Models	(2)	(2)	(0)	(3)
Total			13	18	0	20

Spring Semester I

ELC	114	Basic Wiring II	2	6	0	4
ELC	117	Motors and Controls	2	6	0	4
ELC	118	National Electrical Code	1	2	0	2
ELC	127	Software for Technicians or	1	3	0	2
ALT	220	Photovoltaic Sys Tech	(2)	(3)	(0)	(3)
ENG	112	Argument-Based Research or	3	0	0	3
ENG	114	Professional Research and Reporting	(3)	(0)	(0)	(3)
Total			9(10)	17	0	15(16)

Summer Term I

ELC	115	Industrial Wiring	2	6	0	4
Total			2	6	0	4

Fall Semester II

COM	231	Public Speaking or	3	0	0	3
COM	110	Introduction to Communication	(3)	(0)	(0)	(3)
ELN	133	Digital Electronics	3	3	0	4
ELN	229	Industrial Electronics	2	4	0	4
-	-	Social / Behavior Science Elective	3	0	0	3
ISC	112	Industrial Safety	2	0	0	2
Total			13	7	0	16

Spring Semester II

ELC	128	Introduction to PLC	2	3	0	3
HYD	110	Hydraulics/Pneumatics or	2	3	0	3
ALT	221	Adv Photovoltaic Systems Design*	(2)	(3)	(0)	(3)
SST	120	Energy Analysis or	3	0	0	3
PCI	162	Instrumentation Controls	(2)	(3)	(0)	(3)
-	-	Humanities / Fine Arts Elective	3	0	0	3
Total			9(10)	9(6)	0	12

Students choosing ALT 221 must first take pre-requisite ALT 220.

Total credit hours required for degree: 67 **This curriculum is subject to change.**

Up to 6 Co-op credits may be substituted for course work with department chair approval.

Curriculum: Electrical/Electronics Technology - Diploma, Greensboro, day and evening
Advising Code: A 3522 0 D1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

ELC	112	DC/AC Electricity	3	6	0	5
BPR	111	Blueprint Reading	1	2	0	2
MAT	110	Mathematical Measurement or	2	2	0	3
MAT	115	Mathematical Models	(2)	(2)	(0)	(3)
Total			6	10	0	10

Spring Semester I

ELC	113	Basic Wiring I	2	6	0	4
ELC	117	Motors and Controls	2	6	0	4
ELC	118	National Electrical Code	1	2	0	2
ELC	127	Software for Technicians	1	3	0	2
Total			6	17	0	12

Summer Term I

ELC	128	Introduction to PLC	2	3	0	3
ELC	115	Industrial Wiring	2	6	0	4
Total			4	9	0	7

Fall Semester II

ELN	133	Digital Electronics	3	3	0	4
ELN	229	Industrial Electronics	2	4	0	4
COM	110	Introduction to Communication or	3	0	0	3
ENG	111	Expository Writing	(3)	(0)	(0)	(3)
Total			8	7	0	11

Spring Semester II

PCI	162	Instrumentation Controls	2	3	0	3
-	-	Social / Behavior Science Elective or	3	0	0	3
-	-	Humanities / Fine Arts Elective	(3)	(0)	(0)	(3)
Total			5	3	0	6

Total credit hours required for diploma: 46 **This curriculum is subject to change.**

Up to 4 co-op credits may be substituted for course work with Department Chair approval.

Curriculum: **Photovoltaic Installation Certificate - , Greensboro, day and evening**
Advising Code: A 3522 0 C8

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

ELC	113	Basic Wiring I	2	6	0	4
ELC	118	National Electrical Code	1	2	0	2
ISC	112	Industrial Safety	2	0	0	2
Total			5	8	0	8

Spring Semester I

ALT	220	Photovoltaic Sys Technology (1st MM)	2	3	0	3
ALT	221	Adv Photovoltaic Sys Dsgn (2nd MM)	2	3	0	3
SST	120	Energy Analysis	2	2	0	3
Total			6	8	0	9

Total credit hours required for certificate: 17 **This curriculum is subject to change.**

Electrical/Electronics Technology

Electrical Construction

Certificate/Diploma, Greensboro, night classes/day classes

Contact Information:

(336) 334-4822, ext. 4427 - from Greensboro • (336) 454-1126, ext. 4427 - from High Point

This program is offered through the Electrical/ Electronics Technology program.

The Basic Wiring Skills certificate is a 16/17-week class in which students come to school and work on various job sites in order to start out and be successful in the electrical construction field.

The electrical construction diploma is a one year program in which students come to school and work on lab projects and job sites in order to be successful in the electrical construction field.

Curriculum:

Basic Wiring Skills - Greensboro, Jamestown, day Advising Code: A 3522 0 C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I (or any other starting point)						
ELC	113	Basic Wiring I	2	6	0	4
COE	112	Co-op Work Experience I	0	0	20	2
BPR	111	Blueprint Reading	1	2	0	2
ELC	118	National Electric Code	1	2	0	2
ISC	112	Industrial Safety	2	0	0	2
Total			6	10	20	12

Total credit hours required for certificate: 12 **This curriculum is subject to change.**

Curriculum:

Electrical Construction - Diploma - Greensboro, day and evening Advising Code: A 3522 0 D2

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ELC	112	DC/AC Electricity	3	6	0	5
ELC	126	Electrical Computations	2	2	0	3
ELC	113	Basic Wiring I	2	6	0	4
ISC	112	Industrial Safety	2	0	0	2
COM	110	Introduction to Communication <u>or</u>	3	0	0	3
ENG	111	Expository Writing	(3)	(0)	(0)	(3)
Total			12	14	0	17

Spring Semester I

BPR	111	Blueprint Reading	1	2	0	2
ELC	114	Basic Wiring II	2	6	0	4
ELC	117	Motors and Controls	2	6	0	4
—	—	Humanities/Fine Arts	3	0	0	3
Total			8	14	0	13

Summer Semester I

ELC	115	Industrial Wiring	2	6	0	4
ELC	118	National Electrical Code	1	2	0	2
Total			3	8	0	6

Total credit hours required for diploma: 36 **This curriculum is subject to change.**

Curriculum:**Master Electrician - Diploma - Greensboro, day and evening
Advising Code: A 3522 0 D3**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ELC	112	DC/AC Electricity	3	6	0	5
ELC	113	Basic Wiring I	2	6	0	4
ELC	126	Electrical Computations	2	2	0	3
ISC	112	Industrial Safety (1st 8 weeks)	2	0	0	2
COM	110	Introduction to Communication or	3	0	0	3
ENG	111	Expository Writing	(3)	(0)	(0)	(3)
Total			12	14	0	17
Spring Semester I						
BPR	111	Blueprint Reading	1	2	0	2
ELC	114	Basic Wiring II	2	6	0	4
ELC	117	Motors and Controls	2	6	0	4
—	—	Humanities / Fine Arts Elective	3	0	0	3
Total			8	14	0	13
Summer Term I						
ELC	115	Industrial Wiring	2	6	0	4
ELC	118	National Electrical Code	1	2	0	2
Total			3	8	0	6
Fall Semester II						
—	—	Technical Elective*	2	4	0	4
COE	112	Co-op Work Experience I	0	0	20	1
COE	121	Co-op Work Experience	0	0	10	1
Total			2	4	30	6
Spring Semester II						
—	—	Technical Elective*	2	4	0	4
COE	131	Co-op Work Experience	0	0	10	1
COE	211	Co-op Work Experience	0	0	10	1
Total			2	4	20	6

*EET Technical Electives: ELC 128, ELC 130, ELC 228, ELN 229, ELN 162, PCI 162, ELC 228, MEC 151, MEC 263, ELN 231, ELC 116

An exit exam is given for this diploma. The exit exam will be waived where the student has passed the N.C. Unlimited Electrical Contractors Exam.

Total credit hours required for diploma: 48 **This curriculum is subject to change.**

Curriculum:**Industrial Electrician - Certificate, Greensboro, day**
Advising Code: A 3522 0 C3

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
ELC	112	DC/AC Electricity	3	6	0	5
Total			3	6	0	5
Fall Semester I						
ELC	113	Basic Wiring I	2	6	0	4
ELC	117	Motors and Controls	2	6	0	4
Total			4	12	0	8
Summer Term I						
ELC	128	Introduction to PLC	2	3	0	3
Total			2	3	0	3

Total credit hours required for certificate: 16 **This curriculum is subject to change.**

Curriculum:**Basic Electrical Construction - Certificate, Greensboro, evening (entering fall)**
Advising Code: A 3522 0 C6

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
ELC	113	Basic Wiring I	2	6	0	4
ELC	114	Basic Wiring II	2	6	0	4
ELC	118	National Electric Code	1	2	0	2
BPR	111	Blueprint Reading	1	2	0	2
ISC	112	Industrial Safety	2	0	0	2
COE	111	Co-op Work Experience I	0	0	10	1
COE	121	Co-op Work Experience II	0	0	10	1
Total			8	16	20	16

Total credit hours required for certificate: 16 **This curriculum is subject to change.**

Curriculum:**Advanced Construction Electrician - Certificate, Greensboro, evening (entering spring)**
Advising Code: A 3522 0 C7

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
ELC	126	Electrical Computations	2	2	0	3
ELC	112	DC/AC Electricity	3	6	0	5
ELC	115	Industrial Wiring	2	6	0	4
ELC	117	Motors and Controls	2	6	0	4
COE	131	Co-op Work Experience III	0	0	10	1
COE	211	Co-op Work Experience IV	0	0	10	1
Total			9	20	20	18

Total credit hours required for certificate: 18 **This curriculum is subject to change.**

Electronics Engineering Technology

A 40 20 0

Associate in Applied Science, Greensboro, day and evening
Diploma, Greensboro, day and evening
Certificate, Greensboro, day and evening

Contact Information:

(336) 334-4822, ext. 4433 or 4435 - from Greensboro • (336) 454-1126, ext. 4433 or 4435 - from High Point

The Electronics Engineering Technology curriculum prepares individuals to become technicians who design, build, install, test, troubleshoot, repair, and modify developmental and production electronic components, equipment, and systems such as industrial/computer controls, manufacturing systems, communications systems, and power electronic systems.

A broad-based core of courses including basic electricity, solid-state fundamentals, digital concepts, and microprocessors, ensures the student will develop the skills necessary to perform entry-level tasks. Emphasis is placed on developing the student's ability to analyze and troubleshoot electronic systems.

Graduates should qualify for employment as engineering assistants or electronic technicians with job titles such as electronics engineering technician, field service technician, maintenance technician, electronic tester, electronic systems integrator, bench technician, and production control technician.

Program Outcomes:

Upon successful completion of this program, the Electronics Engineering Technology graduate should be able to:

- perform digital and analog circuit analysis;
- maintain, troubleshoot, and repair electronic equipment;
- use electronic test equipment to make appropriate measurements;
- use knowledge of fundamental computer programming and computer-aided problem solving.

Curriculum:

Electronics Engineering Technology - Associate in Applied Science, Greensboro, day Advising Code: A 4020 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
EGR	125	Appl Software for Tech	1	2	0	2
EGR	131	Introduction to Electronics	1	2	0	2
ELC	131	DC/AC Circuit Analysis	4	3	0	5
ENG	111	Expository Writing	3	0	0	3
MAT	121	Algebra/Trig I	2	2	0	3
-	-	Social/Behavior Science	3	0	0	3
Total			14	9	0	18

Spring Semester I

ELN	131	Electronic Devices	3	3	0	4
ELN	133	Digital Electronics	3	3	0	4
ENG	114	Prof. Research/Report	3	0	0	3
MAT	122	Algebra/Trig II	2	2	0	3
PHY	131	Physics-Mechanics**	3	2	0	4
Total			14	10	0	18

Summer Term I

ELN	132	Linear IC Applications	3	3	0	4
CET	222	Computer Architecture	2	0	0	2
Total			5	3	0	6

Fall Semester II

ELN	232	Introduction Microprocessors	3	3	0	4
ELN	234	Communication Systems	3	3	0	4
COM	231	Public Speaking or	3	0	0	3
COM	120	Intro to Interpersonal Communication	(3)	(0)	(0)	(3)
-	-	Technical Elective*	0-3	0-3	0-10	1-3
Total			9-12	6-9	0-10	12-14

Spring Semester II

-	-	Humanities/E.A.	3	0	0	3
CSC	139	Visual Basic Programming	2	3	0	3
EGR	285	Design Project	0	4	0	2
-	-	Technical Elective*	2	4	0	3
ELN	249	Digital Communication	2	3	0	3
ELN	236	Fiber Optics and Lasers	3	2	0	4
Total			12	15	0	18

Curriculum:

Electronics Engineering Technology - Associate in Applied Science, Greensboro, evening
Advising Code: A 4020 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester

EGR	125	Appl Software for Tech	1	2	0	2
ELC	131	DC/AC Circuit Analysis	4	3	0	5
MAT	121	Algebra/Trig I	2	2	0	3
Total			7	7	0	10

Spring Semester I

EGR	131	Introduction to Electronics	1	2	0	2
ELN	131	Electronic Devices	3	3	0	4
MAT	122	Algebra/Trig II	2	2	0	3
Total			6	7	0	9

Summer Term I

ELN	132	Linear IC Applications	3	3	0	4
Total			3	3	0	4

Fall Semester II

PHY	131	Physics-Mechanics**	3	2	0	4
Total			3	2	0	4

Spring Semester II

ELN	133	Digital Electronics	3	3	0	4
-	-	Technical Elective*	2	4	0	3
Total			5	7	0	7

Summer Term II

CET	222	Computer Architecture	2	0	0	2
Total			2	0	0	2

Fall Semester III

ELN	234	Communication Systems	3	3	0	4
ELN	232	Introduction to Microprocessors	3	3	0	4
Total			6	5	0	8

Spring Semester III

ELN	249	Digital Communication	2	3	0	3
ELN	236	Fiber Optics and Lasers	3	2	0	4
Total			5	5	0	7

Summer Term III

-	-	Technical Elective*	0-3	0-3	0-10	1-3
Total			0-3	0-3	0-10	1-3

Fall Semester IV

ENG	111	Expository Writing	3	0	0	3
COM	231	Public Speaking or	3	0	0	3
COM	120	Intro to Interpersonal Comm	(3)	(0)	(0)	(3)
-	-	Social/Behavior Science	3	0	0	3
-	-	Humanities/Fine Arts	3	0	0	3
Total			12	0	0	12

Spring Semester IV

EGR	285	Design Project	0	4	0	2
ENG	114	Professional Research & Reporting	3	0	0	3
CSC	139	Visual Basic Programming	2	3	0	3
Total			5	7	0	8

Total credit hours required for degree: 75-77 **This curriculum is subject to change.**

* - Technical Electives

At least 2 Courses (4-6 Total SHC) Selected From:

ATR 280, CET 111, DFT 151, ELN 271+, ELN 272+, ELN 231, COE 111, ELC 128, and PCI 162.

+ Restricted to Wireless EET option.

** - Students who meet the prerequisite requirements may substitute PHY 151 or PHY 251 for PHY 131.

Curriculum:

**Electronics Engineering Technology - Diploma, Greensboro, day and evening
Advising Code: A 4020 0 D1**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
EGR	131	Introduction to Electronics	1	2	0	2
ELC	131	DC/AC Circuit Analysis	4	3	0	5
ENG	111	Expository Writing	3	0	0	3
MAT	121	Algebra/Trigonometry I	2	2	0	3
ELN	131	Electronic Devices	3	3	0	4
ELN	133	Digital Electronics	3	3	0	4
MAT	122	Algebra/Trig II	2	2	0	3
-	-	Technical Elective*	0-3	0-3	0-10	1-2
-	-	Technical Elective*	2	4	0	4
ELN	132	Linear IC Applications	3	3	0	4
CET	222	Computer Architecture	2	0	0	2
Total						35-36

* - Technical Electives

At least 2 Courses (4-6 Total SHC) Selected From:

CET 111, DFT 151, ELN 271, ELN 272, ELN 231, COE 111, ELC 128, and PCI 162.

Total credit hours required for diploma: 35 - 36 **This curriculum is subject to change.**

Curriculum:

**Basic Electronics - Certificate, Greensboro, day
Advising Code: A 4020 0 C3**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
EGR	131	Introduction to electronics Tech	1	2	0	2
ELC	131	DC/AC Circuit Analysis	4	3	0	5
ELN	131	Electronic Devices	3	3	0	4
ELN	133	Digital Electronics	3	3	0	4
Total						15

Total credit hours required for certificate: 15 **This curriculum is subject to change.**

Technical / Non-Transfer Degree

Wireless Option

A 40 20 0

Associate in Applied Science, Greensboro, day and evening
Advising Code: A 40 20 0 A2

Contact Information:

(336) 334-4822, ext. 4433 or 4435 - from Greensboro • (336) 454-1126, ext. 4433 or 4435 - from High Point

Curriculum:

Electronics Engineering Technology, RF Technician Option -
Associate in Applied Science, Greensboro, day

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
EGR	125	Appl Software for Tech	1	2	0	2
EGR	131	Introduction to Electronics	1	2	0	2
ELC	131	DC/AC Circuit Analysis	4	3	0	5
ENG	111	Expository Writing	3	0	0	3
MAT	121	Algebra/Trig I	2	2	0	3
-	-	Social/Behavior Science	3	0	0	3
Total			14	9	0	18
Spring Semester I						
ELN	131	Electronic Devices	3	3	0	4
ELN	133	Digital Electronics	3	3	0	4
ENG	114	Prof. Research/Report	3	0	0	3
MAT	122	Algebra/Trig II	2	2	0	3
PHY	131	Physics-Mechanics*	3	2	0	4
Total			14	10	0	18
Summer Term I						
ELN	132	Linear IC Applications	3	3	0	4
CET	222	Computer Architecture	2	0	0	2
Total			5	3	0	6
Fall Semester II						
ELN	232	Introduction to Microprocessors	3	3	0	4
ELN	234	Communication Systems	3	3	0	4
MAT	223	Applied Calculus**	2	2	0	3
COM	231	Public Speaking or	3	0	0	3
COM	120	Intro to Interpersonal Communication	(3)	(0)	(0)	(3)
-	-	Technical Elective	0-3	0-3	0-10	1-4
Total			11-14	8-11	0-10	15-18
Spring Semester II						
-	-	Humanities/Fine Arts	3	0	0	3
CSC	139	Visual Basic Programming	2	3	0	3
EGR	285	Design Project	0	4	0	2
ELN	249	Digital Communication	2	3	0	3
ELN	236	Fiber Optics and Lasers	3	2	0	4
-	-	Technical Elective	2	3	0	3
Total			12	15	0	16

Curriculum:

**Electronics Engineering Technology, Wireless Option -
Associate in Applied Science, Greensboro, evening
Advising Code: A 4020 0 A2**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester						
EGR	125	Appl Software for Tech	1	2	0	2
ELC	131	DC/AC Circuit Analysis	4	3	0	5
MAT	121	Algebra/Trig I	2	2	0	3
Total			7	7	0	10
Spring Semester I						
EGR	131	Introduction to Electronics	1	2	0	2
ELN	131	Electronic Devices	3	3	0	4
MAT	122	Algebra/Trig II	2	2	0	3
Total			6	7	0	9
Summer Term I						
ELN	132	Linear IC Applications	3	3	0	4
Total			3	3	0	4
Fall Semester II						
PHY	131	Physics-Mechanics*	3	2	0	4
MAT	223	Applied Calculus**	2	2	0	3
Total			5	4	0	7
Spring Semester II						
ELN	133	Digital Electronics	3	3	0	4
-	-	Technical Elective	0-3	0-3	0-10	1-4
Total			0-6	0-6	0-10	5-8
Summer Term II						
CET	222	Computer Architecture	2	0	0	2
Total			2	0	0	2
Fall Semester III						
ELN	234	Communication Systems	3	3	0	4
ELN	232	Introduction to Microprocessors	3	3	0	4
Total			6	6	0	8
Spring Semester III						
ELN	236	Fiber Optics and Lasers	3	2	0	4
ELN	249	Digital Communication	2	3	0	3
Total			5	5	0	7
Summer Term III						
-	-	Technical Elective	0-3	0-3	0-10	1-4
Total			0-3	0-3	0-10	1-4
Fall Semester IV						
ENG	111	Expository Writing	3	0	0	3
-	-	Humanities/Fine Arts	3	0	0	3
-	-	Social/Behavior Science	3	0	0	3
COM	231	Public Speaking or	3	0	0	3
COM	120	Intro to Interpersonal Communication	(3)	(0)	(0)	(3)
Total			12	0	0	12

Spring Semester IV

EGR	285	Design Project	0	4	0	2
CSC	139	Visual Basic Programming	2	3	0	3
ENG	114	Professional Research & Reporting	3	0	0	3
Total			9	6	0	11

Technical Electives for the Wireless Option: ELN 271***, ELN 272***, OR DFT 151

Total credit hours required for degree: 75 **This curriculum is subject to change.**

* - Students who meet the prerequisite requirements may substitute PHY 151 or PHY 251 for PHY 131.

** - Students who meet the prerequisite requirements may substitute MAT 271 for MAT 223.

*** - Offered only in the evenings (1 evening per week) off site.

Emergency Medical Science

A 45 34 0

Associate in Applied Science, Jamestown, day

Contact Information:

(336) 334-4822 (Greensboro) or (336) 454-1126 (High Point). Department Chair: David Reeves, ext. 2289, dmreeves@gtcc.edu Curriculum Coordinator: Joseph Yow, ext. 2340, jryow@gtcc.edu

The Emergency Medical Science curriculum is designed to prepare graduates to enter the workforce as paramedics. Additionally, the program can provide an Associate Degree for individuals desiring an opportunity for career enhancement. Employment opportunities include ambulance services, fire and rescue agencies, air medical services, specialty areas of hospitals, industry, educational institutions, and government agencies

The course of study provides the student an opportunity to acquire basic and advanced life support knowledge and skills by utilizing classroom instruction, practical laboratory sessions, hospital clinical experience, and field internships with emergency medical service agencies.

This limited enrollment curriculum program is designed to be completed in as little as five full time semesters (fall, spring, summer, fall, spring), with a total of 1216 EMS core and major course contact hours, 240 general education contact hours, and 528 clinical/field internship contact hours. The average commitment is four days a week. EMS 110 Emergency Medical Technician is a “gateway” course—students must earn a grade of “C” or better in EMS 110 to continue in the program. Students are eligible to sit for the North Carolina EMT-Basic exam after successful completion of EMS 110. North Carolina EMT-B certification is required for field internship attendance. Students are eligible to sit for the North Carolina EMT-Intermediate exam after satisfactory completion of EMS 120, EMS 121, EMS 130, EMS 131, and a total of 48 hours of hospital clinical/field internship. Students are eligible to sit for the North Carolina EMT-Paramedic exam at the completion of the course of study.

Program Outcomes:

- Demonstrate complex knowledge of infection control procedures.
- Demonstrate complex knowledge of prehospital pharmacology.
- Demonstrate complex knowledge of patient assessment.
- Demonstrate complex knowledge of prehospital care for medical patients.
- Apply principles of appropriate prehospital care for patients of all ages with medical emergencies.
- Demonstrate complex knowledge of prehospital care for cardiovascular patients.
- Apply principles of appropriate prehospital care for patients of all ages with cardiovascular emergencies.
- Demonstrate complex knowledge of prehospital care for trauma patients.
- Apply principles of appropriate prehospital care for patients of all ages with traumatic emergencies.
- Demonstrate complex knowledge of prehospital care for behavioral patients.
- Apply principles of appropriate prehospital care for patients of all ages with behavioral emergencies.
- Demonstrate complex knowledge of the Incident Command System.
- Apply principles and practices of emergency vehicle operation.
- Apply principles of emergency medical system communication.
- Demonstrate complex knowledge of medical documentation.
- Demonstrate entry-level mastery of the advanced prehospital skills defined in the DOT national curriculum as necessary for successful entry into the EMS workforce as a paramedic.

Entrance Requirements: Applicants wishing to enter the EMS program must take the placement exams offered by GTCC for reading, writing, and pre-algebra or document acceptable substitution credit. To be considered, applicants must meet or exceed the minimum scores listed below for the placement exam or waiver. Note: SAT scores are valid for 3 years.

	COMPASS	ASSET	ACCUPLACER	SAT	Previous Credit
Reading	81	41	80	510	RED 090
Writing	70	41	86	510	ENG 111
Pre-Algebra	47	41	57	520	MAT 060

Limited Enrollment Program: Contact the Enrollment Services Office for Program admission requirements and Program application deadlines.

Curriculum: Emergency Medical Science - Associate in Applied Science, Jamestown, day
Advising Code: A 4534 O A1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
EMS	110	EMT Basic	5	6	0	7
EMS	150	Vehicle Ops, EMS Communication	1	3	0	2
ENG	111	Expository Writing	3	0	0	3
BIO	163	Applied Anatomy and Physiology	4	2	0	5
		or				
BIO	165	Anatomy and Physiology I*	(3)	(3)	(0)	(4)
Total			12(13)	11(12)	0	16(17)

*Choosing BIO 165 requires that students take BIO166 to be taken in Spring.

Spring Semester I						
BIO	166	Anatomy and Physiology II*	3	3	0	4
EMS	120	Intermediate Intervention	2	3	0	3
EMS	121	Clinical Practicum I	0	0	6	2
EMS	130	Pharmacology I for EMS	1	3	0	2
EMS	131	Advanced Airway Management	1	2	0	2
ENG	112	Argument-Based Research or	3	0	0	3
ENG	114	Professional Research and Reporting	(3)	(0)	(0)	(3)
Total			11	14	6	18

Summer Term I						
EMS	210	Advanced Patient Assessment	1	3	0	2
EMS	220	Cardiology	2	6	0	4
EMS	221	Clinical Practicum II	0	0	9	3
Total			3	9	9	9

Fall Semester II						
EMS	140	Rescue Scene Management	1	3	0	2
EMS	230	Pharmacology II	2	0	0	2
EMS	231	Clinical Practicum III	0	0	9	3
EMS	250	Advanced Medical Emergencies	2	3	0	3
EMS	260	Advanced Trauma Emergencies	1	3	0	2
PSY	150	General Psychology	3	0	0	3
PHI	240	Introduction to Ethics or	3	0	0	3
-	-	Humanities / Fine Arts Elective	(3)	(0)	(0)	(3)
Total			12	9	9	16

Spring Semester II						
EMS	240	Special Needs Patients	1	2	0	2
EMS	241	Clinical Practicum IV	0	0	9	3
EMS	270	Life Span Emergencies	2	2	0	3
EMS	285	EMS Capstone	1	3	0	2
COM	110	Introduction to Communication or	3	0	0	3
COM	120	Intro to Interpersonal Communication	(3)	(0)	(0)	(3)
Total			7	8	9	13

Total credit hours required for degree: 69-72 **This curriculum is subject to change.**

Emergency Medical Science

Bridging Program

Associate in Applied Science, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2289 or 2340 - from Greensboro • (336) 454-1126, ext. 2289 or 2340 - from High Point

The Emergency Medical Science Bridging program is designed to allow a currently certified, non-degreed EMT-Paramedic to earn a two-year Associate of Applied Science degree in Emergency Medical Science by completing the EMS Capstone course, Rescue Scene Management course, and the Pharmacology II for EMS course in addition to all other general education requirements for this degree.

The prerequisites for admission to the EMS Bridging program include the following certifications:

- EMT Paramedic Certification;
- Advanced Cardiac Life Support Certification*;
- Basic Trauma Life Support Certification*;
- Pediatric Advanced Life Support*;
- 4000 patient contact hours at the Paramedic level*.

*Within one year of application

These certifications provide 46 semester hours of advanced placement for students who are accepted into the program and meet the GTCC residency requirements.

Curriculum:

Bridging Program - Associate in Applied Science, Jamestown day
Advising Code: A 4534 0 A2

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
EMS	230	Pharmacology II	2	0	0	2
ENG	111	Expository Writing	3	0	0	3
PSY	150	General Psychology	3	0	0	3
BIO	163	Applied Anatomy and Physiology or	4	2	0	5
BIO	165	Anatomy and Physiology I*	(3)	(3)	(0)	(4)
Total			9(10)	2(3)	0	12(13)

*Choosing BIO 165 requires that students take BIO166 in the spring

Spring Semester I

BIO	166	Anatomy and Physiology II*	(3)	(3)	(0)	(4)
EMS	140	Rescue Scene Management	1	3	0	2
EMS	285	Capstone	1	3	0	2
ENG	112	Argument-Based Research or	3	0	0	3
ENG	114	Professional Research and Reporting	(3)	(0)	(0)	(3)
COM	110	Introduction to Communication or	3	0	0	3
COM	120	Intro to Interpersonal Comm	(3)	(0)	(0)	(3)
PHI	240	Introduction to Ethics	3	0	0	3
Total			11(14)	6(9)	0	13(17)

Total credit hours required for degree: 26-29 **This curriculum is subject to change.**

Emergency Preparedness Technology

A55420

Associate in Applied Science, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2728- from Greensboro (336) 454-1126, ext. 2728 – from High Point

The Emergency Preparedness Technology curriculum is designed to provide students with a foundation of technical and professional knowledge needed for emergency services delivery in local and state government agencies. Study involves both management and technical aspects of law enforcement, fire protection, emergency medical services, and emergency planning.

Course work includes classroom and laboratory exercises to introduce the student to various aspects of emergency preparedness, protection, and enforcement. Students will learn technical and administrative skills such as investigative principles, hazardous materials, codes, standards, emergency agency operations, and finance.

Employment opportunities include ambulance services, fire/rescue agencies, law enforcement agencies, fire marshal offices, industrial firms, educational institutions, emergency management offices, and other government agencies. Employed persons should have opportunities for skilled and supervisory-level positions.

Program Outcomes:

Upon successful completion of the Emergency Preparedness Technology program, the graduate should be able to:

- plan responses to man-made and natural disasters;
- support emergency services and citizens in man-made and natural disasters.

Curriculum:

Emergency Preparedness Technology – Associate in Applied Science, Jamestown, day and night
Advising Code: A 55420

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ENG	111	Expository Writing	3	0	0	3
COM	120	Intro to Interpersonal Comm. or	3	0	0	3
COM	231	Public Speaking	(3)	(0)	(0)	(3)
FIP	120	Introduction to Fire Prot.	3	0	0	3
FIP	156	Computers for the Fire Services *	3	2	0	3
FIP	236	Emergency Management	3	0	0	3
Totals			15	2	0	15

* Students who already have credit for CIS-110 may substitute it for FIP-156. Students intending on pursuing a higher degree than the AAS should take CIS 110.

Spring Semester I

ENG	112	Argument Based Research or	3	0	0	3
ENG	114	Professional Research/Rep	(3)	(0)	(0)	(3)
MAT	161	College Algebra	3	0	0	3
MAT	161A	College Algebra Lab	0	2	0	1
EPT	120	Sociology of Disaster	3	0	0	3
EPT	130	Mitigation and Preparedness	3	0	0	3
POL	120	American Government	3	0	0	3
Total			15	2	0	16

Summer Term I

FIP	228	Local Govt. Finance	3	0	0	3
FIP	164	OSHA Standards	3	0	0	3
FIP	152	Fire Protection Law or	3	0	0	3
EPT	124	EM Services Law and Ethics	(3)	(0)	(0)	(3)
EPT	150	EMS Incident Management	3	0	0	3
Total			12	0	0	12

Fall Semester II

CJC	131	Criminal Law	3	0	0	3
EPT	210	Disaster Response Ops Mt	3	0	0	3
EPT	220	Terrorism and Emerg. Mgt.	3	0	0	3
FIP	256	Municipal Public Relations	3	0	0	3
-	-	Hum/Fine Arts Elective	3	0	0	3
Total			15	0	0	15

Spring Semester II

EPT	275	Emergency OPS Cent. Mgt.	3	0	0	3
CJC	121	Law Enforcement Operations	3	0	0	3
FIP	176	Haz Mat Operations	4	0	0	4
FIP	276	Managing Fire Services	3	0	0	3
--	--	EPT Elective	3	0	0	3
Total			16	0	0	16

Emergency Preparedness Tech Electives

EPT	225	Hazard Analysis and Risk Assessment	3	0	0	3
EPT	230	Emergency Planning	3	0	0	3
EPT	260	Business Community	3	0	0	3
EPT	280	Building Resilient Communities	3	0	0	3

Total credit hours required for Associate in Applied Science: 74. **This curriculum is subject to change.**

Curriculum:**Emergency Preparedness Technology – Certificate, Jamestown, day and night****Advising Code: A 55420 C1**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
FIP	236	Emergency Management	3	0	0	3
EPT	220	Terrorism & Emergency Management	3	0	0	3
EPT	210	Disaster Response Ops Mgt.	3	0	0	3
Total			9	0	0	9
Spring Semester I						
EPT	120	Sociology of Disaster	3	0	0	3
EPT	275	Emergency OPS Center Mgt.	3	0	0	3
Total			6	0	0	6
Summer Term I						
EPT	150	EMS Incident Mgt.	3	0	0	3
Total			3	0	0	3

Total credit hours required for Certificate: 18 This curriculum is subject to change.

Entertainment Technologies

A 25 19 0

Associate in Applied Science, High Point, day

Contact Information:

(336) 334-4822, ext. 4162 - from Greensboro • (336) 454-1126, ext. 4162 - from High Point

This curriculum prepares individuals for entry-level employment in entertainment, particularly in the fields of sound and lighting. Instruction provides training not only in these technical aspects, but also prepares students to manage careers in this contract-to-contract type of work.

Course work includes exposure to the entire live concert and sound recording processes. Course work will also include music business fundamentals, including entertainment law and marketing/promotion. Students will also receive course work in music theory and electronic music.

Graduates may find employment as entry-level crew and/or production assistants in concert or event setups, with recording companies, or sound/lighting companies. Graduates will also be prepared to manage their careers (or others' careers) in the sound/lighting area or professional music entertainment.

Program Outcomes

Upon successful completion of the Entertainment Technologies program students will be able to:

- Determine the career tracks and entertainment unions within the entertainment industry.
- Determine the application of copyright law within the entertainment industry.
- Interpret the laws governing performer's rights and organizations within the entertainment industry.
- Characterize audio theory and audio measurements.
- Interface the components of a basic sound system.
- Interpret the basic theories in theatrical and concert lighting.
- Demonstrate proper practices in the areas of recording, and concert sound and lighting.
- Demonstrate responsibility in the performance of professional assignments.

Recording Engineering Option

Curriculum:

Recording Engineering Option - Associate in Applied Science, High Point, day
Advising Code: A 2519 0 A1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ENT	111	Introduction to Entertainment	2	2	0	3
ENT	134	Acoustics	2	2	0	3
ENT	135	Recording Engineering I	2	2	0	3
MAT	115	Mathematical Models	2	2	0	3
MUS	210	History of Rock & Roll	3	0	0	3
Total			11	8	0	15
Spring Semester I						
CIS	110	Introduction to Computers	2	2	0	3
ENT	114	Entertainment Law	3	0	0	3
ENT	131	Live Sound Production I	1	4	0	3
ENT	235	Sound Recording Engineering II	2	2	0	3
MUS	111	Fundamentals of Music	3	0	0	3
Total			10	8	0	15

Summer Term I

COM	110	Intro to Communication or	3	0	0	3
COM	120	Interpersonal Communication	(3)	(0)	(0)	(3)
ENG	111	Expository Writing	3	0	0	3
MUS	214	Electronic Music	1	2	0	2
Total			7	2	0	8

Fall Semester II

ENG	114	Professional Writing and Research	3	0	0	3
ENG	112	Argument Based Research	(3)	(0)	(0)	(3)
ENT	151	Concert Lighting I	2	2	0	3
ENT	211	Entertainment Promotion	3	0	0	3
ENT	237	Sound Recording III	2	2	0	3
PSY	150	General Psychology	3	0	0	3
Total			13	4	0	15

Spring Semester II

BUS	280	Real Small Business	4	0	0	4
COE	111	Co-op Work Experience I	0	0	10	1
COE	115	Work Experience Seminar	1	0	0	1
ENT	231	Live Sound Production II	1	4	0	3
ENT	241	Equipment Maintenance	2	2	0	3
ENT	285	Capstone Project	2	2	0	3
Total			10	8	10	15

Total credit hours required for degree: 68 **This curriculum is subject to change.**

Concert Sound and Lighting Option

Curriculum: Concert Sound and Lighting Option - Associate in Applied Science, High Point, day
Advising Code: A 2519 0 A2

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

ELC	111	Introduction to Electricity	2	2	0	3
ENT	111	Introduction to Entertainment	2	2	0	3
ENT	135	Sound Recording Engineering I	2	2	0	3
MAT	115	Mathematical Models	2	2	0	3
MUS	210	History of Rock & Roll	3	0	0	3
Total			11	8	0	15

Spring Semester I

CIS	110	Introduction to Computers	2	2	0	3
ENT	114	Entertainment Law	3	0	0	3
ENT	131	Live Sound Production I	1	4	0	3
ENT	151	Concert Lighting I	2	2	0	3
MUS	111	Fundamentals of Music	3	0	0	3
Total			11	8	0	15

Summer Term I

COM	110	Intro to Communication or	3	0	0	3
COM	120	Interpersonal Communication	(3)	(0)	(0)	(3)
ENG	111	Expository Writing	3	0	0	3
MUS	214	Electronic Music	1	2	0	2
PSY	150	General Psychology	3	0	0	3
Total			10	2	0	11

Fall Semester II

ENT	211	Entertainment Promotion	3	0	0	3
ENT	231	Live Sound Production II	2	2	0	3
ENT	251	Concert Lighting II	2	2	0	3
NET	125	Routing and Switching I	1	4	0	3
COE	111	Co-op Work Experience I	0	0	10	1
COE	115	Work Experience Seminar	1	0	0	1
Total			9	8	10	14

Spring Semester II

BUS	280	Real Small Business	4	0	0	4
ENG	114	Professional Writing and Research or	3	0	0	3
ENG	112	Argument Based Research	(3)	(0)	(0)	(3)
ENT	241	Equipment Maintenance	2	2	0	3
ENT	252	Concert Lighting III	2	2	0	3
ENT	285	Capstone Project	2	2	0	3
Total			13	6	0	16

Total credit hours required for degree: 71 **This curriculum is subject to change.**

Music Performance Option

Curriculum: Music Performance Option - Associate in Applied Science, High Point, day
Advising Code: A 2519 0 A3

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

ENT	111	Introduction to Entertainment	2	2	0	3
ENT	135	Recording Engineering I	2	2	0	3
MAT	115	Mathematical Models	2	2	0	3
MUS	121	Music Theory I	3	2	0	4
MUS	210	History of Rock & Roll	3	0	0	3
Total			10	8	0	16

Spring Semester I

CIS	110	Introduction to Computers	2	2	0	3
ENT	114	Entertainment Law	3	0	0	3
ENT	131	Live Sound Production I	1	4	0	3
MUS	111	Fundamentals of Music	3	0	0	3
MUS	151	Class Music I	0	2	0	1
MUS	161	Applied Music I	1	2	0	2
Total			9	12	0	15

Summer Term I

COM	110	Intro to Communication or	3	0	0	3
COM	120	Interpersonal Communication	(3)	(0)	(0)	(3)
ENG	111	Expository Writing	3	0	0	3
ENT	151	Concert Lighting I	2	2	0	3
MUS	214	Electronic Music	1	2	0	2
Total			9	8	0	11

Fall Semester II

PSY	150	General Psychology	3	0	0	3
ENT	211	Entertainment Promotion	3	0	0	3
MUS	122	Music Theory II	3	2	0	4
MUS	162	Applied Music II	1	2	0	2
COE	111	Co-op Work Experience I	0	0	10	1
COE	115	Work Experience Seminar	1	0	0	1
Total			11	4	10	14

Spring Semester II

BUS	280	Real Small Business	4	0	0	4
ENG	114	Professional Writing and Research or	3	0	0	3
ENG	112	Argument Based Research	(3)	(0)	(0)	(3)
ENT	260	Contemporary Songwriting/Publishing	3	0	0	3
ENT	272	Live Performance	1	4	0	3
ENT	285	Capstone Project	2	2	0	3
MUS	261	Applied Music III	1	2	0	2
Total			14	8	0	18

Total credit hours required for degree: 74 **This curriculum is subject to change.**

Artist Management Option

Curriculum:

Artist Management Option - Associate in Applied Science, High Point, day
Advising Code: A 2519 0 A4

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

BUS	137	Principles of Management	3	0	0	3
ENT	111	Introduction to Entertainment	2	2	0	3
ENT	135	Sound Recording Engineering I	2	2	0	3
MAT	115	Mathematical Models	2	2	0	3
MUS	210	History of Rock & Roll	3	0	0	3
Total			12	6	0	15

Spring Semester I

CIS	110	Introduction to Computers	2	2	0	3
ENT	114	Entertainment Law	3	0	0	3
ENT	131	Live Sound Production I	1	4	0	3
ENT	151	Concert Lighting I	2	2	0	3
MUS	111	Fundamentals of Music	3	0	0	3
Total			10	8	0	15

Summer Term I

COM	110	Intro to Communication or	3	0	0	3
COM	120	Interpersonal Communication	(3)	(0)	(0)	(3)
ENG	111	Expository Writing	3	0	0	3
MUS	214	Electronic Music	1	2	0	2
Total			9	4	0	8

Fall Semester II

BUS	110	Introduction to Business	3	0	0	3
ENT	211	Entertainment Marketing and Promotion	3	0	0	3
ENT	278	Artist Management	3	0	0	3
PSY	150	General Psychology	3	0	0	3
COE	111	Co-op Work Experience I	0	0	10	1
COE	115	Work Experience Seminar	1	0	0	1
Total			13	0	10	14

Spring Semester II

ACC	129	Individual Income Taxes	2	2	0	3
ACC	120	Principles of Financial Accounting	3	2	0	4
BUS	280	Real Small Business	4	0	0	4
ENT	285	Capstone Project	2	2	0	3
ENG	114	Professional Writing and Research or	3	0	0	3
ENG	112	Argument Based Research	(3)	(0)	(0)	(3)
Total			14	6	0	17

Total credit hours required for degree: 69 **This curriculum is subject to change.**

Fire Protection Technology

A 55 24 0

Associate in Applied Science, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2728 - from Greensboro • (336) 454-1126, ext. 2728 - from High Point

The Fire Protection Technology curriculum is designed to provide individuals with the technical and professional knowledge necessary to make decisions regarding fire protection for both public and private sectors. It also provides a sound foundation for continuous higher learning in fire protection, administration and management.

Course work includes classroom and laboratory exercises to introduce the student to various aspects of fire protection. Students will learn technical and administrative skills such as hydraulics, hazardous materials, arson investigation, fire protection safety, fire suppression management, law and codes.

Graduates should qualify for employment or advancement in governmental agencies, industrial firms, insurance rating organizations, educational organizations and municipal fire departments. Employed persons should have opportunities for skilled and supervisory positions within their current organizations.

Program Outcomes:

Upon successful completion of this program, the Fire Protection Technology graduate should be able to:

- perform fire prevention functions;
- perform fire suppression functions;
- perform hazardous materials control functions;
- provide public services;
- communicate effectively;
- perform in a professional manner;
- practice safety in the performance of all tasks.

Curriculum:

Fire Protection Technology - Associate in Applied Science, Jamestown, day and evening
Advising Code: A 5524 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
ENG	111	Expository Writing	3	0	0	3
COM	120	Intro to Interpersonal Communication or	(3)	(0)	(0)	(3)
COM	231	Public Speaking	3	0	0	3
FIP	120	Introduction to Fire Protection	3	0	0	3
FIP	132	Building Construction	3	0	0	3
FIP	156	Computers in Fire Service *	1	2	0	2
Total			13	2	0	14

* Students who already have credit for CIS 110 may substitute it for FIP 156. Students intending on pursuing a higher degree than the AAS should take CIS 110.

Spring Semester I

ENG	112	Argument-Based Research or	3	0	0	3
ENG	114	Professional Research and Reporting	(3)	(0)	(0)	(3)
MAT	161	College Algebra	3	0	0	3
MAT	161A	College Algebra Lab	0	2	0	1
FIP	124	Fire Prevention, Public Education	3	0	0	3
FIP	229	Fire Dynamics and Combustion	3	0	0	3
–	–	Social / Behavioral Science Elective	3	0	0	3
Total			15	2	0	16

Summer Term I

FIP	136	Inspections and Codes	3	0	0	3
FIP	152	Fire Protection Law	3	0	0	3
FIP	164	OSHA Standards	3	0	0	3
--	--	Fire Protection Elective	3	0	0	3
Total			12	0	0	12

Fall Semester II

FIP	128	Fire Detection and Investigation	3	0	0	3
FIP	148	Fixed, Portable Extinguishing Systems	2	2	0	3
FIP	230	Chemistry of Hazardous Materials I	5	0	0	5
FIP	236	Emergency Management	3	0	0	3
–	–	Humanities / Fine Arts Elective	3	0	0	3
Total			16	2	0	17

Spring Semester II

FIP	144	Sprinklers and Auto Alarms	2	2	0	3
FIP	220	Fire Fighting Strategies	3	0	0	3
FIP	224	Instructional Methodology	4	0	0	4
FIP	232	Hydraulics and Water Distribution	2	2	0	3
FIP	276	Managing Fire Services	3	0	0	3
Total			13	4	0	16

Fire Protection Electives

Select three or more semester hours credits from the following:

FIP	140	Industrial Fire Protection	3	0	0	3
FIP	160	Fire Protection Electricity	2	0	0	2
FIP	160A	Fire Protection Electricity Lab	0	2	0	1
FIP	176	Hazardous Material Operations	4	0	0	4
FIP	180	Wildland Fire Behavior	3	0	0	3
FIP	221	Advanced Firefighting Strategies	3	0	0	3
FIP	228	Local Government Finance	3	0	0	3
FIP	231	Chemistry of Hazardous Mat II	4	2	0	5
FIP	240	Fire Service Supervision	3	0	0	3
FIP	244	Fire Protection Project	3	0	0	3
FIP	248	Fire Service Personnel Adm	3	0	0	3
FIP	252	Fire Apparatus Spec. Purchase	3	0	0	3
FIP	256	Municipal Public Relations	3	0	0	3

Total credit hours required for degree: 75 **This curriculum is subject to change.**

Furniture Upholstery

D 50 22 0

Diploma, High Point, day and evening
Certificate, High Point, day and evening

Contact Information:

(336) 334-4822, ext. 4119 - from Greensboro • (336) 454-1126, ext. 4119 - from High Point

The Furniture Upholstery curriculum prepares the student to become a professional upholsterer. Students are taught the fundamentals and techniques of furniture upholstery work starting with wooden frames, pattern development, industrial cutting, and sewing skills. Production quality and speed will be emphasized.

Upon successful completion of the Furniture Upholstery program, the student will be able to develop patterns, lay out and cut cloth, and operate various sewing machines. Students will also perform spring-up procedures and complete the inside and outside of upholstered furniture.

Graduates of the Furniture Upholstery program should qualify for positions as pattern makers, fabric cutters, upholstery sewers, spring-ups, upholsterers, or outsiders.

Program Outcomes:

Upon successful completion of the Furniture Upholstery diploma program, the graduate should be able to:

- operate various sewing machines;
- upholster sofas and chairs;
- complete eight-way tie spring up;
- perform frame assembly; practice efficient cutting skills; and various types of seat construction;
- use hand tools;
- operate within safety guidelines.

Curriculum:

Furniture Upholstery - Diploma, High Point, day Advising Code: D 5022 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ACA	118	College Study Skills	1	2	0	2
DES	225	Textiles and Fabrics	2	2	0	3
ENG	102	Applied Communications	3	0	0	3
UPH	111	Cutting and Pattern Making I	1	4	0	3
UPH	121	Sewing I	1	4	0	3
UPH	131	Seat Construction	1	4	0	3
UPH	141	Inside Upholstery I	1	4	0	3
Total			10	20	0	20
Spring Semester I						
UPH	112	Cutting and Pattern Making II	1	4	0	3
UPH	122	Sewing II	1	4	0	3
UPH	132	Seat Construction II	1	4	0	3
UPH	142	Inside Upholstery II	1	4	0	3
UPH	151	Outside Upholstery I	1	4	0	3
MAT	110	Mathematical Measure or	2	2	0	3
MAT	115	Mathematical Models	(2)	(2)	(0)	(3)
Total			7	22	0	18
Summer Term I						
DES	255	History/Interior and Furniture I	3	0	0	3
DES	275	Furniture Design and Construction	2	2	0	3
UPH	152	Outside Upholstery II	1	4	0	3
Total			6	6	0	9

Total credit hours required for diploma 47 **This curriculum is subject to change.**

Curriculum:

Furniture Upholstery - Diploma, High Point, evening
Advising Code: D 5022 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ACA	118	College Study Skills	1	2	0	2
DES	225	Textiles and Fabrics	2	2	0	3
UPH	111	Cutting and Pattern Making I	1	4	0	3
Total			4	8	0	8
Spring Semester I						
UPH	121	Sewing I	1	4	0	3
UPH	131	Seat Construction	1	4	0	3
Total			2	8	0	6
Summer Term I						
UPH	141	Inside Upholstery I	1	4	0	3
UPH	151	Outside Upholstery I	1	4	0	3
Total			2	8	0	6
Fall Semester II						
DES	255	History/Interior and Furniture I	3	0	0	3
UPH	112	Cutting and Pattern Making II	1	4	0	3
Total			4	4	0	6
Spring Semester II						
MAT	110	Mathematical Measurement or	(2)	(2)	(0)	(3)
MAT	115	Mathematical Models	2	2	0	3
UPH	122	Sewing II	1	4	0	3
Total			3	6	0	6
Summer Term II						
ENG	102	Applied Communications	3	0	0	3
UPH	132	Seat Construction II	1	4	0	3
Total			4	4	0	6
Fall Semester III						
UPH	142	Inside Upholstery II	1	4	0	3
UPH	152	Outside Upholstery II	1	4	0	3
Total			2	8	0	6
Spring Semester III						
DES	275	Furniture Design and Construction	2	2	0	3
Total			2	2	0	3

Total credit hours required for diploma: 47 **This curriculum is subject to change.**

Curriculum:

Furniture Upholstery - Certificate, High Point, day
Advising Code: D 5022 0 C3

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
UPH	111	Cutting and Pattern Making I	1	4	0	3
UPH	121	Sewing I	1	4	0	3
UPH	131	Seat Construction I	1	4	0	3
Total			3	12	0	9

Fall Semester I**Spring Semester I**

UPH	141	Inside Upholstery I	1	4	0	3
UPH	151	Outside Upholstery I	1	4	0	3
Total			2	8	0	6

Total credit hours required for certificate: 15 **This curriculum is subject to change.**

Curriculum:

Furniture Upholstery - Certificate, High Point, evening
Advising Code: D 5022 0 C3

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
UPH	121	Sewing I	1	4	0	3
Total			1	4	0	3

Fall Semester I**Spring Semester I**

UPH	131	Seat Construction I	1	4	0	3
Total			1	4	0	3

Summer Term I

UPH	111	Cutting and Pattern Making I	1	4	0	3
Total			1	4	0	3

Fall Semester II

UPH	141	Inside Upholstery I	1	4	0	3
Total			1	4	0	3

Spring Semester II

UPH	151	Outside Upholstery I	1	4	0	3
Total			1	4	0	3

Total credit hours required for certificate: 15 **This curriculum is subject to change.**

Curriculum:

Sewing - Certificate, High Point, day and evening
Advising Code: D 5022 0 C2

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
UPH	111	Cutting and Pattern Making I	1	4	0	3
UPH	121	Sewing I	1	4	0	3
Total			2	8	0	6

Fall Semester I**Spring Semester I**

UPH	112	Cutting and Pattern Making II	1	4	0	3
UPH	122	Sewing II	1	4	0	3
Total			2	8	0	6

Total credit hours required for diploma: 12 **This curriculum is subject to change.**

General Occupational Technology

A 55 28 0

Associate in Applied Science, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2229 - from Greensboro • (336) 454-1126, ext. 2229 - from High Point

The General Occupational Technology curriculum provides individuals with an opportunity to upgrade their skills and to earn an associate degree by taking courses suited for individual occupational interests and/or needs.

The curriculum content will be customized for students according to their occupational interests and needs. A program of study for each student will be selected from any non-developmental level courses offered by the College.

Graduates will become more effective workers, better qualified for advancements within their field of employment, and become qualified for a wide range of entry level employment opportunities.

Curriculum:

General Occupational Technology - Associate in Applied Science, Jamestown, day and evening
Advising Code: A 5528 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

General Education Requirements:

ENG	111	Expository Writing	3	0	0	3
ENG	114	Professional Research and Reporting	3	0	0	3
COM	110	Introduction to Communication	3	0	0	3
MAT	115	Mathematical Models	2	2	0	3
-	-	Social / Behavior Science Elective	3	0	0	3
-	-	Humanities / Fine Arts Elective	3	0	0	3
Total			17	2	0	18

Major courses: 18 credit hours from a combination of core courses for curriculums offered by the college.

Other Major Hours:

CIS	111	Basic PC Literacy	1	2	0	2
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Twenty-nine additional credit hours must be chosen from courses required by curriculums offered by the college, including a maximum of eight semester hours earned through work experience, including cooperative education, practicums, and internships.

Total credit hours required for degree: 67 **This curriculum is subject to change.**

Global Logistics Technology

A 25 17 0

Associate in Applied Science, Jamestown

Contact Information:

(336) 334-4822, ext. 2263 - from Greensboro • (336) 454-1126, ext. 2263 - from High Point

The Global Logistics Technology curriculum prepares individuals for a multitude of career opportunities in distribution, transportation, and manufacturing organizations. Classroom instruction, field of study experiences, and practical laboratory applications of logistics management and global technology capabilities are included in the program of study.

Course work includes computer applications, accounting, business law, economics, management, industrial sciences, and international studies. Students will solve different levels of logistics-related problems through case study evaluations and supply chain projects utilizing logistical hardware and intelligent software tools.

Graduates should qualify for positions in a wide range of government agencies, manufacturing, and service organizations. Employment opportunities include entry-level purchasing, material management, warehousing, inventory, transportation coordinators, and logistics analysts. Upon completion, graduates may be eligible for certification credentials through APICS and AST&L.

Students will be required to use technology (computer, internet, etc.) in all courses in this program.

Program Outcomes

Upon successful completion of the Global Logistics Technology program, the graduate should be able to:

- Procure proper supplies/materials in the proper time frame using an international base of suppliers/customers.
- Perform the basic functions of warehousing and distribution with industry-standard technologies.
- Facilitate the delivery of needed materials on an international scale.
- Evaluate international laws, tariffs taxation issues to determine their impact on an organization's options for moving and acquiring materials and finished goods.
- Develop operations plans using forecasting methods, materials requirements planning, and other materials management tools.
- Use enterprise database systems to locate and track needed materials and services.
- Analyze the overall performance of a logistics system using key metrics such as delivery lead times, logistics costs, and other performance criteria.

Curriculum:

Global Logistics Technology – Associate in Applied Science, Jamestown
Advising Code: A 25 17 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
ACC	120	Principles of Financial Accounting	3	2	0	4
CIS	110	Introduction to Computers	2	2	0	3
ENG	111	Expository Writing	3	0	0	3
INT	110	International Business	3	0	0	3
LOG	110	Introduction to Logistics	3	0	0	3
Total			15	4	0	16

Spring Semester I

ACC	149	Introduction to Acc Spreadsheets	1	2	0	2
BUS	137	Fundamentals of Management	3	0	0	3
LOG	125	Transportation Logistics	3	0	0	3
BUS	115	Business Law	3	0	0	3
ECO	251	Principles of Microeconomics	3	0	0	3
MAT	115	Mathematical Models or	2	2	0	3
MAT	140	Survey of Mathematics or	(3)	(0)	(0)	(3)
MAT	161	College Algebra*	(3)	(0)	(0)	(3)
Total			15(16)	2(4)	0	17

Summer Semester I

ACC	151	Accounting Spreadsheets Apps	1	2	0	2
ECO	252	Principles of Macroeconomics	3	0	0	3
LOG	240	Purchasing Logistics	3	0	0	3
Total			7	2	0	8

Fall Semester II

DBA	110	Database Concepts	2	2	0	3
ENG	114	Prof. Research & Reporting	3	0	0	3
LOG	215	Supply Chain Management	3	0	0	3
LOG	235	Import/Export Management	3	0	0	3
SPA	111	Elementary Spanish** or	3	0	0	3
SPA	120	Spanish for the Workplace	(3)	(0)	(0)	(3)
Total			14	2	0	15

Spring Semester II

COM	120	Intro to Interpersonal Comm. or	3	0	0	3
COM	231	Public Speaking	(3)	(0)	(0)	(3)
LOG	211	Distribution Management	3	0	0	3
LOG	250	Advanced Global Logistics	3	2	0	4
HUM	115	Critical Thinking	3	0	0	3
Total			15	2	0	16

Total credit hours required for degree: 72 **This curriculum is subject to change.**

*Students who plan to transfer to four-year institutions are advised to take MAT 161 and SPA 111.

Curriculum:

Global Logistics - Supply Chain Management Certificate, Jamestown
Advising Code: A25170 C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
LOG	110	Introduction to Logistics	3	0	0	3
LOG	125	Transportation Logistics	3	0	0	3
LOG	215	Supply Chain Management	3	0	0	3
LOG	235	Import/Export Management	3	0	0	3
LOG	250	Advanced Global Logistics	3	2	0	4
Total			15	2	0	16

Total credit hours required for certificate: 16. **This curriculum is subject to change.**

Healthcare Management Technology

A 25 20 0

Associate in Applied Science, day and evening

Contact Information:

(336) 334-4822, ext. 2447 – from Greensboro · (336) 454-1126, ext. 2447 – from High Point

The Healthcare Management Technology curriculum is designed to prepare students for employment in healthcare business and financial operations. Students will gain a comprehensive understanding of the application of management principles to the healthcare environment.

The curriculum places emphasis on planning, organizing, directing, and controlling tasks related to healthcare organizational objectives including the legal and ethical environment. Emphasis is placed on the development of effective communication, managerial, and supervisory skills.

Graduates may find employment in healthcare settings including hospitals, medical offices, clinics, long-term care facilities, and insurance companies. Graduates are eligible to sit for various certification exams upon completion of the degree with a combination of a minimum of two years administrative experience. Eligible certifications include, but are not limited to, the Professional Association of Healthcare Office Managers (PAHCOM), the Healthcare Financial Management Association (HFMA), the Certified Patient Account Manager (CPAM), and the Certified Manager of Patient Accounts (CMPA) examinations.

Program Outcomes:

Upon successful completion of the Healthcare Management technology program, the graduate should be able to:

- apply healthcare management principles;
- demonstrate healthcare supervisory skills;
- analyze work schedules and priorities in a healthcare setting;
- use healthcare marketing techniques;
- perform financial management tasks; and
- apply knowledge of healthcare software functions.

Curriculum:

Healthcare Management Technology – Associate in Applied Science, Jamestown, day
Advising Code: A 2520 0

Fall Semester I

ACC	120	Prin of Financial Accounting	3	2	0	4
ENG	111	Expository Writing	3	0	0	3
HMT	110	Intro to Healthcare Management	3	0	0	3
OST	137	Software Applications	2	2	0	3
OST	141	Medical Terminology I	3	0	0	3
Total			14	4	0	16

Spring Semester I

ACC	121	Prin of Managerial Accounting	3	2	0	4
ENG	112	Argument Based Research or	3	0	0	3
ENG	114	Professional Research and Reporting	(3)	(0)	(0)	(3)
HMT	211	Long-Term Care Administration	3	0	0	3
OST	142	Medical Terminology II	3	0	0	3
OST	138	Advanced Office Software Application	2	2	0	3
Total			14	4	0	16

Summer Term I

OST	286	Professional Development	3	0	0	3
OST	149	Medical Legal Issues	3	0	0	3
Total			6	0	0	6

Fall Semester II

HMT	210	Medical Insurance	3	0	0	3
HMT	212	Mgmt of Healthcare Organizations	3	0	0	3
MKT	120	Principles of Marketing	3	0	0	3
MAT	140	Survey of Mathematics	3	0	0	3
--	--	Humanities/Fine Arts Elective	3	0	0	3
--	--	Social/Behavioral Science Elective	3	0	0	3
Total			18	0	0	18

Spring Semester II

HMT	220	Healthcare Financial Management	4	0	0	4
HMT	225	Practice Management Simulation	2	2	0	3
MKT	231	Healthcare Marketing	3	0	0	3
COM	231	Public Speaking	3	0	0	3
COE	111	Co-op Work Experience	0	0	10	1
COE	115	Work Experience Seminar I	1	0	0	1
Total			13	2	10	15

Total credit hours required for degree: 71. **This curriculum is subject to change.**

**Students may enter this program in the fall, spring or summer semester; however, some courses may be offered during specified semesters only.

Curriculum: A25200

Healthcare Management Technology – Associate in Applied Science, Jamestown, evening
Advising Code: A 2520 0

Fall Semester I

ENG	111	Expository Writing	3	0	0	3
HMT	110	Intro to Healthcare Management	3	0	0	3
OST	141	Medical Terminology	3	0	0	3
Total			9	0	0	9

Spring Semester I

ACC	120	Prin of Financial Accounting	3	2	0	4
ENG	112	Argument Based Research or	3	0	0	3
ENG	114	Professional Research and Reporting	(3)	(0)	(0)	(3)
OST	142	Medical Terminology II	3	0	0	3
Total			9	2	0	10

Summer Term I

OST	149	Medical Legal Issues	3	0	0	3
Total			3	0	0	3

Fall Semester II

ACC	121	Prin of Managerial Accounting	3	2	0	4
OST	137	Software Applications	2	2	0	3
HMT	210	Medical Insurance	3	0	0	3
Total			8	4	0	10

Spring Semester II

HMT	211	Long-Term Care Administration	3	0	0	3
OST	138	Adv. Office Software Application	2	2	0	3
--	--	Humanities/Fine Arts Elective	3	0	0	3
Total			8	2	0	9

Summer Term II

OST	286	Professional Development	3	0	0	3
Total			3	0	0	3

Fall Semester III

MAT	140	Survey of Mathematics	3	0	0	3
MKT	120	Principles of Marketing	3	0	0	3
--	--	Social/Behavioral Science Elective	3	0	0	3
Total			9	0	0	9

Spring Semester III

HMT	212	Mgmt of Healthcare Organizations	3	0	0	3
MKT	231	Healthcare Marketing	3	0	0	3
Total			6	0	0	6

Fall Semester IV

HMT	220	Healthcare Financial Management	4	0	0	4
COM	231	Public Speaking	3	0	0	3
Total			7	0	0	7

Spring Semester IV

HMT	225	Practice Management Simulation	2	2	0	3
COE	111	Co-op Work Experience	0	0	10	1
COE	115	Work Experience Seminar I	1	0	0	1
Total			3	2	10	5

Total credit hours required for degree: 71. **This curriculum is subject to change.**

**Students may enter this program in the fall, spring or summer semester; however, some courses may be offered during specified semesters only.

Heavy Equipment and Transport Technology

A 60 24 0D1

Diploma, Jamestown, day and evening
Certificate, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2592 or 2593 - from Greensboro • (336) 454-1126, ext. 2592 or 2593 - from High Point

This curriculum is designed to prepare individuals in developing the basic knowledge and skills needed for employment in diesel powered medium and heavy-duty vehicles.

Students will learn the purpose, construction features, and principles of operation of medium and heavy-duty vehicles.

Graduates should qualify for entry level employment as a technician in a dealership, fleet shop, or independent garage. Graduates should also be able to pass the ASE certification exam.

Program Outcomes:

Upon successful completion of the third semester of the Heavy Equipment & Transport program, the exiting student shall be able to:

- comply with personal and environmental safety practices associated with clothing, eye protection, hand tools, power equipment and the handling, storage and disposal of chemicals and hazardous materials in accordance with local, state, and federal safety and environmental regulations;
- diagnose and repair diesel engines, drive train systems, suspension and steering systems, braking systems, electrical and electronic systems, and heating and air conditioning systems;
- perform preventive maintenance inspections.

Curriculum: Heavy Equipment and Transport Technology - Diploma, Jamestown, day and evening
Advising Code: A 6024 0 D1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

COM	120	Intro to Interpersonal Comm	3	0	0	3
HET	110	Engines	3	9	0	6
HET	112	Diesel Electrical Systems	3	6	0	5
HET	127	Shop Rules and Regulations	1	0	0	1
MAT	115	Mathematical Models	2	2	0	3
Total			12	0	0	18

Spring Semester I

HET	128	Medium / Heavy Duty Tune Up	1	2	0	2
HET	115	Electronic Engines	2	3	0	3
HET	231	Medium / Heavy Duty Brake System	1	3	0	2
HET	232	Medium / Heavy Duty Brake Sys Lab	0	3	0	1
HET	233	Suspension and Steering	2	4	0	4
Total			6	15	0	12

Technical / Non-Transfer Degree

Summer Term I

CIS	110	Introduction to Computers	2	2	0	3
HET	116	Air Conditioning/Diesel Equipment	1	2	0	2
HET	125	Preventive Maintenance	1	3	0	2
HET	126	Preventive Maintenance Lab	0	3	0	1
HET	119	Mechanical Transmissions	2	2	0	3
Total			6	12	0	11

Total credit hours required for diploma: 41 **This curriculum is subject to change.**

Curriculum: Heavy Equipment and Transport Technology - Certificate, Jamestown, day and evening
Advising Code: A 6024 0 C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

HET	112	Diesel Electrical Systems	3	6	0	5
Total			3	6	0	5

Spring Semester I

HET	231	Medium / Heavy Duty Brake System	1	3	0	2
HET	233	Suspension and Steering	2	4	0	4
Total			3	7	0	6

Summer Term I

HET	125	Preventive Maintenance	1	3	0	2
Total			1	3	0	2

Total credit hours required for certificate: 13 **This curriculum is subject to change.**

Hospitality Management

A 25 24 0

Associate in Applied Science, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2949 - from Greensboro • (336) 454-1126, ext. 2949 - from High Point

The Hotel and Restaurant Management curriculum prepares students to understand and apply the administrative and practical skills needed for supervisory and managerial positions in hotels, motels, resorts, inns, restaurants, institutions, and clubs.

Course work includes front office management, food preparation, guest services, sanitation, menu writing, quality management, purchasing, and others areas critical to the success of hospitality professionals.

Upon completion, graduates should qualify for supervisory or entry-level management positions in food and lodging including front office, reservations, housekeeping, purchasing, dining room, and marketing. Opportunities are also available in the support areas of food and equipment sales.

Program Outcomes:

Upon successful completion of the Hotel and Restaurant Management program, the graduate should be able to:

- Demonstrate management skills appropriate for the hospitality industry.
- Develop professionalism standards appropriate for the hospitality industry.
- Identify effective communication skills.
- Cultivate excellent customer service skills.
- Manage inventory in a food service environment.
- Demonstrate cost control knowledge in a food service environment.
- Apply human resources strategies appropriate for the hospitality industry.
- Prepare marketing strategies appropriate for the hospitality industry.

Curriculum:

Hospitality Management - Associate in Applied Science, Jamestown, day
Advising Code: A 2524 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

CUL	110	Sanitation and Safety	2	0	0	2
CUL	110A	Sanitation and Safety Lab	0	2	0	1
HRM	110	Introduction to Hospitality	2	0	0	2
ENG	111	Expository Writing	3	0	0	3
CUL	140	Basic Culinary Skills	2	6	0	5
MAT	110	Mathematical Measurements	2	2	0	3
Total			11	10	0	16

Spring Semester I

CIS	111	Basic PC Literacy	1	2	0	2
COM	120	Intro to Interpersonal Communication	3	0	0	3
CUL	135	Food and Beverage Service	2	0	0	2
CUL	135A	Food and Beverage Service Lab	0	2	0	1
ENG	114	Professional Research and Reporting	3	0	0	3
Total			9	4	0	11

Summer Term I

HRM	120	Front Office Procedures	3	0	0	3
HRM	120A	Front Office Procedures Lab	0	2	0	1
HRM	140	Hospitality/Tourism Law	3	0	0	3
HRM	145	Hospitality Supervision	3	0	0	3
Total			9	2	0	10

Fall Semester II

COE	111	Co-op Work Experience I	0	0	10	1
CUL	130	Menu Design	2	0	0	2
HRM	135	Facilities Management	2	0	0	2
HRM	210	Meetings and Conventions	3	0	0	3
HRM	215	Restaurant Management	3	0	0	3
HRM	215A	Restaurant Management Lab	0	2	0	1
-	-	Humanities / Fine Arts Elective	3	0	0	3
Total			13	2	10	15

Spring Semester II

COE	121	Co-op Work Experience II	0	0	10	1
HRM	220	Food and Beverage Controls	3	0	0	3
HRM	220A	Food and Beverage Controls Lab	0	2	0	1
HRM	225	Beverage Management	2	0	0	2
HRM	230	Club and Resort Management	2	0	0	2
HRM	240	Hospitality Marketing	3	0	0	3
HRM	280	Hospitality Management Problems	3	0	0	3
-	-	Social/Behavioral Science Elective	3	0	0	3
Total			16	2	10	18

Total credit hours required for degree: 70 **This curriculum is subject to change.**

Human Services Technology

A 45 38 0

Associate in Applied Science, High Point, day and evening

Contact Information:

(336) 334-4822, ext. 4101 - from Greensboro • (336) 454-1126, ext. 4101 - from High Point

The Human Services Technology curriculum prepares students for entry-level positions in institutions and agencies, which provide social, community, and educational services. Along with core courses, students take general education courses, which prepare them for eventual specialization in specific human service areas.

Students will take courses from a variety of academic disciplines. Core courses emphasize the development of relevant knowledge, skills, and attitudes necessary to work successfully in human services. Fieldwork or internship experience will provide opportunities for the practical application of knowledge and skills learned in the classroom.

Graduates should qualify for positions in mental health, child care, family services, social services, rehabilitation, corrections, and educational agencies. Graduates choosing to continue their education may select from a variety of transfer programs at four-year public and private institutions.

Program Outcomes:

Upon successful completion of the Human Services Technology Associate Degree program, the graduate should be able to:

- demonstrate a fundamental understanding of human nature and development from a biological, psychological, and sociological perspective;
- demonstrate a broad-based understanding of human behavior and social relationships;
- apply his/her knowledge of American society to social institutions and problem solving;
- apply scientific methods to produce knowledge which can be useful for understanding and addressing individual and social problems;
- demonstrate critical reasoning and problem-solving abilities, communication skills, and ethical concerns as tools for working and living; and
- demonstrate the skills necessary in these specialized areas of study for entry into a career and/or transfer to a four-year college or university.

Curriculum:

Human Services Technology - Associate in Applied Science, High Point, day and evening

Advising Code: A 4538 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
CIS	110	Introduction to Computers	2	2	0	3
ENG	111	Expository Writing	3	0	0	3
HSE	110	Introduction to Human Services	2	2	0	3
PSY	150	General Psychology	3	0	0	3
SAB	110	Substance Abuse Overview	3	0	0	3
SOC	210	Introduction to Sociology	3	0	0	3
Total			16	4	0	18

Fall Semester I

Spring Semester I

ENG	112	Argument Based Research or	3	0	0	3
ENG	114	Professional Research & Report	(3)	(0)	(0)	(3)
HSE	123	Interviewing Techniques	2	2	0	3
PSY	241	Developmental Psychology or	3	0	0	3
PSY	281	Abnormal Psychology	(3)	(0)	(0)	(3)
SAB	135	Addictive Process	3	0	0	3
SOC	220	Social Problems or	3	0	0	3
HSE	245	Stress Management or	(2)	(2)	(0)	(3)
SAB	137	Co-Dependency	(3)	(0)	(0)	(3)
HSE	125	Counseling	2	2	0	3
Total			16	4	0	18

Summer Term I

HSE	210	Human Services Issues	2	0	0	2
HSE	225	Crisis Intervention	3	0	0	3
Total			5	0	0	5

Fall Semester II

BIO	110	Principles of Biology or	3	3	0	4
MAT	110	Mathematical Measurement or	(2)	(2)	(0)	(3)
MAT	115	Mathematical Models or	(2)	(2)	(0)	(3)
MAT	140	Survey of Mathematics	(3)	(0)	(0)	(3)
COE	111	Co-Op Work Experience I and	0	0	10	1
COE	115	Work Experience Seminar I	1	0	0	1
PSY	265	Behavior Modification	3	0	0	3
HSE	220	Case Management	2	2	0	3
SOC	213	Sociology of the family or	3	0	0	3
HSE	245	Stress Management or	(2)	(2)	(0)	(3)
SAB	137	Co-Dependency	(3)	(0)	(0)	(3)
Total			16(18)	6(7)	10	17(18)

Spring Semester II

COE	121	Co-Op Work Experience II and	0	0	10	1
COE	125	Work Experience Seminar II	1	0	0	1
COM	110	Introduction to Communication or	3	0	0	3
COM	120	Intro to Interpersonal Comm or	(3)	(0)	(0)	(3)
COM	231	Public Speaking	(3)	(0)	(0)	(3)
GRO	120	Gerontology	3	0	0	3
HSE	112	Group Process I	1	2	0	2
-	-	Humanities/Fine Arts Elective	3	0	0	3
-	-	Social/Behavioral Science Elect. or	3	0	0	3
HSE	245	Stress Management or	(2)	(2)	(0)	(3)
SAB	137	Co-Dependency	(3)	(0)	(0)	(3)
Total			16(17)	2(4)	10	16

Total credit hours required for degree: 71-72 **This curriculum is subject to change.**

Human Services Technology

Mental Health Concentration

A 45 38 C

Associate in Applied Science, High Point, day and evening
Certificates, High Point, day and evening

Contact Information:

(336) 334-4822, ext. 4131 - from Greensboro • (336) 454-1126, ext. 4131 - from High Point

The Human Services Technology/Mental Health Concentration prepares students for job opportunities in the mental health field. The curriculum enables students to understand culturally and emotionally challenged, developmentally disabled, and addicted clients through a variety of models and diagnoses.

Students will take course work which includes a history of the mental health movement, current developments and future trends, and theoretical models affecting individual development and behavior in a diverse client population. Fieldwork experiences provide opportunities for application of knowledge in agency and institutional settings.

Graduates should qualify for positions in mental health treatment centers serving a diverse, multicultural client population in public and private settings. Graduates are able to work with individuals, families, groups, organizations, and communities in providing a therapeutic arena of care.

Program Outcomes:

Upon successful completion of the Human Services Technology/Mental Health Technology - Associate Degree program, the graduate should be able to:

- demonstrate a basic understanding of mental health issues;
- demonstrate procedures that protect the life and safety of clients;
- demonstrate skills in case management and documentation;
- demonstrate skills in assessment and treatment of mental health and dual diagnosis issues;
- demonstrate the skills necessary in these specialized areas of study for entry into a career and/or transfer to a four-year college or university.

Curriculum:

Mental Health Concentration - Associate in Applied Science, High Point, day and evening
Advising Code: A 4538 C

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
CIS	110	Introduction to Computers	2	2	0	3
ENG	111	Expository Writing	3	0	0	3
HSE	110	Introduction to Human Services	2	2	0	3
PSY	150	General Psychology	3	0	0	3
SAB	110	Substance Abuse Overview	3	0	0	3
SOC	210	Introduction to Sociology	3	0	0	3
Total			16	4	0	18

Fall Semester I

Spring Semester I

ENG	112	Argument Based Research or	3	0	0	3
ENG	114	Professional Research & Report	(3)	(0)	(0)	(3)
HSE	123	Interviewing Techniques	2	2	0	3
PSY	241	Developmental Psychology or	3	0	0	3
PSY	281	Abnormal Psychology	(3)	(0)	(0)	(3)
SAB	135	Addictive Process	3	0	0	3
MHA	150	Mental Health Systems	3	0	0	3
HSE	125	Counseling	2	2	0	3
Total			16	4	0	18

Summer Semester I

HSE	210	Human Services Issues	2	0	0	2
HSE	225	Crisis Intervention	3	0	0	3
Total			5	0	0	5

Fall Semester II

BIO	110	Principles of Biology or	3	3	0	4
MAT	110	Mathematical Measurement or	(2)	(2)	(0)	(3)
MAT	115	Mathematical Models or	(2)	(2)	(0)	(3)
MAT	140	Survey of Mathematics	(3)	(0)	(0)	(3)
COE	111	Co-op Work Experience I and	0	0	10	1
COE	115	Work Experience Seminar I	1	0	0	1
HSE	220	Case Management	2	2	0	3
PSY	265	Behavior Modification	3	0	0	3
MHA	155	Psychological Assessment	3	0	0	3
Total			11(12)	4(5)	10	14(15)

Spring Semester II

HSE	226	Mental Retardation	3	0	0	3
HSE	112	Group Process I	1	2	0	2
COM	110	Introduction to Communication or	3	0	0	3
COM	120	Intro to Interpersonal Comm	(3)	(0)	(0)	(3)
COM	231	Public Speaking	(3)	(0)	(0)	(3)
-	-	Humanities / Fine Arts Elective	3	0	0	3
SOC	220	Social Problems	3	0	0	3
MHA	240	Advocacy	2	0	0	2
Total			15	2	0	16

Total credit hours required for degree: 71-72 **This curriculum is subject to change.**

Curriculum:

Mental Health Technology - Certificate, High Point, day and evening

*Available only to students with a minimum of a Bachelors degree in a related discipline.

Advising Code: A 4538 C C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
MHA	155	Psychological Assessment	3	0	0	3
PSY	265	Behavior Modification	3	0	0	3
HSE	220	Case Management or	2	2	0	3
HSE	225	Crisis Intervention (Summer Sem.)	(3)	(0)	(0)	(3)
Total			8(9)	2(0)	0	9
Spring Term I						
MHA	150	Mental Health Systems	3	0	0	3
MHA	240	Advocacy	2	0	0	2
HSE	226	Mental Retardation	3	0	0	3
Total			8	0	0	8

Total credit hours required for certificate: 17 **This curriculum is subject to change.**

Human Services Technology

Substance Abuse Concentration

A 45 38 E

Associate in Applied Science, High Point, day and evening
 Certificates, High Point, day and evening

Contact Information:

(336) 334-4822, ext. 4131 - from Greensboro • (336) 454-1126, ext. 4131 - from High Point

The Human Services Technologies curriculum prepares students for entry-level positions in institutions and agencies which provide social, community, and educational services. Along with core courses, students take general education courses which prepare them for eventual specialization in specific human service areas.

Students take courses from a variety of academic disciplines. Core courses emphasize the development of relevant knowledge, skills, and attitudes necessary to work successfully in human services. Fieldwork or internship experience will provide opportunities for the practical application of knowledge and skills learned in the classroom.

Graduates should qualify for positions in mental health, child care, family services, social services, rehabilitation, corrections, and educational agencies. Graduates choosing to continue their education may select from a variety of transfer programs at four-year public and private institutions.

Program Outcomes:

Upon successful completion of the Human Services Technology/ Substance Abuse Associate Degree program, the graduate should be able to:

- demonstrate a fundamental understanding of human nature and development from a biological, psychological, and sociological perspective;
- demonstrate a broad-based understanding of human behavior and social relationships;
- apply his/her knowledge of American society to social institutions and problem-solving;
- apply scientific methods to produce knowledge which can be useful for understanding and addressing individual and social problems;
- demonstrate critical reasoning and problem-solving abilities, communication skills, and ethical concerns as tools for working and living; and
- demonstrate the skills necessary in these specialized areas of study for entry into a career and/or transfer to a four-year college or university.

Curriculum:

Substance Abuse Concentration - Associate in Applied Science, High Point, day and evening
Advising Code: A 4538 E

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
CIS	110	Introduction to Computers	2	2	0	3
ENG	111	Expository Writing	3	0	0	3
HSE	110	Introduction to Human Services	2	2	0	3
PSY	150	General Psychology	3	0	0	3
SAB	110	Substance Abuse Overview	3	0	0	3
SOC	210	Introduction to Sociology	3	0	0	3
Total			16	4	0	18

Fall Semester I

Technical / Non-Transfer Degree

Spring Semester I

ENG	112	Argument Based Research or	3	0	0	3
ENG	114	Professional Research & Report	(3)	(0)	(0)	(3)
HSE	123	Interviewing Techniques	2	2	0	3
PSY	241	Developmental Psychology or	3	0	0	3
PSY	281	Abnormal Psychology	(3)	(0)	(0)	(3)
SAB	135	Addictive Process	3	0	0	3
COM	110	Introduction to Communication or	3	0	0	3
COM	120	Intro to Interpersonal Comm or	(3)	(0)	(0)	(3)
COM	231	Public Speaking	(3)	(0)	(0)	(3)
HSE	125	Counseling	2	2	0	3
Total			16	4	0	18

Summer Semester I

HSE	210	Human Services Issues	2	0	0	2
HSE	225	Crisis Intervention	3	0	0	3
Total			5	0	0	5

Fall Semester II

BIO	110	Principles of Biology or	3	3	0	4
MAT	110	Mathematical Measurement or	(2)	(2)	(0)	(3)
MAT	115	Mathematical Models or	(2)	(2)	(0)	(3)
MAT	140	Survey of Mathematics	(3)	(0)	(0)	(3)
COE	111	Co-op Work Experience I and	0	0	10	1
COE	115	Work Experience Seminar I	1	0	0	1
SAB	125	SAB Case Management	2	2	0	3
SAB	120	Intake and Assessment	3	0	0	3
SOC	213	Sociology of the Family or	3	0	0	3
PSY	265	Behavior Modification	(3)	(0)	(0)	(3)
Total			11(12)	4(5)	10	14(15)

Spring Semester II

COE	121	Co-op Work Experience II and	0	0	10	1
COE	125	Work Experience Seminar II	1	0	0	1
SAB	210	Substance Abuse Counseling	2	2	0	3
HSE	112	Group Process I	1	2	0	2
-	-	Humanities / Fine Arts Elective	3	0	0	3
SAB	230	Family Therapy or	2	2	0	3
SAB	137	Co-Dependency	(3)	(0)	(0)	(3)
SAB	240	SAB Issues in Client Service	3	0	0	3
Total			12(13)	6	10	16

Total credit hours required for degree: 71-72 **This curriculum is subject to change.**

Curriculum:**Substance Abuse Treatment - Certificate, High Point, day and evening
(Certificate begins each Spring Semester)*****Available only to students with a minimum of a Bachelors degree in a related discipline.****Advising Code: A 4538 E C2**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Spring Semester I						
SAB	135	Addictive Process	3	0	0	3
SAB	210	Substance Abuse Counseling	2	2	0	3
Total			5	2	0	6
Fall Semester I						
SAB	110	Substance Abuse Overview	3	0	0	3
SAB	120	Intake and Assessment	3	0	0	3
Total			6	0	0	6
Spring Term II						
SAB	230	Family Therapy	2	2	0	3
SAB	240	SAB Issues in Client Service	3	0	0	3
Total			5	2	0	6

Total credit hours required for certificate: 18 **This curriculum is subject to change.**

Industrial Systems Technology

A 50 24 0

Associate in Applied Science, Greensboro, day and evening
Diploma, Greensboro, day and evening
Certificate, Greensboro, day and evening

Contact Information:

(336) 334-4822, ext. 4427 - from Greensboro • (336) 454-1126, ext. 4427 - from High Point

The Industrial Systems Technology curriculum is designed to prepare individuals to safely service, maintain, repair, or install equipment. Instruction includes theory and skill training needed for inspecting, testing, troubleshooting, and diagnosing industrial equipment and physical facilities.

Students will learn multi-craft technical skills in blueprint reading, electricity, hydraulics/pneumatics, machining, welding, and various maintenance procedures. Practical application in these industrial systems will be emphasized and additional advanced course work may be offered.

Upon completion of this curriculum, graduates should be able to individually or with a team safely install, inspect, diagnose, repair and maintain industrial process and support equipment. Students will also be encouraged to develop their skills as life-long learners.

Program Outcomes:

Upon successful completion of the Industrial Systems Technology program, the graduate should be able to:

- display a working knowledge of mechanical systems; hydraulic and pneumatic systems; and electrical and electronic systems;
- perform preventive maintenance and troubleshoot a variety of industrial systems;
- maintain air conditioning and heating systems;
- operate machine shop equipment;
- perform basic welding skills;
- maintain and repair plumbing apparatus;
- identify and requisition parts.

Curriculum:

Industrial Systems Technology - Associate in Applied Science, Greensboro, day and evening
Advising Code: A 5024 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ELC	112	DC/AC Electricity	3	6	0	5
MAT	110	Mathematical Measurement	2	2	0	3
		or				
MAT	115	Mathematical Models	(2)	(2)	(0)	(3)
ENG	111	Expository Writing	3	0	0	3
BPR	135	Schematics & Diagrams	2	0	0	2
PLU	111	Introduction to Basic Plumbing	1	3	0	2
Total			10	13	0	15

Spring Semester I

AHR	120	HVACR Maintenance	1	3	0	2
CIS	110	Introduction to Computers	2	2	0	3
ELC	117	Motors and Controls	2	6	0	4
ENG	112	Argument Based Research or	3	0	0	3
ENG	114	Professional Research and Reporting	(3)	(0)	(0)	(3)
HYD	110	Hydraulics/Pneumatics	2	3	0	3
WLD	112	Basic Welding Processes	1	3	0	2
Total			11	17	0	17

Summer Term I

ELC	128	Introduction to PLC	2	3	0	3
ELC	115	Industrial Wiring	2	6	0	4
MNT	220	Rigging & Moving	1	3	0	2
Total			5	12	0	9

Fall Semester II

ELC	228	PLC Applications	2	6	0	4
ISC	112	Industrial Safety	2	0	0	2
MNT	263	Electro-Pneu Components	2	2	0	4
MEC	111	Machine Processes I	1	4	0	3
COM	231	Public Speaking or	3	0	0	3
COM	110	Introduction to Communication	(3)	(0)	(0)	(3)
-	-	Social / Behavioral Science Elective	3	0	0	3
Total			13	12	0	19

Spring Semester II

ELC	229	Applications Projects	1	3	0	2
ELN	229	Industrial Electronics	2	4	0	4
MNT	110	Intro to Maintenance Procedures	1	3	0	2
PCI	162	Instrumentation Controls	2	3	0	3
-	-	Humanities / Fine Arts Elective	3	0	0	3
Total			9	13	0	14

Total credit hours required for degree: 74 **This curriculum is subject to change.**

Up to 2 co-op credits may be substituted for course work, with Department Chair approval.

Curriculum:**Industrial Systems Technology - Diploma, Greensboro, day and evening****Advising Code: A 5024 0 D1**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ELC	112	DC/AC Electricity	3	6	0	5
MAT	110	Mathematical Measurement or	2	2	0	3
MAT	115	Mathematical Models	(2)	(2)	(0)	(3)
BPR	135	Schematics & Diagrams	2	0	0	2
PLU	111	Introduction to Basic Plumbing	1	3	0	2
Total			8	11	0	12
Spring Semester I						
WLD	112	Basic Welding Processes	1	3	0	2
ELC	117	Motors and Controls	2	6	0	4
COM	110	Introduction to Communication or	3	0	0	3
ENG	111	Expository Writing	(3)	(0)	(0)	(3)
CIS	110	Introduction to Computers	2	2	0	3
Total			8	11	0	12
Summer Term I						
ELC	128	Introduction to PLC	2	3	0	3
ELC	115	Industrial Wiring	2	6	0	4
MNT	220	Rigging and Moving	1	3	0	2
Total			5	12	0	9
Fall Semester II						
MEC	111	Machine Processes I	1	4	0	3
ELN	229	Industrial Electronics	2	4	0	4
Total			3	8	0	7
Spring Semester II						
HYD	110	Hydraulics / Pneumatics	2	3	0	3
MNT	110	Intro to Maintenance Procedures	1	3	0	2
—	—	Humanities / Fine Arts Elective	3	0	0	3
Total			6	6	0	8

Total credit hours required for diploma: 48 **This curriculum is subject to change.**

Curriculum: Industrial Systems Technology - Certificate, Greensboro, day and evening
Advising Code: A 5024 0 C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ELC	112	DC/AC Electricity	3	6	0	5
BPR	135	Schematics & Diagrams	2	0	0	2
Total			4	8	0	7
Spring Semester I						
ELC	117	Motors and Controls	2	6	0	4
HYD	110	Hydraulics / Pneumatics	2	3	0	3
Total			4	9	0	7
Summer Term						
ELC	115	Industrial Wiring <u>or</u>	2	6	0	4
Total			2	6	0	4

Total credit hours required for certificate: 18 **This curriculum is subject to change.**

Curriculum: Packaging - Certificate, Greensboro, day and evening (entering fall)
Advising Code: A 5024 0 C2

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
PKG	110	Packaging Machinery I	1	4	0	3
Total			1	4	0	3
Spring Semester I						
PKG	140	Packaging Materials	3	0	0	3
Total			3	0	0	3
Summer Term I						
CIS	110	Introduction to Computers	2	2	0	3
Total			2	2	0	3
Fall Semester II						
ELN	229	Industrial Electronics	2	4	0	4
MNT	110	Introduction to Maintenance Procedures	1	3	0	2
Total			4	7	0	6
Spring Semester II						
ELC	128	Introduction to PLC	2	3	0	3
Total			2	3	0	3

Total credit hours required for certificate: 18 **This curriculum is subject to change.**

Technical / Non-Transfer Degree

Curriculum:**Troubleshooting - Certificate, Greensboro, day and evening (entering spring)**

Advising Code: A 5024 0 C3

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Spring Semester I

HYD	110	Hydraulics/Pneumatics	2	3	0	3
Total			2	3	0	3

Summer Term I

ELC	130	Advanced Motors/Controls	2	2	0	3
Total			2	2	0	3

Fall Semester I

BPR	135	Schematics & Diagrams	3	0	0	2
Total			3	0	0	2

Spring Semester II

ELC	117	Motors and Controls	2	6	0	4
Total			2	6	0	4

Fall Semester II

MNT	263	Electro-Pneu Components	2	4	0	4
Total			2	4	0	4

Total credit hours required for certificate: 16 **This curriculum is subject to change.****Curriculum:****Controls - Certificate, Greensboro, day and evening (entering summer)**

Advising Code: A 5024 0 C4

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Summer Term I

ELC	128	Introduction to PLC	2	3	0	3
Total			1	3	0	2

Fall Semester I

ELC	112	DC/AC Electricity	3	6	0	5
Total			3	6	0	5

Spring Semester I

ELC	228	PLC Applications	2	6	0	4
Total			2	6	0	4

Summer Term II

PCI	162	Instrumentation Controls	2	3	0	3
Total			2	3	0	3

Fall Semester II

ELC	229	Applications Projects or	1	3	0	2
Total			2	3	0	3

Total credit hours required for certificate: 17 **This curriculum is subject to change.**

Industrial Systems Technology Technical Electives:

ELC	111	Intro to Electricity	2	2	0	3
ELC	113	Basic Wiring I	2	6	0	4
ELC	118	National Electrical Code	1	2	0	2
ELC	130	Advanced Motors/Controls	2	2	0	3
ELC	228	PLC Applications	2	6	0	4
ELC	229	Applications Projects or	1	3	0	2
MEC	112	Machine Processes II	2	3	0	3
MEC	151	Mechanical Manufacturing Systems	1	3	0	2
MNT	263	Electro-Pneu Components	2	4	0	4
PKG	110	Package Machinery I	1	4	0	3
PKG	130	Basic Electronics	1	3	0	2
PKG	140	Packaging Materials	3	0	0	3
PKG	150	Machinery Troubleshooting	1	3	0	2
WLD	121	GMAW (MIG) FCAW/Plate	2	6	0	4

Information Systems Security

A 25 27 0

Associate in Applied Science, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2249 - from Greensboro • (336) 454-1126, ext. 2249 - from High Point

Information Systems Security covers a broad expanse of technology concepts. This curriculum provides individuals with the skills required to implement effective and comprehensive information security controls.

Course work includes networking technologies, operating systems administration, information policy, intrusion detection, security administration, and industry best practices to protect data communications.

Graduates should be prepared for employment as security administrators. Additionally, they will acquire the skills that allow them to pursue security certifications.

Program Outcomes:

- Identify current ethical issues in computer technology
- Use appropriate software to monitor network traffic
- Assess various network topologies
- Identify basic security threats
- Create strategic plans to enhance network security
- Assess various network topologies
- Implement Local Area Networks using both, static and dynamic addressing techniques, including sub netting
- Install domain-based Local Area Networks
- Configure domain-based Local Area Networks according to accepted standards

Curriculum: Information Systems Security - Associate in Applied Science, Jamestown, day
Advising Code: A25270

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
CIS	110	Introduction to Computers	2	2	0	3
CTS	115	Info Sys Bus Concepts	3	0	0	3
NET	125	Networking Basics	1	4	0	3
NOS	110	Operating System Concepts	2	3	0	3
—	—	Humanities / Fine Arts	3	0	0	3
Total			11	9	0	15

Spring Semester I

MAT	121	Algebra/Trigonometry I	3	0	0	3
SEC	110	Security Concepts	3	0	0	3
ENG	111	Expository Writing	3	0	0	3
NET	126	Routing Basics	1	4	0	3
NOS	130	Windows Single User	2	2	0	3
Total			12	8	0	15

Summer Term I

CIS	115	Intro to Prog & Logic	2	3	0	3
COM	110	Intro to Communication or	3	0	0	3
COM	120	Intro to Interpersonal Communication	3	0	0	3
ENG	114	Professional Research and Reporting	3	0	0	3
Total			8	3	0	9

Fall Semester II

NOS	120	Linux/UNIX Single User	2	2	0	3
SEC	150	Secure Communications	2	2	0	3
SEC	160	Secure Admin I	2	2	0	3
SEC	220	Defense in Depth	2	2	0	3
–	–	Technical Elective	2	2	0	3
Total			10	10	0	15

Spring Semester II

DBA	110	Database Concepts	2	3	0	3
SEC	210	Intrusion Detection	2	2	0	3
SEC	289	Security Capstone Project	1	4	0	3
–	–	Social / Behavior Science	3	0	0	3
–	–	Technical Elective	2	2	0	3
Total			10	11	0	15

Total credit hours required for degree: 69. **This curriculum is subject to change.**

Technical Electives: CCT 250, CCT 251, CTS 287, NET 110, NET 175, NET 225, NET 226, NOS 220 and SEC 170.

Lateral Entry Certificate

C 55 43 0

Certificate, Jamestown, evening

Contact Information:

(336) 334.4822 ext. 2789 or 2362 from Greensboro * (336) 454.1126 ext. 2789 or 2362 from High Point

The Lateral Entry curriculum, developed for teachers who hold a lateral entry license, provides a course of study leading to the development of the general pedagogy competencies needed to become certified to teach by the North Carolina Department of Public Instruction.

Graduates should meet the general pedagogy competencies within the first three years of teaching, including a minimum of six semester hours per school year. Additional requirements, such as pre-service training and passing the PRAXIS, are required for licensure. GTCC provides coursework only; GTCC is not a licensing agency. Program participants should work closely with the school system's licensing specialist.

Program Requirements:

- Program plan from the Regional Alternative Licensing Center (RALC);
- Transcripts of BA/BS degree.

Curriculum:

Lateral Entry Certificate, Jamestown, evening
Advising Code: C 55 43 0

Prefix	Course Number	Course Title
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Semester Completed

18 hours / 6 courses:

EDU	163	Classroom Management & Instruction	_____
EDU	271	Educational Technology	_____
EDU	244	Human Growth & Development	_____
EDU	243	Learning Theory	_____
EDU	131	Child, Family & Community	_____
EDU	245	Policies & Procedures	_____

9 hours / 3 courses:

-	-	Literacy and Reading Methods**	_____
-	-	Special Needs and Diverse Learners**	_____
-	-	Instructional Methods**	_____

**The courses must be taken through one of our 4-year partner colleges/universities; for more information, contact the Teacher Education Academy, ext. 2491.

Total credit hours required for certificate: 27 **This curriculum is subject to change.**

Manufacturing Technology

A 50 32 0

Associate in Applied Science, Greensboro, day and evening
Diploma, Greensboro, day and evening
Certificate, Greensboro, day and evening

Contact Information:

(336) 334-4822, ext. 4430 - from Greensboro • (336) 454-1126, ext. 4430 - from High Point

The Manufacturing Technology Curriculum provides an introduction to the principles of manufacturing in today's global marketplace. The student will be exposed to valuable high-tech concepts applicable in a variety of industries such as plastics, metals, furniture, textiles, and electronics.

Students will gain real-world knowledge in manufacturing management practices, manufacturing materials, and CAD/CAM, CNC Principles, and other computerized production techniques.

Graduates should qualify for employment as manufacturing technicians, quality assurance technicians, CAD/CAM technicians, team leaders, or research and development technicians. The student should be able to advance in the workplace and develop with new technologies.

Curriculum:

Integrated Operations Concentration - Associate in Applied Science, Greensboro Advising Code: A 5032 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
MAC	114	Introduction to Metrology	2	0	0	2
MAC	111AB	Machining Technology (Part A)	1	6	0	3
BPR	111	Blue Print Reading	1	2	0	2
CIS	110	Introduction to Computers or	2	2	0	3
CIS	111	Basic PC Literacy	(1)	(2)	0	(2)
Total			6	8	0	10
Spring Semester I						
ENG	111	Expository Writing	3	0	0	3
MAC	111BB	Machining Technology (Part B)	1	6	0	3
DFT	119	Basic CAD	1	2	0	2
ISC	112	Industrial Safety	2	0	0	2
Total			7	8	0	10
Summer Semester I						
MEC	180	Engineering Materials	2	3	0	3
-	-	Technical Elective*	1	3	0	2
MAC	121	Introduction to CNC	2	0	0	2
Total			5	6	0	7
Fall Semester II						
-	-	Social Science Elective	3	0	0	3
MAC	112AB	Machining Technology IIA	1	6	0	3
MAT	121	Algebra / Trigonometry	2	2	0	3
-	-	Technical Elective*	2	3	0	3
Total			8	11	0	12

Spring Term II

ENG	114	Professional Research & Reporting	3	0	0	3
MEC	110	Introduction to CAD/CAM	1	2	0	2
BPR	121	Blue Print Reading: Mechanical	1	2	0	2
MAC	112BB	Machining Technology IIB	1	6	0	3
Total			6	10	0	10

Summer Semester II

-	-	Technical Elective*	2	3	0	3
MEC	150	Introduction to Auto. Mfg. Controls	1	3	0	2
Total			3	6	0	5

Fall Semester III

ISC	132	MFG Quality Control	2	3	0	3
-	-	Technical Elective*	2	3	0	3
-	-	Humanities/Fine Art Elective	3	0	0	3
Total			7	6	0	9

Spring Term III

COM	120	Intro to Interpersonal Communication	3	0	0	3
BPR	221	Interpretation of GD & T	2	0	0	2
-	-	Technical Elective*	2	3	0	3
Total			7	3	0	8

*Students must select 14-24 credit hours from one set of technical electives listed below.

**Up to two Co-op credits may be substituted for course work with Department Chair approval.

Total credit hours required for degree: 70 - 71 **This curriculum is subject to change.**

Technical Electives

You must choose all of your technical electives from within the same set, chosen from:

DFT	151	CAD I	2	3	0	3
DFT	152	CAD II	2	3	0	3
ELC	112	DC/AC Electricity	3	6	0	5
ELC	131	DC/AC Circuit Analysis	4	3	0	6
ELN	131	Electronic Devices	3	3	0	4
ELN	132	Linear IC Applications	3	3	0	4
ELN	133	Digital Electronics	3	3	0	4
MEC	231	CAM I	1	4	0	3
MEC	232	CAM II	0	4	0	3
or						
MAC	115	Grinding Operations	2	2	0	3
MEC	151	Mechanical Mfg. Systems	1	3	0	2
MEC	265	Fluid Mechanics	2	2	0	3
PLA	110	Introduction to Plastics	2	0	0	2
PLA	120	Injection Molding	2	3	0	3
PLA	162	Plastics Manufacturing Processes	2	3	0	3
PLA	230	Advanced Plastics Manufacturing	3	3	0	4
or						
HYD	110	Hydraulics/Pneumatics I	2	3	0	3
HYD	112	Hydraulics/Medium/Heavy Duty	1	2	0	2
WLD	111	Oxy-Fuel Welding	1	3	0	2
WLD	112	Basic Welding Processes	1	3	0	2
WLD	115	SMAW (stick) Plate	2	9	0	5
WLD	121	GMAW (MIG) FCWA/Plate	2	6	0	4
WLD	141	Symbols and Specifications	2	2	0	3

Curriculum:**Manufacturing Technology, Diploma, Greensboro, day and evening
Advising Code: A 5032 0 D1**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
MAC	114	Introduction to Metrology	2	0	0	2
MAC	111AB	Machining Technology I-A	1	6	0	3
BPR	111	Blue Print Reading	1	2	0	2
Total			4	8	0	7
Spring Semester I						
MAC	111BB	Machining Technology IB	1	6	0	3
CIS	110	Introduction to Computers	2	2	0	3
ISC	112	Industrial Safety	2	0	0	2
DFT	119	Basic CAD	1	2	0	2
Total			11	4	0	10
Summer Semester I						
MEC	180	Engineering Materials	2	3	0	3
MAC	121	Introduction to CNC	2	0	0	2
Total			4	3	0	5
Fall Semester II						
-	-	Technical Elective	1	3	0	2
COM	120	Intro to Interpersonal Communication	3	0	0	3
-	-	Technical Elective	1	3	0	2
Total			6	5	0	7
Spring Term II						
MEC	110	Introduction to CAD/CAM	1	2	0	2
BPR	121	Blue Print Reading: Mechanical	1	2	0	2
-	-	Technical Elective	1	3	0	2
Totals			3	7	0	6
Fall Semester III						
MEC	231	CAM I	1	4	0	3
-	-	Technical Elective	1	3	0	2
Totals			2	7	0	5

Total credit hours required for diploma: 40 **This curriculum is subject to change.**

Curriculum:**Basic Manufacturing - Certificate, Greensboro, day and evening
Advising Code: A 5032 0 C1**

BPR	111	Blue Print Reading	1	2	0	2
ISC	112	Industrial Safety	2	0	0	2
ISC	132	MFG Quality Control	2	3	0	3
MAC	114	Introduction to Metrology	2	0	0	2
--	--	Technical Elective	2(4)	2(4)	0	3(6)
Total			9	8	0	12

Total credit hours required for certificate: 12 **This curriculum is subject to change.**

Mechanical Engineering Technology

A 40 32 0

Associate in Applied Science, Greensboro, day
Diploma, Greensboro

Contact Information:

(336) 334-4822, ext. 4441 - from Greensboro • (336) 454-1126, ext. 4441 - from High Point

The Mechanical Engineering Technology curriculum prepares graduates for employment as technicians in the diversified mechanical and manufacturing engineering fields. Mechanical Engineering technicians assist in design, development, testing, process design and improvement, and troubleshooting and repair of engineered systems. Emphasis is placed on the integration of theory and hands-on application of engineering principles.

In addition to course work in engineering graphics, engineering fundamentals, materials and manufacturing processes, mathematics, and physics, students will study computer applications, critical thinking, planning and problem solving, and oral and written communications.

Graduates of the curriculum will find employment opportunities in the manufacturing or service sectors of engineering technology. Engineering technicians may obtain professional certification by application to organizations such as ASQC, SME, and NICET.

Curriculum: Mechanical Engineering Technology - Associate in Applied Science, Greensboro, day Advising Code: A 4032 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ENG	111	Expository Writing	3	0	0	3
MAT	121	Algebra/Trigonometry I	2	2	0	3
MEC	111	Machine Processes I	1	4	0	3
DFT	111	Technical Drafting I	1	3	0	2
DFT	111A	Technical Drafting I Lab	0	3	0	1
DFT	151	CAD I	2	3	0	3
Total			9	15	0	15
Spring Semester I						
MAT	122	Algebra/Trigonometry II	2	2	0	3
PHY	131	Physics-Mechanics	3	2	0	4
DFT	112	Technical Drafting II	1	3	0	2
DFT	112A	Technical Drafting II Lab	0	3	0	1
DFT	152	CAD II	2	3	0	3
ELC	111	Introduction to Electricity	2	2	0	3
Total			10	15	0	16
Summer Term I						
MEC	180	Engineering Materials	2	3	0	3
DDF	211	Design Process I	1	6	0	4
Total			3	9	0	7
Fall Semester II						
MAT	223	Applied Calculus	2	2	0	3
DFT	153	CAD III	2	3	0	3
MEC	110	Intro. To CAD/CAM	1	2	0	2
MEC	250	Statics & Strength Of Materials	4	3	0	5
-	-	Technical Elective*	0-2	0-3	0-20	2-3
		(May be taken in Spring as well)				
Total			11-13	8-11	0-20	15-16

Technical / Non-Transfer Degree

Spring Semester II

MEC	265	Fluid Mechanics	2	2	0	3
MEC	267	Thermal Systems	2	2	0	3
–	–	Social/Behavioral Science Elective	3	0	0	3
–	–	Communications Elective **	3	0	0	3
ENG	114	Professional Research & Reporting	3	0	0	3
–	–	Humanities/Fine Arts Elective	3	0	0	3
Total			16	4	0	18

* Technical electives may be selected from the following: CET 111, DFT 253, MAC 121, TNE 111, COE 112, or COE 111 and COE 121.

** Communications Elective selected from COM 110, COM 120, and COM 231.

Total credit hours required for degree: 71-72 **This curriculum is subject to change.**

Drafting and Design Option

Curriculum: **Drafting and Design Option - Associate in Applied Science, Greensboro, day**
Advising Code: A 4032 0 A1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester

ENG	111	Expository Writing	3	0	0	3
MAT	121	Algebra/Trigonometry I	2	2	0	3
MEC	111	Machine Processes I	1	4	0	3
DFT	111	Technical Drafting I	1	3	0	2
DFT	111A	Technical Drafting I Lab	0	3	0	1
DFT	151	CAD I	2	3	0	3
Total			9	15	0	15

Spring Semester I

MAT	122	Algebra/Trigonometry II	2	2	0	3
PHY	131	Physics-Mechanics	3	2	0	4
DFT	112	Technical Drafting II	1	3	0	2
DFT	112A	Technical Drafting II Lab	0	3	0	1
DFT	152	CAD II	2	3	0	3
ELC	111	Introduction to Electricity	2	2	0	3
Total			10	15	0	16

Summer Term I

MEC	180	Engineering Materials	2	3	0	3
DDF	211	Design Process I	1	6	0	4
Total			3	9	0	7

Fall Semester II

DDF	212	Design Process II	1	6	0	4
MEC	110	Introduction to CAD/CAM	1	2	0	2
ENG	114	Professional Research & Reporting	3	0	0	3
MEC	250	Statics & Strength Of Materials	4	3	0	5
DFT	153	CAD III	2	3	0	3
Total			11	14	0	17

Spring Semester II

DDF	213	Design Process III	1	6	0	4
—	—	Technical Elective* (May be taken in Fall as well)	0-2	0-3	0-20	2-3
—	—	Social/Behavioral Science Elective	3	0	0	3
—	—	Humanities/Fine Arts Elective	3	0	0	3
—	—	Communications Elective**	3	0	0	3
Total			9-11	6	0-20	15-16

* Technical electives may be selected from the following: CET 111, DFT 253, MAC 121, MAT 223, TNE 111, COE 111 and COE 121, or COE 112.

** Communications Elective selected from COM 110, COM 120, and COM 231.

Total credit hours required for degree: 70-71 **This curriculum is subject to change.**

Curriculum: Drafting and Design Option - Associate in Applied Science, Greensboro, evening Advising Code: A 4032 0 A1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours\
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
DFT	111	Technical Drafting I	1	3	0	2
DFT	111A	Technical Drafting I Lab	0	3	0	1
DFT	151	CAD I	2	3	0	3
Total			3	9	0	6

Spring Semester I

ENG	111	Expository Writing	3	0	0	3
DFT	112	Technical Drafting II	1	3	0	2
DFT	112A	Technical Drafting II Lab	0	3	0	1
DFT	152	CAD II	2	3	0	3
Total			6	9	0	9

Summer Semester I

MEC	180	Engineering Materials	2	3	0	3
Total			2	3	0	3

Fall Semester II

MAT	121	Algebra / Trigonometry I	2	2	0	3
DFT	153	CAD III	2	3	0	3
MEC	111	Machine Processes I	1	4	0	3
Total			5	9	0	9

Spring Semester II

DDF	211	Design Process I	1	6	0	4
MAT	122	Algebra / Trigonometry II	2	2	0	3
ELC	111	Introduction to Electricity	2	2	0	3
Total			5	10	0	10

Fall Semester III

PHY	131	Physics - Mechanics	3	2	0	4
DDF	212	Design Process II	1	6	0	4
Total			5	5	0	8

Spring Semester III

–	–	COM Elective**	3	0	0	3
–	–	Technical Elective*	0-2	0-3	0-20	2-3
DDF	213	Design Process III	1	6	0	4
Total			4-6	6-9	0-20	9-10

Fall Semester IV

ENG	114	Professional Research & Reporting	3	0	0	3
–	–	Social/Behavioral Science Elective	3	0	0	3
–	–	Humanities/Fine Arts Elective	3	0	0	3
Total			9	0	0	9

Spring Semester IV

MEC	110	Introduction to CAD/CAM	1	2	0	2
MEC	250	Statics and Strength of Materials	4	3	0	5
Total			5	5	0	7

Total credit hours required for degree: 70-71 **This curriculum is subject to change.**

* Technical electives may be selected from the following: CET 111, DFT 253, MAC 121, MAT 223, TNE 111, COE 111 and COE 121, or COE 112.

** Communications Elective selected from COM 110, COM 120, and COM 231.

CAD Support Option

Curriculum: CAD Support Option, Mechanical Engineering Technology - Associate Degree,
Greensboro, evening
Advising Code: A 4032 0 A2

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

DFT	111	Technical Drafting I	1	3	0	2
DFT	111A	Technical Drafting I Lab	0	3	0	1
DFT	151	CAD I	2	3	0	3
Total			3	9	0	6

Spring Semester I

ENG	111	Expository Writing	3	0	0	3
DFT	112	Technical Drafting II	1	3	0	2
DFT	112A	Technical Drafting II Lab	0	3	0	1
DFT	152	CAD II	2	3	0	3
Total			6	9	0	9

Summer Semester I

MEC	180	Engineering Materials	2	3	0	3
Total			2	3	0	3

Fall Semester II

MAT	121	Algebra/Trigonometry I	2	2	0	3
DFT	153	CAD III	2	3	0	3
MEC	111	Machine Processes I	1	4	0	3
Total			5	9	0	9

Technical / Non-Transfer Degree

Spring Semester II

DDF	211	Design Process I	1	6	0	4
ELC	111	Introduction to Electricity	2	2	0	3
Total			3	8	0	7

Fall Semester III

ENG	114	Professional Research & Reporting	3	0	0	3
PHY	131	Physics - Mechanics	3	2	0	4
-	-	COM Elective**	3	0	0	3
Total			9	2	0	10

Spring Semester III

MEC	110	Introduction to CAD/CAM	1	2	0	2
CET	111	Computer Upgrade/Repair I	2	3	0	3
MAT	122	Algebra/Trigonometry II	2	2	0	3
Total			5	7	0	8

Fall Semester IV

-	-	Technical Elective*	0-2	0-3	0-20	2-3
-	-	Social/Behavioral Science Elective	3	0	0	3
-	-	Humanities/Fine Arts Elective	3	0	0	3
Total			6-8	0-3	0-20	8-9

Spring Semester IV

DFT	253	CAD Data Management	2	3	0	3
MEC	250	Statics and Strengths of Materials	4	3	0	5
Total			7	3	0	8

Total credit hours required for degree: 68 - 69 **This curriculum is subject to change.**

* - Technical electives may be selected from the following: MAC 121, MAT 223, TNE 111, COE 111 and COE 121, or COE 112.

** - Communications Elective selected from COM 110, COM 120, and COM 231.

Curriculum:

Mechanical Engineering Technology - Diploma, Greensboro, day
Advising Code: A 4032 0 D1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
ENG	111	Expository Writing	3	0	0	3
MAT	121	Algebra/Trigonometry I	2	2	0	3
MEC	111	Machine Processes I	1	4	0	3
DFT	111	Technical Drafting I	1	3	0	2
DFT	111A	Technical Drafting I Lab	0	3	0	1
DFT	151	CAD I	2	3	0	3
MAT	122	Algebra/Trigonometry II	2	2	0	3
PHY	131	Physics-Mechanics	3	2	0	4
DFT	112	Technical Drafting II	1	3	0	2
DFT	112A	Technical Drafting II Lab	0	3	0	1
DFT	152	CAD II	2	3	0	3
ELC	111	Intro. To Electricity	2	2	0	3
MEC	180	Engineering Materials	2	3	0	3
DDF	211	Design Process I	1	6	0	4
Total						38

Total credit hours required for diploma: 38 **This curriculum is subject to change.**

Curriculum:**CAD - Certificate, Greensboro, evening
Advising Code: A 4032 0 C2**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
DFT	111	Technical Drafting I	1	3	0	2
DFT	111A	Technical Drafting I Lab	0	3	0	1
DFT	112	Technical Drafting II	1	3	0	2
DFT	112A	Technical Drafting II Lab	0	3	0	1
DFT	151	CAD I	2	3	0	3
DFT	152	CAD II	2	3	0	3
DFT	153	CAD III	2	3	0	3
Total						15

Total credit hours required for certificate: 15

This curriculum is subject to change.

Medical Assisting

A 45 40 0

Associate in Applied Science, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2351 - from Greensboro • (336) 454-1126, ext. 2351 - from High Point

The Medical Assisting curriculum prepares multi-skilled health care professionals qualified to perform administrative, clinical, and laboratory procedures.

Course work includes instruction in scheduling appointments, coding and processing insurance accounts, billing, collections, computer operations; assisting with examinations/treatments, performing routine laboratory procedures, electrocardiography, supervised medication administration; and ethical/legal issues associated with patient care.

Graduates of Commission on Accreditation of Allied Health Education Programs (CAAHEP) -accredited medical assisting programs may be eligible to sit for the American Association of Medical Assistants' Certification Examination to become Certified Medical Assistants. Employment opportunities include physicians' offices, health maintenance organizations, health departments, and hospitals.

The Guilford Technical Community College's Medical Assisting program in Jamestown, NC is accredited by the Commission on Accreditation of Allied Health Education Programs, 1361 Park Street, Clearwater, FL 33756, (727) 210-2350 (www.caahep.org), upon recommendation of the Medical Assisting Education Review Board (MAERB). The program has a 100% pass rate on the AAMA Certification exam. GTCC's Medical Assisting program has a 100% job placement rate for its graduates actively seeking employment.

Potential applicants should follow the admissions requirements and specific deadlines available through the college admissions office. Suggested high school courses for individuals desiring a career as a Medical Assistant include advanced biology with lab, algebra, keyboarding/computer applications.

Beginning with the January 2001 administration of the AAMA certification examination, applicants that have been found guilty of a felony or pleaded guilty to a felony will not be eligible to sit for the certification examination. Students may request the opportunity to submit written evidence/request a hearing before the certifying board of the AAMA in order to obtain a waiver. See Department Chairperson for appeal process.

All developmental course work must be completed through ENG 090, RED 090, MAT 070 in addition to a high school/college level biology with lab completed with a "C" or higher. A keyboard proficiency test with a minimum of 35 WPM with three or less errors or successful completion of OST 131 prior to acceptance into the program.

Program Outcomes:

Upon successful completion of the Medical Assisting Associate Degree program, the graduate should be able to:

- Apply effective written and oral communication skills with consumers and co-workers in the role of medical assistant;
- Create solutions to problems related to administrative, clinical, and laboratory procedures;
- Implement policies and procedure manuals related to administrative, clinical, and laboratory procedures;
- Demonstrate mathematical calculations related to generating laboratory results, administrative bookkeeping and administration of medications;
- Demonstrate competency in the knowledge and skills required for entry level medical assisting practice;
- Project professionalism by maintaining positive interpersonal skills, being a team player, showing initiative and responsibility and practicing in a legal and ethical manner.

Limited Enrollment Program: Contact the Enrollment Services Office for Program admission requirements and Program application deadlines.

Curriculum:**Medical Assisting - Associate in Applied Science, Jamestown, day**
Advising Code: A 4540 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
MED	110	Orientation to Medical Assisting	1	0	0	1
MED	118	Medical Law and Ethics	2	0	0	2
MED	121	Medical Terminology I	3	0	0	3
MED	130	Administration Office Procedures I	1	2	0	2
ENG	111	Expository Writing	3	0	0	3
OST	137	Office Software Applications or	2	2	0	3
CIS	110	Introduction to Computers	(2)	(2)	(0)	(3)
MAT	110	Mathematical Measurement or	2	2	0	3
MAT	115	Mathematical Models	(2)	(2)	(0)	(3)
Total			14	6	0	17

Spring Semester I

MED	122	Medical Terminology II	3	0	0	3
MED	131	Administration Office Procedures II	1	2	0	2
MED	274	Diet Therapy/Nutrition	3	0	0	3
BIO	163	Basic Anatomy and Physiology	4	2	0	5
COM	110	Introduction to Communication or	3	0	0	3
COM	231	Public Speaking	(3)	(0)	(0)	(3)
Total			14	4	0	16

Summer Term I

MED	114	Professional Interaction in Health Care	1	0	0	1
MED	140	Exam Room Procedures I	3	4	0	5
ENG	114	Professional Research and Reporting or	3	0	0	3
ENG	112	Argument-Based Research	(3)	(0)	(0)	(3)
Total			7	4	0	9

Fall Semester II

MED	150	Laboratory Procedures I	3	4	0	5
MED	240	Exam Room Procedures II	3	4	0	5
MED	270	Symptomatology	2	2	0	3
MED	272	Drug Therapy	3	0	0	3
Total			11	10	0	16

Spring Semester II

MED	260	MED Clinical Practicum	0	0	15	5
MED	262	Clinical Perspectives	1	0	0	1
MED	264	Medical Assisting Overview	2	0	0	2
MED	276	Patient Education	1	2	0	2
PSY	150	General Psychology	3	0	0	3
-	-	Humanities / Fine Arts Elective	3	0	0	3
Total			10	2	15	16

Total credit hours required for degree: 74 **This curriculum is subject to change.**

Medical Office Administration

A 25 31 0

Associate in Applied Science, Jamestown, day and evening
Certificate, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2447 - from Greensboro • (336) 454-1126, ext. 2447 - from High Point

This curriculum prepares individuals for employment in medical and other health-care related offices.

Course work will include medical terminology; information systems; office management; medical coding, billing and insurance; legal and ethical issues; and formatting and word processing. Students will learn administrative and support functions and develop skills applicable in medical environments.

Employment opportunities are available in medical and dental offices, hospitals, insurance companies, laboratories, medical supply companies, and other health-care related organizations.

Program Outcomes:

Upon successful completion of the Medical Office Administration program, the graduate should be able to:

- demonstrate the use of medical terminology and medical specific software;
- apply knowledge of various software packages to a variety of work settings;
- perform computerized office functions; and
- analyze work schedules and priorities.

Curriculum: A25310

Medical Office Administration - Associate in Applied Science, Jamestown, day
Advising Code: A 2531 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I*						
ENG	111	Expository Writing	3	0	0	3
OST	131	College Keyboarding	1	2	0	2
OST	137	Office Software Applications	2	2	0	3
OST	141	Medical Terminology I	3	0	0	3
OST	148	Medical Coding, Billing, & Insurance	3	0	0	3
OST	164	Text Editing Applications	3	0	0	3
Total			13	2	0	17
Spring Semester I						
ENG	112	Argument Based Research or	3	0	0	3
ENG	114	Professional Research & Report	(3)	(0)	(0)	(3)
MED	116	Intro to Anatomy & Physiology	3	2	0	4
OST	142	Medical Terminology II	3	0	0	3
OST	153	Office Finance Solutions	1	2	0	2
-	-	Humanities/Fine Arts Elective	3	0	0	3
Total			13-14	6	0	16-17
Summer Semester I						
OST	136	Word Processing	2	2	0	3
OST	149	Medical Legal Issues	3	0	0	3
-	-	Social/Behavioral Science Elective	3	0	0	3
Total			8	2	0	9

Fall Semester II

COM	110	Intro to Communication or	3	0	0	3
COM	120	Intro to Interpersonal Communication	(3)	(0)	(0)	(3)
OST	243	Medical Office Simulation	2	2	0	3
OST	247	Procedure Coding	1	2	0	2
OST	248	Diagnostic Coding	1	2	0	2
OST	138	Adv Software Apps	2	2	0	3
OST	—	Technical Elective	1(2)	2	0	2(3)
Total			10(11)	10	0	15(16)

Spring Semester II

COE	111	Co-op Work Experience	0	0	10	1
COE	115	Work Experience Seminar I	1	0	0	1
MAT	115	Mathematical Models or	2	2	0	3
MAT	140	Survey of Mathematics	(3)	90)	(0)	(3)
OST	181	Introduction to Office Systems	2	2	0	3
MED	232	Medical Insurance Coding or	1	3	0	2
OST	281	Emerg Issues in Medical Office	(3)	(0)	(0)	(3)
OST	286	Professional Development	3	0	0	3
OST	289	Administrative Office Management	2	2	0	3
Total			11-13	6-9	10	16-17

Total credit hours required for degree: 72-74. **This curriculum is subject to change.**

* Students may enter this program in the fall, spring, or summer semester; however, some courses may be offered during specified semesters only.

OST Technical Electives: Selected from OST 132, OST 140, OST 165, OST 184, OST 188, OST 233, OST 236, or OST 284.

Curriculum: A25310
Medical Office Administration - Associate in Applied Science, Jamestown, evening
Advising Code: A 2531 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I*

OST	141	Medical Terminology I	3	0	0	3
OST	148	Medical Coding, Billing, & Insurance	3	0	0	3
OST	131	College Keyboarding	1	2	0	2
Total			7	2	0	8

Spring Semester I

ENG	111	Expository Writing	3	0	0	3
OST	142	Medical Terminology II	3	0	0	3
COM	110	Intro to Communication or	3	0	0	3
COM	120	Intro to Interpersonal Comm	(3)	(0)	(0)	(3)
Total			9	0	0	9

Summer Semester I

OST	136	Word Processing	2	2	0	3
OST	137	Office Software Applications	2	2	0	3
Total			4	4	0	6

Fall Semester II

OST	164	Text Editing Applications	3	0	0	3
OST	–	Technical Elective	1(2)	2	0	2(3)
–	–	Humanities/Fine Arts Elective	3	0	0	3
Total			7(8)	2	0	8(9)

Spring Semester II

OST	138	Adv Software Apps	2	2	0	3
–	–	Social/Behavioral Science Elective	3	0	0	3
ENG	112	Argument Based Research or	3	0	0	3
ENG	114	Professional Research & Report	(3)	(0)	(0)	(3)
Total			8	2	0	9

Summer Semester II

OST	149	Medical Legal Issues	3	0	0	3
OST	153	Office Finance Solutions	1	2	0	2
Total			4	2	0	5

Fall Semester III

OST	243	Medical Office Simulation	2	2	0	3
OST	247	Procedure Coding	1	2	0	2
OST	248	Diagnostic Coding	1	2	0	2
Total			4	6	0	7

Spring Semester III

MED	116	Intro to Anatomy & Physiology	3	2	0	4
MED	232	Medical Insurance Coding or	1	3	0	2
OST	281	Emerg Issues in Medical Office	(3)	(0)	(0)	(3)
MAT	115	Mathematical Models or	2	2	0	3
MAT	140	Survey of Mathematics	(3)	(0)	(0)	(3)
Total			6-9	4-5	0	9(10)

Fall Semester IV

OST	181	Introduction to Office Systems	2	2	0	3
OST	286	Professional Development	3	0	0	3
OST	289	Administrative Office Management	2	2	0	3
Total			7	4	0	9

Spring Semester IV

COE	111	Co-op Work Experience	0	0	10	1
COE	115	Work Experience Seminar I	1	0	0	1
Total			3	2	10	2

Total credit hours required for degree: 72-74 **This curriculum is subject to change.**

* Students may enter this program in the fall, spring, or summer semester; however, some courses may be offered during specified semesters only.

OST Technical Electives: Selected from OST 132, OST 140, OST 165, OST 184, OST 188, OST 233, OST 236, or OST 284.

Curriculum:**Medical Office Administration - Certificate, Jamestown, day**
Advising Code: A 2531 0 C3

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
OST	137	Office Software Applications	2	2	0	3
OST	141	Medical Terminology I	3	0	0	3
OST	148	Medical Coding, Billing, & Insurance	3	0	0	3
Total			8	2	0	9

Fall Semester I***Spring Semester I**

OST	136	Word Processing	2	2	0	3
OST	142	Medical Terminology II	3	0	0	3
OST	149	Medical Legal Issues	3	0	0	3
Total			8	2	0	9

Total credit hours required for certificate: 18 **This curriculum is subject to change.**

* Students may enter this program in the fall, spring, or summer semester; however, some courses may be offered during specified semesters only.

Curriculum:**Medical Office Administration - Certificate, Jamestown, evening**
Advising Code: A 2531 0 C3

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
OST	141	Medical Terminology I	3	0	0	3
OST	148	Medical Coding, Billing, & Insurance	3	0	0	3
Total			6	0	0	6

Fall Semester I***Spring Semester I**

OST	137	Office Software Applications	2	2	0	3
OST	142	Medical Terminology II	3	0	0	3
Total			5	2	0	6

Summer Semester I

OST	136	Word Processing	2	2	0	3
OST	149	Medical Legal Issues	3	0	0	3
Total			5	2	0	6

Total credit hours required for certificate: 18 **This curriculum is subject to change.**

* Students may enter this program in the fall, spring, or summer semester; however, some courses may be offered during specified semesters only.

Curriculum: Medical Office Billing and Coding - Certificate, Jamestown, day and evening
Advising Code: A 2531 0 C2

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I*						
OST	141	Medical Terminology I	3	0	0	3
OST	148	Medical Coding, Billing, & Insurance	3	0	0	3
OST	149	Medical Legal Issues	3	0	0	3
Total			9	0	0	9
Spring Semester I						
OST	142	Medical Terminology II	3	0	0	3
OST	247	Procedure Coding	1	2	0	2
OST	248	Diagnostic Coding	1	2	0	2
Total			5	4	0	7
Summer Term I						
MED	232	Medical Insurance Coding	1	3	0	2
Total			1	3	0	2

Total credit hours required for certificate: 18 **This curriculum is subject to change.**

* Students may enter this program in the fall, spring, or summer semester; however, some courses may be offered during specified semesters only.

Curriculum: Hospital Billing and Coding - Certificate, Jamestown, day
Advising Code: A 2531 0 C4

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I*						
OST	141	Medical Terminology I	3	0	0	3
OST	148	Medical Coding, Billing, & Insurance	3	0	0	3
Total			6	0	0	6
Spring Semester I						
OST	142	Medical Terminology II	3	0	0	3
OST	247	Procedure Coding	1	2	0	2
OST	248	Diagnostic Coding	1	2	0	2
Total			5	4	0	7
Summer Term I						
OST	281	Emerg Issues In Medical Office	3	0	0	3
Total			4	3	0	5

Total credit hours required for certificate: 16 **This curriculum is subject to change.**

* Students may enter this program in the fall, spring, or summer semester; however, some courses may be offered during specified semesters only.

Technical / Non-Transfer Degree

Curriculum:**Electronic Medical Records - Certificate, Jamestown, day/online**
Advising Code: A 2531 0 C5

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I*

OST	137	Office Software Applications	2	2	0	3
OST	141	Medical Terminology I	3	0	0	3
OST	148	Medical Coding, Billing, & Insurance	3	0	0	3
Total			8	2	0	9

Spring Semester I

OST	142	Medical Terminology II	3	0	0	3
OST	184	Records Management	2	2	0	3
OST	243	Medical Office Simulation	2	2	0	3
Total			7	4	0	9

Total credit hours required for certificate: 18 **This curriculum is subject to change.**

* Students may enter this program in the fall, spring, or summer semester; however, some courses may be offered during specified semesters only.

Medical Transcription

D 25 32 0

Diploma, Jamestown, online *

Contact Information:

(336) 334-4822, ext. 2492 - from Greensboro • (336) 454-1126, ext. 2492 - from High Point

The Medical Transcription curriculum prepares individuals to become medical language specialists who interpret and transcribe dictation by physicians and other healthcare professionals in order to document patient care and facilitate delivery of healthcare services.

Students will gain extensive knowledge of medical terminology, pharmacology, human diseases, diagnostic studies, surgical procedures, and laboratory procedures. In addition to word processing skills and knowledge of voice processing equipment, students must master English grammar, spelling, and proofreading.

Graduates should qualify for employment in hospitals, medical clinics, doctors' offices, private transcription businesses, research facilities, insurance companies, and publishing companies. After acquiring work experience, individuals can apply to the American Association for Medical Transcription to become Certified Medical Transcriptionists.

Program Outcomes:

Upon successful completion of the Medical Transcription diploma program, the graduate should be able to:

- transcribe a variety of medical documents accurately;
- use a medical dictionary and medical terms effectively;
- perform computerized office functions; and
- analyze work schedules and priorities.

* **Limited Enrollment Program: Contact the eDegee coordinator for Program admission requirements and program application deadlines.**

Curriculum:

Medical Transcription - Diploma, Jamestown, online

Advising Code: D 2532 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I*						
OST	132	Keyboard Skill Building	1	2	0	2
OST	136	Word Processing	2	2	0	3
OST	137	Software Applications	2	2	0	3
OST	141	Medical Terminology I	3	0	0	3
OST	164	Text Editing Applications	3	0	0	3
OST	203	Fund of Medical Documentation	3	0	0	3
Total			14	6	0	17
Spring Semester I						
ENG	111	Expository Writing	3	0	0	3
OST	142	Medical Terminology II	3	0	0	3
OST	165	Adv. Text Editing Applications	2	2	0	3
OST	201	Medical Transcription I	3	2	0	4
MED	116	Intro to Anatomy & Physiology	3	2	0	4
Total			14	6	0	17
Summer Term I						
COE	111	Co-op Work Experience	0	0	10	1
OST	149	Medical Legal Issues	3	0	0	3
OST	202	Medical Transcription II	3	2	0	4
OST	286	Professional Development	3	0	0	3
—	—	Social / Behavioral Science Elective	3	0	0	3
Total			12	2	10	14

Total credit hours required for diploma: 48 **This curriculum is subject to change.**

Networking Technology

A 25 34 0

Associate in Applied Science, Jamestown, day and evening
Certificate, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2263 - from Greensboro • (336) 454-1126, ext. 2263 - from High Point

The Networking Technology curriculum prepares individuals for employment supporting network infrastructure environments. Students will learn how to use technologies to provide reliable transmission and delivery of data, voice, image, and video communications in business, industry, and education.

Course work includes design, installation, configuration, and management of network infrastructure technologies and network operating systems. Emphasis is placed on the implementation and management of network software and the implementation and management of hardware such as switches and routers.

Graduates may find employment in entry-level jobs as local area network managers, network operators, network analysts, and network technicians. Graduates may also be qualified to take certification examinations for various network industry certifications, depending on their local program.

Program Outcomes:

- Assess various network topologies
- Identify various networking security threats
- Install basic network components
- Test basic network components
- Implement Local Area Networks using both, static and dynamic addressing techniques, including sub netting
- Install domain-based Local Area Networks
- Configure domain-based Local Area Networks
- Diagnose common network problems
- Create LAN to Internet connections
- Install and test network client and server software
- Develop basic configuration of routers and switches
- Solve basic tasks expected of a Network Administrator, including the management of user accounts, shared resources, and network security

Curriculum:

Networking Technology - Associate in Applied Science, Jamestown, day
Advising Code: A25340

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
ACA	111	College Student Success or	1	0	0	1
ACA	112	Intro to Distance Learning	(0)	(2)	(0)	(1)
CIS	110	Introduction to Computers	2	2	0	3
ENG	111	Expository Writing	3	0	0	3
NET	125	Networking Basics	1	4	0	3
NOS	110	Operating System Concepts	2	3	0	3
MAT	140	Survey of Mathematics	3	0	0	3
Total			12	9(11)	0	16

Fall Semester I

Spring Semester I

CIS	115	Intro to Prog & Logic	2	3	0	3
CTS	120	Hardware/Software Support	2	3	0	3
ENG	114	Professional Research and Reporting	3	0	0	3
NET	126	Routing Basics	1	4	0	3
NOS	130	Windows Single User	2	2	0	3
Total			10	12	0	15

Summer Term I

DBA	110	Database Concepts	2	3	0	3
CTS	115	Information Systems Business Concepts	3	0	0	3
Total			5	3	0	6

Fall Semester II

NET	225	Routing & Switching I	1	4	0	3
NOS	120	Linux/UNIX Single User	2	2	0	3
–	–	Technical Elective	2	2	0	3
NOS	230	Windows Admin I	2	2	0	3
SEC	110	Security Concepts	3	0	0	3
Total			10	10	0	15

Spring Semester II

COM	120	Intro to Interpersonal Communication	3	0	0	3
NET	226	Routing & Switching II	1	4	0	3
NET	289	Networking Project	1	4	0	3
–	–	Humanities / Fine Arts	3	0	0	3
–	–	Social / Behavior Science	3	0	0	3
Total			11	8	0	15

Total credit hours required for degree: 67. **This curriculum is subject to change.**

Technical Electives: CTS 210, CTS 287, NET 110, NET 175, NOS 220, NOS 231, SEC 150, SEC 160, and WEB 110

Gateway Courses: NET 125 and NOS 130. A minimum grade of C required in both.

Curriculum:

Networking Technology – Network Routing Certificate - Jamestown
Advising Code: A25340 C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Courses

NOS	110	Operating System Concepts	2	3	0	3
NET	125	Networking Basics	1	4	0	3
NET	126	Routing Basics	1	4	0	3
NET	225	Routing & Switching I	1	4	0	3
NET	226	Routing & Switching II	1	4	0	3
Total			6	19	0	15

Total credit hours required for certificate: 15. **This curriculum is subject to change.**

Associate Degree Nursing

A 45 11 0

Associate in Applied Science, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2342 or 2453 - Greensboro • (336) 454-1126, ext. 2342 or 2453 - High Point

The Associate Degree Nursing curriculum provides knowledge, skills, and strategies to integrate safety and quality into nursing care, to practice in a dynamic environment, and to meet individual needs which impact health, quality of life, and achievement of potential.

Course work includes and builds upon the domains of healthcare, nursing practice, and the holistic individual. Content emphasizes the nurse as a member of the interdisciplinary team providing safe, individualized care while employing evidence-based practice, quality improvement, and informatics.

Graduates of this program are eligible to apply to take the National Council Licensure Examination (NCLEX-RN). Employment opportunities are vast within the global health care system and may include positions within acute, chronic, extended, industrial, and community health care facilities.

The program offers two entry options for the beginning student. The student may apply for acceptance into the full-time day option or full-time evening/weekend option. The full-time day option begins each Fall semester; the full-time evening/weekend program begins each Spring semester.

The Associate Degree Nursing program provides the student with two exit options. The student who completes NUR 112 will be eligible to apply for Nurse Aide II listing (Nurse Aide I listing required). Successful completion of the program allows the individual to apply to take the NCLEX-RN. The State Board of Nursing may however deny licensure based on criminal background checks.

The program also offers an option for Licensed Practical Nurses who wish to further their education and be eligible to take NCLEX-RN. The full-time day option begins each summer. This option requires three semesters to complete.

Program Outcomes:

Upon successful completion of the Associate Degree Nursing program, the graduate will be able to:

1. Practice professional nursing behaviors incorporating personal responsibility and accountability for continued competence.
2. Communicate professionally and effectively with individuals, significant support person(s), and members of the interdisciplinary healthcare team.
3. Integrate knowledge of the holistic needs of the individual to provide an individual centered assessment.
4. Incorporate informatics to formulate evidence-based clinical judgements and management decisions.
5. Implement caring interventions incorporating documented best practices for individuals in diverse settings.
6. Develop a teaching plan for individuals, and/or the nursing team, incorporating teaching and learning principles.
7. Collaborate with the interdisciplinary healthcare team to advocate for positive individual and organizational outcomes.
8. Manage healthcare for the individual using cost effective nursing strategies, quality improvement processes, and current technologies.

Limited Enrollment Program: Contact the Enrollment Services Office for Program admission requirements and Program application deadlines.

Curriculum:**Associate Degree Nursing
Associate in Applied Science, Jamestown, day
Advising Code A 45110**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
NUR	111	Intro to Health Concepts	4	6	6	8
BIO	165	Anatomy and Physiology I	3	3	0	4
PSY	150	General Psychology	3	0	0	3
COM	110	Introduction to Communication or	3	0	0	3
COM	120	Intro to Interpersonal Communication or	(3)	(0)	(0)	(3)
COM	231	Public Speaking	(3)	(0)	(0)	(3)
Total			13	9	6	18

Spring Semester I

NUR	112	Health-Illness Concepts**	3	0	6	5
NUR	113	Family Health Concepts or	3	0	6	5
NUR	114	Holistic Health Concepts	3	0	6	5
BIO	166	Anatomy and Physiology II	3	3	0	4
PSY	241	Developmental Psychology	3	0	0	3
Total			12	3	12	17

**Eligible to apply for Nurse Aide II listing. (Nurse Aide I listing required.)

Summer Term I

NUR	113	Family Health Concepts or	3	0	6	5
NUR	114	Holistic Health Concepts	3	0	6	5
CIS	111	Basic PC Literacy or	1	2	0	2
CIS	110	Introduction to Computers	(2)	(2)	(0)	(3)
Total			4(5)	2	6	7(8)

Fall Semester II

NUR	211	Health Care Concepts	3	0	6	5
NUR	212	Health System Concepts	3	0	6	5
ENG	111	Expository Writing	3	0	0	3
—	—	Humanities / Fine Arts Elective	3	0	0	3
Total			12	3	12	16

Spring Semester II

NUR	213	Complex Health Concepts	4	3	15	10
ENG	114	Professional Research & Reporting or	3	0	0	3
ENG	112	Argument Based Research	(3)	(0)	(0)	(3)
Total			7	3	15	13

Total credit hours required for degree: 71 **This curriculum is subject to change.**

Curriculum:

**Associate Degree Nursing (Integrated) -
Associate in Applied Science, Jamestown, evening/weekend
Advising Code A 45110**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Spring Semester I						
NUR	111	Intro to Health Concepts	4	6	6	8
BIO	165	Anatomy and Physiology I	3	3	0	4
PSY	150	General Psychology	3	0	0	3
COM	110	Introduction to Communication or	3	0	0	3
COM	120	Intro to Interpersonal Comm or	(3)	(0)	(0)	(3)
COM	231	Public Speaking	(3)	(0)	(0)	(3)
Total			13	9	6	18

Summer Term I

NUR	112	Health-Illness Concepts**	3	0	6	5
CIS	111	Basic PC Literacy or	(1)	(2)	(0)	(2)
CIS	110	Introduction to Computers	(2)	(2)	(0)	(3)
Total			4-5	2	6	7-8

**Eligible to apply for Nurse Aide II listing. (Nurse Aide I listing required.)

Fall Semester I

NUR	113	Family Health Concepts	3	0	6	5
NUR	114	Holistic Health Concepts	3	0	6	5
BIO	166	Anatomy and Physiology II	3	3	0	4
PSY	241	Developmental Psychology	3	0	0	3
Total			12	3	12	17

Spring Semester II

NUR	211	Health Care Concepts	3	0	6	5
NUR	212	Health System Concepts	3	0	6	5
ENG	111	Expository Writing	3	0	0	3
-	-	Humanities / Fine Arts Elective	3	0	0	3
Total			12	0	12	16

Fall Semester II

NUR	213	Complex Health Concepts	4	3	15	10
ENG	114	Professional Research & Reporting or	3	0	0	3
ENG	112	Argument Based Research	(3)	(0)	(0)	(3)
Total			7	3	15	13

Total credit hours required for degree: 71 **This curriculum is subject to change.**

Curriculum:

Associate Degree Nursing
Associate in Applied Science, Jamestown, day (for returning LPNs)*
Advising Code A 45110

*LPNs are given advanced standing credit for NUR 111, NUR 112, NUR 113, NUR 114. General education course prerequisites include BIO 165, BIO 166, PSY 150, PSY 241, and COM 110 or COM 120, or COM 231.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Summer Semester I						
NUR	214	Nursing Transition Concepts	3	0	3	4
CIS	111	Basic PC Literacy or	1	2	0	2
CIS	110	Introduction to Computers	(2)	(2)	(0)	(3)
Total			4(5)	2	3	6(7)
Fall Semester I						
NUR	211	Health Care Concepts	3	0	6	5
NUR	212	Health Systems Concepts	3	0	6	5
ENG	111	Expository Writing	3	0	0	3
-	-	Humanities / Fine Arts Elective	3	0	0	3
Total			12	0	12	16
Spring Semester II						
NUR	213	Complex Health Concepts	4	3	15	10
ENG	112	Argument Based Research or	3	0	0	3
ENG	114	Professional Research and Reporting	(3)	(0)	(0)	(3)
Total			7	3	15	13

Total credit hours required for degree: 75-76 **This curriculum is subject to change.**

Returning LPNs enter with blanket credit for first three semesters of nursing courses.

Credits for Practical Nurse Education (Nursing courses)=23

Credits for General Education courses (required for admission)=17

Credits for additional courses required for degree (see above)

Nursing courses=24

General Education courses =11-12

Nursing Assistant

C 45 48 0

Certificate, Jamestown

Contact Information:

(336) 334-4822 - ext. 2453 from Greensboro • (336) 454-1126 - ext. 2453 from High Point

The Nursing Assistant curriculum prepares individuals to work under the supervision of licensed health care professionals in performing nursing care and services for persons of all ages.

Course work emphasizes growth and development throughout the life span, personal care, vital signs, communication, nutrition, medical asepsis, therapeutic activities, accident and fire safety, household environment and equipment management; family resources and services; and employment skills.

Graduates of this curriculum may be eligible to be listed on the registry as a Nursing Assistant I and Nursing Assistant II. They may be employed in home health agencies, hospitals, clinics, nursing homes, extended care facilities, and doctors' offices.

Program Outcomes:

Upon successful completion of the Nursing Assistant Certificate Program, the graduate should be able to:

- Demonstrate satisfactory performance of nursing assistant I skills.
- Demonstrate satisfactory performance of nursing assistant II skills.
- Adapt nursing assistant care for the home setting.
- Adapt nursing assistant care for clients across the lifespan

Curriculum:

Nursing Assistant - Certificate, Jamestown Advising Code: C45480

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Semester I						
NAS	101	Nursing Assistant I*	3	4	3	6
NAS	103	Home Health Care	2	0	0	2
Total			5	4	3	8
Semester II						
NAS	102	Nursing Assistant II**	3	2	6	6
NAS	105	Life Span Changes	2	0	0	2
Total			5	2	9	8

*Eligible to test for NA I listing (must be done within a year of this course)

**Eligible to apply for NA II listing (must be done within 30 days of completion of this course)

Total credit hours required for certificate: 16 **This curriculum is subject to change.**

Practical Nursing

D 45 66 0

Diploma, Jamestown, day

Contact Information:

(336) 334-4822 - ext. 2375 from Greensboro • (336) 454-1126 - ext. 2375 from High Point

The Practical Nursing curriculum prepares individuals with the knowledge and skills to provide nursing care to children and adults. Students will participate in assessment, planning, implementing, and evaluation nursing care. Graduates are eligible to apply to take the National Council Licensure Examination (NCLEX-PN) which is required for practice as a Licensed Practical Nurse. Employment opportunities include hospitals, rehabilitation/long-term care/home health facilities, clinics, and physicians' offices. The Practical Nursing program has one exit option. Students who complete NUR 102 are eligible to apply for Nurse Aide II listing (Nurse Aide I listing required).

Program Outcomes:

Upon successful completion of the practical nursing program, the student will be able to:

- Deliver safe and effective care within scope of practice.
- Deliver culturally-centered care to a variety of populations.
- Participate as an active member of the interdisciplinary health care team.
- Contribute to performance initiatives in the clinical setting.
- Access resources to communicate and support client care decisions.
- Integrate best practice while delivering client care.

Curriculum:

Practical Nursing (Integrated) -Diploma, Jamestown Advising Code: D 4566 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
NUR	101	Practical Nursing I*	7	6	6	11
BIO	165	Anatomy/Physiology I	3	3	0	4
PSY	110	Life Span Development +	3	0	0	3
Total			13	9	6	18

*Eligible to test for NA I listing

Spring Semester I

NUR	102	Practical Nursing II**	8	0	12	12
BIO	166	Anatomy/Physiology II	3	3	0	4
ENG	111	Expository Writing	3	0	0	3
Total			14	3	12	19

**Eligible to apply for NA II listing (NA I listing is required)

Summer Semester I

NUR	103	Practical Nursing III	6	0	12	10
Total			6	0	12	10

Total credit hours required for diploma: 47 **This curriculum is subject to change.**

+ Students planning to pursue the Associate Degree Nursing degree should take PSY 241 with its prerequisite of PSY 150 instead of PSY 110.

Occupational Education Associate

A 55 32 0

Associate in Applied Science, Jamestown

Contact Information: Teacher Education Academy

(336) 334-4822, ext. 2789 or 2362 - from Greensboro • (336) 454-1126, ext. 2789 or 2362 - from High Point

The Occupational Education Associate curriculum is designed for individuals skilled and experienced in a trade or technical specialty who would like to receive an associate degree in preparation for teaching or other purposes.

Course work is designed to supplement previous education, training, and/or experience the individual has already attained.

Graduates of the program may find employment as instructors in the field of occupational education.

Program Outcomes

- Combine occupational expertise with career education courses;
- Incorporate credit for work experience with college curriculum to gain a teaching license for specific technical field;
- Instruct in their specific technical area in a secondary public school;
- Construct curriculum in specific technical area of expertise;
- Characterize the learning environment for a specific technical area of expertise.

Curriculum:

Occupational Education Associate - Associate in Applied Science, Jamestown

Advising Code: A 5532 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

General Education Requirements: (18 hours / 6 courses)

ENG	111	Expository Writing	_____	_____	_____
ENG	114	Professional Research and Reporting	_____	_____	_____
COM	110	Introduction to Communication	_____	_____	_____
MAT	110	Mathematical Measurement or	_____	_____	_____
MAT	115	Mathematical Models	_____	_____	_____
PSY	150	Introduction to Psychology	_____	_____	_____
-	-	Humanities / Fine Arts Elective	_____	_____	_____

Required Major Courses: (21 hours / 7 courses)

EDU	175	Intro to Trade, Industrial Education	_____	_____	_____
EDU	176	Occup Analysis, Course Dev	_____	_____	_____
EDU	177	Instructional Methods	_____	_____	_____
EDU	179	Vocational Student Organizations	_____	_____	_____
EDU	271	Educational Technology	_____	_____	_____
EDU	281	Instructional Strat/Reading & Writing	_____	_____	_____
ISC	121	Environmental Safety and Health	_____	_____	_____

Technical / Non-Transfer Degree

Other Major Hours: (28 hours)

CIS	111	Basic PC Literacy	_____
EDU	161	Intro to Exceptional Children	_____
EDU	178	Facilities Org & Planning	_____
EDU	275	Effective Teacher Training	_____

Eighteen additional credit hours must be selected from courses required by curriculums offered by the college, including a maximum of eight semester hours earned through work experience, including cooperative education, practicums, and internships.

Total credit hours required for degree: 67. **This curriculum is subject to change.**

Curriculum:

**Occupational Education Certificate, Jamestown, evening
Advising Code:A 55 32 0C1**

Prefix	Course Number	Course Title	Semester Completed
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18 hours / 6 courses:

EDU	161	Introduction to Exceptional Children	_____
EDU	175	Introduction to Trade & Industrial Ed.	_____
EDU	177	Instructional Methods	_____
EDU	179	Vocational Student Organizations	_____
EDU	281	Instructional Strategies/Reading & Writing	_____
ISC	121	Environmental Health & Safety	_____

Total credit hours required for certificate: 18 **This curriculum is subject to change.**

Office Administration

A 25 37 0

Associate in Applied Science, online *
Certificate, online *

Contact Information:

(336) 334-4822, ext. 2492 - from Greensboro • (336) 454-1126, ext. 2492 - from High Point

The Office Administration curriculum prepares individuals for positions in administrative support careers. It equips office professionals to respond to the demands of a dynamic computerized workplace.

Students will complete courses designed to develop proficiency in the use of integrated software, oral and written communication, analysis and coordination of office duties and systems, and other support topics. Emphasis is placed on non-technical as well as technical skills.

Graduates should qualify for employment in a variety of positions in business, government, and industry. Job classifications range from entry-level to supervisor to middle management.

*** This degree is offered completely online; however, students have the option of taking some courses on the Jamestown campus. For additional information on online program requirements, please contact our Online Program Degree Coordinator at extension 2492.**

Program Outcomes:

Upon successful completion of the Office Administration program, the graduate should be able to:

- apply knowledge of various software packages to a variety of work settings;
- analyze work schedules and priorities; and
- perform computerized office functions.

Curriculum:

Office Administration - Associate in Applied Science, Jamestown, online
Advising Code: A 25370

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ACA	112	Intro to Distance Learning	0	2	0	1
ENG	111	Expository Writing	3	0	0	3
OST	131	Keyboarding	1	2	0	2
OST	137	Office Software Applications	2	2	0	3
OST	164	Text Editing Applications	3	0	0	3
OST	188	Issues in Office Technology	2	0	0	2
-	-	Social/Behavioral Science Elective	3	0	0	3
Total			14	6	0	17

Spring Semester I

ENG	112	Argument Based Research or	3	0	0	3
ENG	114	Professional Research & Report	(3)	(0)	(0)	(3)
OST	132	Keyboard Skill Building	1	2	0	2
OST	138	Advanced Software Applications	2	2	0	3
OST	153	Office Finance Solutions	1	2	0	2
OST	165	Advanced Text Editing Applications	2	2	0	3
OST	184	Records Management	2	2	0	3
Total			11	10	0	16

Summer Semester I

BUS	115	Business Law I	3	0	0	3
OST	136	Word Processing	2	2	0	3
Total			5	2	0	6

Fall Semester II

COM	110	Intro to Communication or	3	0	0	3
COM	120	Intro to Interpersonal Comm	(3)	(0)	(0)	(3)
OST	140	Internet Comm/Research	1	2	0	2
OST	233	Office Publications Design	2	2	0	3
OST	236	Adv Word/Information Processing	2	2	0	3
OST	284	Emerging Technologies	1	2	0	2
-	-	Humanities/Fine Arts Elective	3	0	0	3
Total			12	8	0	16

Spring Semester II

COE	111	Co-op Work Experience	0	0	10	1
COE	115	Work Experience Seminar I	1	0	0	1
MAT	115	Mathematical Models or	2	2	0	3
MAT	140	Survey of Mathematics	(3)	(0)	(0)	(3)
OST	181	Introduction to Office Systems	2	2	0	3
OST	289	Administrative Office Management	2	2	0	3
OST	286	Professional Development	3	0	0	3
Total			10	6	10	14

Total credit hours required for degree: 69 **This curriculum is subject to change.**

* Students may enter this program in the fall, spring, or summer semester; however, some courses may be offered during specified semesters only.

Curriculum:

**Office Administration Receptionist - Certificate,
Jamestown,online
Advising Code: A 2537 0 C1**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I**

OST	131	Keyboarding	1	2	0	2
OST	137	Office Software Applications	2	2	0	3
OST	153	Office Finance Solutions	1	2	0	2
Total			4	6	0	7

Spring Semester I

OST	136	Word Processing	2	2	0	3
OST	164	Text Editing Applications	3	0	0	3
OST	184	Records Management	2	2	0	3
Total			7	4	0	9

Total credit hours required for certificate: 16 **This curriculum is subject to change.**

** Students may enter this program in the fall, spring, or summer semester; however, some courses may be offered during specified semesters only.

Curriculum:**Software Applications - Certificate, Jamestown, online
Advising Code: A 2537 0 C2**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

OST	136	Word Processing	2	2	0	3
OST	137	Office Software Applications	2	2	0	3
OST	140	Internet Comm/Research	1	2	0	2
Total			5	6	0	8

Spring Semester I

OST	138	Advanced Software Applications	2	2	0	3
OST	284	Emerging Technologies	1	2	0	2
OST	236	Advanced Word/Information Processing	2	2	0	3
Total			5	6	0	8

Total credit hours required for certificate: 16 **This curriculum is subject to change.**

Paralegal Technology

A 25 38 0

Associate in Applied Science, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2233 - from Greensboro • (336) 454-1126, ext. 2233 - from High Point

The Paralegal Technology curriculum prepares individuals to work under the supervision of attorneys in performing routine legal tasks and assisting with substantive legal work. A paralegal/legal assistant may not practice law, give legal advice, or represent clients in a court of law.

Course work includes substantive and procedural legal knowledge in the areas of civil litigation, legal research and writing, real estate, family law, wills, estates, trusts, and commercial law. Required courses also include subjects such as English, mathematics, and computer operation.

Graduates are trained to assist attorneys in probate work, investigations, public records search, drafting and filing legal documents, research and office management. Employment opportunities are available in private law firms, governmental agencies, and other business organizations.

Program Outcomes:

Upon successful completion of this program, the student should be able to:

- Illustrate basic civil, criminal, domestic, real estate and business law concepts;
- Manage legal and ethical restrictions on the practice of law;
- Identify basic investigation concepts, techniques and sources as they apply to civil and criminal cases;
- Compose legal research on a defined legal questions requiring properly citing legal authorities;
- Manage daily affairs of a law office under attorney supervision;
- Compose documents for the administration of a deceased's estate;
- Support an attorney in performing title searches
- Create residential loan closing documents.

Curriculum:

Paralegal Technology - Associate in Applied Science, Jamestown, day
Advising Code: A 2538 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
ACA	111	College Student Success	1	0	0	1
CIS	110	Introduction to Computers	2	2	0	3
ENG	111	Expository Writing	3	0	0	3
LEX	110	Introduction to Paralegal Studies	2	0	0	2
LEX	120	Legal Research and Writing I	2	2	0	3
-(1)	-	Natural Science/Math Elective	3	0(3)	0	3(4)
-(2)	-	Social/Behavioral Science Elective	3	0	0	3
Total			16	4(7)	0	18(19)

Spring Semester I

OST	136	Word Processing	2	2	0	3
LEX	121	Legal Research and Writing II	2	2	0	3
LEX	130	Civil Injuries	3	0	0	3
LEX	140	Civil Litigation I	3	0	0	3
LEX	150	Commercial Law I	2	2	0	3
-(3)	-	Humanities / Fine Arts Elective	3	0	0	3
Total			15	6	0	18

Summer Term I

COE(4)	111	Co-op Work Experience	0	0	10	1
Total			0	0	10	1

Fall Semester II

ENG	112	Argument-Based Research or	3	0	0	3
ENG	114	Professional Research and Reporting	(3)	(0)	(0)	(3)
LEX	160	Criminal Law and Procedure	2	2	0	3
LEX	210	Real Property I	3	0	0	3
LEX	240	Family Law	3	0	0	3
LEX	280	Ethics and Professionalism	2	0	0	2
-(5)	-	Paralegal Elective	2	0	0	2
Total			15	2	0	16

Spring Semester II

COM	120	Intro to Interpersonal Communication	3	0	0	3
LEX	250	Wills, Estates and Trusts	2	2	0	3
LEX	270	Law Office Management / Technology	1	2	0	2
-(5)	-	Paralegal Elective	3	0	0	3
-(5)	-	Paralegal Elective	3	0	0	3
-(5)	-	Paralegal Elective	2	0	0	2
Total			13	3	2	16

Total credit hours required for degree: 69-70 **This curriculum is subject to change.**

(1) Natural Science/Mathematics Elective - choose any course under the Natural Sciences / Mathematics section for courses meeting the General Education Requirements for Technical Degree Programs.

(2) Social/Behavioral Science Elective - choose any course under the Social / Behavioral Sciences section for courses meeting the General Education Requirements for Technical Degree Programs.

(3) Humanities / Fine Arts Elective - choose any course under the Humanities / Fine Arts section for courses meeting the General Education Requirements for Technical Degree Programs.

(4) COE-111 maybe substituted with one of the following only: BUS 125, BUS 217, BUS 260 or CJC 231.

(5) Paralegal Technology Electives, take a minimum of 10 credits from: LEX 141 Civil Litigation II, LEX 151 Commercial Law II, LEX 170 Administrative Law, LEX 180 Case Analysis & Reasoning, LEX 211 Real Property II, LEX 214 Investigation and Trial Preparation, LEX 220 Corporate Law, LEX 260 Bankruptcy and Collections, LEX 271 Law Office Writing, LEX 283 Investigation, LEX 285 Workers' Compensation Law, LEX 286 Medical Evidence Analysis, and LEX 288 Elder Law.

Curriculum:

Paralegal Technology - Associate in Applied Science, Jamestown, evening

Advising Code: A 2538 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

ACA	111	College Student Success	1	0	0	1
ENG	111	Expository Writing	3	0	0	3
LEX	110	Introduction to Paralegal	2	0	0	2
LEX	120	Legal Research and Writing I	2	2	0	3
OST	136	Word Processing	2	2	0	3
Total			10	4	0	12

Spring Semester I

LEX	121	Legal Research and Writing II	2	2	0	3
LEX	130	Civil Injuries	3	0	0	3
-(1)	-	Natural Science/Math Elective	3	0(3)	0	3(4)
Total			8	2(5)	0	9(10)

Summer Term I

CIS	110	Introduction to Computers	2	2	0	3
ENG	112	Argument-Based Research or	3	0	0	3
ENG	114	Professional Research and Reporting	(3)	(0)	(0)	(3)
Total			5	2	0	6

Fall Semester II

LEX	140	Civil Litigation I	3	0	0	3
LEX	240	Family Law	3	0	0	3
-(2)	-	Social / Behavior Science Elective	3	0	0	3
Total			9	0	0	9

Spring Semester II

LEX	150	Commercial Law I	2	2	0	3
-(5)	-	Paralegal Elective	3	0	0	3
Total			5	2	0	6

Summer Term II

COM	120	Intro to Interpersonal Comm	3	0	0	3
Total			3	0	0	3

Fall Semester III

LEX	210	Real Property I	3	0	0	3
-(5)	-	Paralegal Elective	2	0	0	2
-(5)	-	Paralegal Elective	2	0	0	2
Total			7	2	0	7

Spring Semester III

LEX	160	Criminal Law and Procedure	2	2	0	3
-(3)	-	Humanities/Fine Arts Elective	3	0	0	3
-(5)	-	Paralegal Elective	3	0	0	3
Total			8	2	0	9

Summer Term III

COE(4)	111	Co-op work Experience	0	0	10	1
Total			0	0	10	1

Fall Semester IV

LEX	250	Wills, Estates, and Trusts	2	2	0	3
LEX	270	Law Office Management / Technology	1	2	0	2
LEX	280	Ethics and Professionalism	2	0	0	2
Total			5	4	0	7

Total credit hours required for degree: 69-70 **This curriculum is subject to change.**

(1) Natural Science/Mathematics Elective - choose any course under the Natural Sciences / Mathematics section for courses meeting the General Education Requirements for Technical Degree Programs.

(2) Social/Behavioral Science Elective - choose any course under the Social / Behavioral Sciences section for courses meeting the General Education Requirements for Technical Degree Programs.

(3) Humanities / Fine Arts Elective - choose any course under the Humanities / Fine Arts section for courses meeting the General Education Requirements for Technical Degree Programs.

(4) COE 111 maybe substituted with one of the following only: BUS 125, BUS 217, BUS 260 or CJC 231.

(5) Paralegal Technology Electives: LEX 141 Civil Litigation II, LEX 151 Commercial Law II, LEX 170 Administrative Law, LEX 180 Case Analysis & Reasoning, LEX 211 Real Property II, LEX 214 Investigation and Trial Preparation, LEX 220 Corporate Law, LEX 260 Bankruptcy & Collections, LEX 271 Law Office Writing, LEX 283 Investigation, LEX 285 Workers' Compensation Law, LEX 286 Medical Evidence Analysis, and LEX 288 Elder Law

Curriculum:

**Corporate Business - Certificate, Jamestown, day
Advising Code: A 2538 0 C3**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ACA	111	College Student Success	1	0	0	1
LEX	110	Introduction to Paralegal Studies	2	0	0	2
LEX	120	Legal Research and Writing I	2	2	0	3
Total			5	2	0	6
Spring Semester I						
LEX	140	Civil Litigation I	3	0	0	3
LEX	150	Commercial Law I	2	2	0	3
Total			5	2	0	6
Fall Semester II						
LEX	151	Commercial Law II	3	0	0	3
LEX	260	Bankruptcy and Collections	2	0	0	2
Total			5	0	0	5

Total credit hours required for certificate: 17 **This curriculum is subject to change.**

Curriculum:**Real Estate - Certificate, Jamestown, day
Advising Code: A 2538 0 C1**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
ACA	111	College Student Success	1	0	0	1
LEX	110	Introduction to Paralegal Studies	2	0	0	2
LEX	120	Legal Research and Writing I	2	2	0	3
LEX	210	Real Property I	3	0	0	3
Total			8	2	0	9
Fall Semester I						
LEX	140	Civil Litigation I	3	0	0	3
LEX	211	Real Property II	1	4	0	3
LEX	250	Wills, Estates, and Trusts	2	2	0	3
Total			6	6	0	9

Total credit hours required for certificate: 18 **This curriculum is subject to change.**

Curriculum:**Bankruptcy - Certificate, Jamestown, day
Advising Code: A 2538 0 C2**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
ACA	111	College Student Success	1	0	0	1
LEX	110	Introduction to Paralegal Studies	2	0	0	2
LEX	120	Legal Research and Writing I	2	2	0	3
Total			5	2	0	6
Fall Semester I						
LEX	140	Civil Litigation I	3	0	0	3
LEX	150	Commercial Law I	2	2	0	3
Total			5	2	0	6
Spring Semester I						
LEX	210	Real Property I	3	0	0	3
LEX	260	Bankruptcy and Collections	2	0	0	2
Total			5	0	0	5
Fall Semester II						

Total credit hours required for certificate: 17 **This curriculum is subject to change.**

Pharmacy Technology

A 45 58 0

Associate in Applied Science, High Point, day
Diploma, High Point, day

Contact Information:

(336) 334-4822, ext. 4172 - from Greensboro • (336) 454-1126, ext. 4172 - from High Point

The Pharmacy Technology program prepares individuals to assist the pharmacist in duties that a technician can legally perform and to function within the boundaries prescribed by the pharmacist and the employment agency.

Graduates will prepare prescription medications, mix intravenous solutions, and other specialized medications, update patient profiles, maintain inventories, package medication in unit-dose or med-card form, and gather data used by pharmacists to monitor drug therapy.

Graduates may be employed in retail, hospitals, nursing homes, research laboratories, wholesale drug companies, and pharmaceutical manufacturing facilities. Graduates from the program may be eligible to take the National Certification Examination to become a certified pharmacy technician.

Program Outcomes: These competencies are designed to meet the requirements of the American Society of Health Systems Pharmacists (ASHP) Standards of Pharmacy Technician Training Programs.

Program Outcomes:

Upon successful completion of the program, the student should be able to:

- Demonstrate the written and oral communication skills required for safe and legal practice in the role of pharmacy technician.
- Demonstrate the critical thinking skills necessary for safe preparation and distribution of medication.
- Read and understand policies and other print materials related to safe preparation and distribution of medication
- Perform mathematical calculations needed to safely prepare medications and solutions.
- Use current technologies to prepare, store, inventory, and distribute medications.
- Demonstrate the academic knowledge and technical skills necessary for safe preparation, storage, and distribution of medications.
- Deal effectively with others by displaying a positive attitude, working as a team member, and showing initiative and responsibility.
- Practice in a legal and ethical manner.

Curriculum:

Pharmacy Technology - Associate in Applied Science, High Point, day
Advising Code: A 45 58 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
PHM	110	Introduction to Pharmacy	3	0	0	3
PHM	111	Pharmacy Practice I	3	3	0	4
PHM	115	Pharmacy Calculations	3	0	0	3
PHM	120	Pharmacology I	3	0	0	3
ENG	111	Expository Writing	3	0	0	3
COM	120	Intro to Interpersonal Communication	3	0	0	3
Total			18	3	0	19

Limited Enrollment Associate Degree: Contact the Enrollment Services Office for Program admission requirements and Program application deadlines.

Technical / Non-Transfer Degree

Spring Semester I

PHM	118	Sterile Products	3	3	0	4
PHM	125	Pharmacology II	3	0	0	3
PHM	132	Pharmacy Clinical	0	0	6	2
PHM	134	Pharmacy Clinical	0	0	12	4
PHM	140	Trends in Pharmacy	2	0	0	2
PHM	165	Pharmacy Professional Practice	2	0	0	2
Total			10	3	18	17

Fall Semester II

PHM	150	Hospital Pharmacy	3	3	0	4
PHM	155	Community Pharmacy	2	2	0	3
ENG	112	Argument-Based Research or	3	0	0	3
ENG	114	Professional Research & Reporting	(3)	(0)	(0)	(3)
HUM	115	Critical Thinking or	3	0	0	3
PHI	240	Introduction to Ethics	(3)	(0)	(0)	(3)
PSY	150	General Psychology	3	0	0	3
Total			14	5	0	16

Spring Semester II

PHM	138	Pharmacy Clinical	0	0	24	8
PHM	160	Pharmacy Dosage Forms	3	0	0	3
PHM	265	Professional Issues	3	0	0	3
CIS	111	Basic PC Literacy	1	2	0	2
MAT	115	Mathematical Models or	2	2	0	3
MAT	140	Survey of Mathematics	(3)	(0)	(0)	(3)
Total			9-10	2-4	24	19

Total credit hours required for degree: 71. **This curriculum is subject to change.**

Limited Enrollment Program: Contact the Enrollment Services Office for Program admission requirements and Program application deadlines.

Curriculum:**Pharmacy Technology - Diploma, High Point, day
Advising Code: A 45 58 0 D1**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
PHM	110	Introduction to Pharmacy	3	0	0	3
PHM	111	Pharmacy Practice I	3	3	0	4
PHM	115	Pharmacy Calculations	3	0	0	3
PHM	120	Pharmacology I	3	0	0	3
ENG	111	Expository Writing	3	0	0	3
COM	120	Intro to Interpersonal Communication	3	0	0	3
Total			18	3	0	19
Spring Semester I						
PHM	118	Sterile Products	3	3	0	4
PHM	125	Pharmacology II	3	0	0	3
PHM	132	Pharmacy Clinical	0	0	6	2
PHM	134	Pharmacy Clinical	0	0	12	4
PHM	140	Trends in Pharmacy	2	0	0	2
PHM	165	Pharmacy Professional Practice	2	0	0	2
Total			10	3	18	17

Total credit hours required for diploma: 36. **This curriculum is subject to change.**

Limited Enrollment Program: Contact the Enrollment Services Office for Program admission requirements and Program application deadlines.

Technical / Non-Transfer Degree

Physical Therapist Assistant

A 45 64 0

Associate in Applied Science, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2443 - from Greensboro • (336) 454-1126, ext. 2443 - from High Point

The Physical Therapist Assistant curriculum prepares graduates to work in direct patient care settings under the direction and supervision of physical therapists. Assistants work to improve or restore function by alleviation or prevention of physical impairment and perform other essential activities in a physical therapy department.

Course work includes normal human anatomy and physiology, the consequences of disease or injury, and physical therapy treatment of a variety of patient conditions affecting humans throughout the life-span. Suggested high school courses for individuals desiring a career as a physical therapist assistant include biology, anatomy and physiology, algebra, chemistry, and physics.

Students can complete the general education courses at other colleges and universities; however, students accepted into the Physical Therapist Assistant program must take the PTA courses on the Jamestown campus of Guilford Technical Community College. Accepted PTA students will also be required to participate in clinical education courses located in various healthcare facilities in the Piedmont Triad region of North Carolina. Complete information about the admissions process is available in the Enrollment Services office.

The Physical Therapist Assistant program has received full accreditation from the Commission on Accreditation in Physical Therapy Education (CAPTE) of the American Physical Therapy Association.

Graduates are eligible to take the licensure examination administered by the North Carolina Board of Physical Therapy Examiners. Employment is available in hospitals, rehabilitation facilities, extended care facilities, outpatient clinics, skilled nursing or subacute facilities, home health agencies, public school systems, education centers, hospice, corporate or industrial health centers, athletic facilities, and fitness centers.

Program Outcomes:

Upon successful completion of the curriculum, graduates should be able to:

- perform patient treatment and education;
- assess patient's status per established plan of care;
- solve problems;
- communicate effectively;
- demonstrate professional skills;
- perform administrative duties;
- manage emergency situations.

Limited Enrollment Program: Contact the Enrollment Services Office for Program admission requirements and Program application deadlines.

Curriculum:**Physical Therapist Assistant - Associate in Applied Science, Jamestown, day
Advising Code A 4564 0**

*Individuals entering the Physical Therapist Assistant program must complete all seven general education courses listed below as part of the program admission requirements.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Spring Semester I						
BIO	165	Anatomy and Physiology I	3	3	0	4
COM	110	Introduction to Communication or	3	0	0	3
COM	231	Public Speaking	(3)	(0)	(0)	(3)
ENG	111	Expository Writing	3	0	0	3
PHY	110	Conceptual Physics	3	0	0	3
PHY	110A	Conceptual Physics Lab	0	2	0	1
PSY	150	General Psychology	3	0	0	3
-	-	Humanities / Fine Arts Elective	3	0	0	3
Total			18	5	0	20
Fall Semester I						
BIO	166	Anatomy and Physiology II	3	3	0	4
PTA	110	Introduction to Physical Therapy	2	3	0	3
PTA	125	Gross and Functional Anatomy	3	6	0	5
PTA	135	Pathology	4	0	0	4
Total			12	12	0	16
Spring Semester II						
ENG	112	Argument-Based Research or	3	0	0	3
ENG	114	Professional Research and Reporting	(3)	(0)	(0)	(3)
PTA	145	Therapeutic Procedures	2	6	0	4
PTA	215	Therapeutic Exercise	2	3	0	3
PTA	222	Professional Interactions	2	0	0	2
PTA	245	PTA Clinical III	0	0	12	4
Total			9	9	12	16
Summer Term I						
PTA	225	Introduction to Rehabilitation	3	3	0	4
PTA	255	PTA Clinical IV	0	0	12	4
Total			3	3	12	8
Fall Semester II						
PTA	212	Health Care/Resources	2	0	0	2
PTA	235	Neurological Rehab	3	6	0	5
PTA	155	PTA Clinical I	0	0	6	2
PTA	185	PTA Clinical II	0	0	9	3
Total			5	6	15	12

Total credit hours required for degree: 72 **This curriculum is subject to change.**

Technical / Non-Transfer Degree

Plumbing

C 3530 0

Certificate, Greensboro, Evening

Contact Information:

(336) 334-4822, ext. 4429 - from Greensboro • (336) 454-1126, ext. 4429 - from High Point

Plumbing (35300)– Certificate (Evening)

The Plumbing curriculum is designed to give individuals the opportunity to acquire basic skills to assist with the installation and repair of plumbing systems in residential and small buildings.

Course work includes sketching diagrams, interpretation of blueprints, and practices in plumbing assembly. Students will gain knowledge of state codes and requirements.

Graduates should qualify for employment at parts supply houses, maintenance companies, and plumbing contractors to assist with various plumbing applications.

Program Outcomes:

Upon successful completion of the program, the student should be able to:

- Practice employability skills in the workplace
- Demonstrate an understanding of various plumbing techniques
- Use plumbing tools
- Install and maintain various plumbing systems
- Analyze, troubleshoot, and repair plumbing systems
- Demonstrate safety practices in the plumbing field

Curriculum:

Plumbing - Certificate, Greensboro, evening Advising Code: C 3530 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester

PLU	111	Introduction to Basic Plumbing	1	3	0	2
PLU	140	Introduction to Plumbing Codes	1	2	0	2
PLU	150	Plumbing Diagrams	1	2	0	2
ISC	112	Industrial Safety	2	0	0	2
Total			5	7	0	8

Spring Semester

PLU	130	Plumbing Systems	3	9	0	6
BPR	130	Blueprint Reading/Construction	1	2	0	2
Total			4	11	0	8

Summer Semester I

PLU	160	Plumbing Estimates	1	3	0	2
Total			1	3	0	2

Total credit hours required for certificate: 18. **This curriculum is subject to change.**

Radiography

A 45 70 0

Associate in Applied Science, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2973 - from Greensboro • (336) 454-1126, ext. 2973 - from High Point

The Radiography curriculum prepares the graduate to be a radiographer, a skilled health care professional who uses radiation to produce images of the human body.

Course work includes clinical rotations to area health care facilities, radiographic exposure, image processing, radiographic procedures, physics, pathology, patient care and management, radiation protection, quality assurance, anatomy and physiology, and radiobiology.

Graduates of accredited programs are eligible to apply to take the American Registry of Radiologic Technologists' national examination for certification and registration as medical radiographers. Graduates may be employed in hospitals, clinics, physicians' offices, medical laboratories, government agencies, and industry.

Program Outcomes:

Upon completion of the Radiography degree, the graduate will be able to:

- Demonstrate competence as an entry-level technologist.
- Demonstrate effective professional communication skills.
- Apply problem-solving and critical thinking skills.
- Exhibit motivation and potential for success.

Curriculum:

Radiography - Associate in Applied Science, Jamestown, day
Advising Code: A 4570 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
BIO	163	Basic Anatomy and Physiology	4	2	0	5
MAT	161	College Algebra	3	0	0	3
COM	231	Public Speaking	3	0	0	3
ENG	111	Expository Writing	3	0	0	3
HUM	115	Critical Thinking	3	0	0	3
PSY	150	General Psychology or	3	0	0	3
SOC	210	Introduction to Sociology	3	0	0	3
Total			19	4	0	20

Limited Enrollment Program: Contact the Enrollment Services Office for Program admission requirements and Program application deadlines.

Technical / Non-Transfer Degree

Fall Semester I

RAD 110	Radiography Intro & Patient Care	2	3	0	3
RAD 111	RAD Procedures I	3	3	0	4
RAD 131	Radiographic Physics I	1	3	0	2
RAD 151	RAD Clinical Education I	0	0	6	2
RAD 183	RAD Clinical Elective	0	0	9	3
Total		6	9	15	14

Spring Semester II

RAD 112	RAD Procedures II	3	3	0	4
RAD 121	Radiographic Imaging I	2	3	0	3
RAD 161	RAD Clinical Education II	0	0	15	5
RAD 231	Radiographic Physics II	1	3	0	2
Total		6	9	15	14

Summer Semester I

RAD 122	Radiographic Imaging II	1	3	0	2
RAD 171	RAD Clinical Education III	0	0	12	4
Total		1	3	12	6

Fall Semester II

RAD 211	RAD Procedures III	2	3	0	3
RAD 241	Radiobiology Protection	2	0	0	2
RAD 251	RAD Clinical Education IV	0	0	21	7
Total		4	3	21	12

Spring Semester III

RAD 245	RAD Image Analysis	1	3	0	2
RAD 261	RAD Clinical Education V	0	0	21	7
RAD 271	RAD Capstone	0	3	0	1
Total		1	6	21	10

Total credit hours required for degree: 76 **This curriculum is subject to change.**

Simulation and Game Development

A25 45 0

Associate in Applied Science, Jamestown, day

Contact Information:

(336) 334-4822, ext 2263 – from Greensboro • (336) 454-1126, ext 263 – from High Point

The Simulation and Game Development curriculum provides a broad background in simulation and game development with practical applications in creative arts, visual arts, audio/video technology, creative writing, modeling, design, programming and management.

Students will receive hands-on training in design, 3D modeling, and programming for the purpose of creating simulations and games.

Graduates should qualify for employment as designers, artists, animators, programmers, testers, quality assurance analysts, engineers and administrators in the entertainment industry, health care, education, corporate training, and government organizations.

Program Outcomes:

Upon completion, students should:

- Illustrate the economic, social, and cultural implications of interactive media
- Explain the essential creative requirements from various disciplines in the development of simulation and gaming projects
- Develop games and simulations for education, training, and other commercial entities
- Identify programming proficiency for various media including 2-D and 3-D graphics, animation, and sound
- Develop a complete simulation or gaming project using the Software Development Life Cycle
- Design a game or simulation to meet end-user specifications
- Code a game or simulation to meet end-user specifications
- Develop a game or simulation that incorporates proper Object-Oriented programming methodologies
- Identify inefficiencies in programming practices
- Select the appropriate programming language and development tools to most effectively meet project requirements

Curriculum: Simulation and Game Development - Associate in Applied Science, Jamestown, day

Advising Code: A25450

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
ACA	111	College Student Success or	1	0	0	1
ACA	112	Intro to Distance Learning	(0)	(2)	(0)	(1)
ENG	111	Expository Writing	3	0	0	3
MAT	121	Algebra/Trigonometry I	2	2	0	3
SGD	111	Introduction to SGD	2	3	0	3
SGD	112	SGD Design	2	3	0	3
SGD	113	SGD Programming	2	3	0	3
Total			12	11	0	16

Fall Semester I

Spring Semester I

DRA	126	Storytelling	3	0	0	3
ENG	125	Creative Writing I	3	0	0	3
SGD	114	3D Modeling	2	3	0	3
SGD	212	SGD Design II	2	3	0	3
SGD	213	SGD Programming II	2	3	0	3
Total			12	9	0	15

Summer Term I

SGD	123	Windows/Console Prog	2	3	0	3
–	–	Technical Elective	2	3	0	3
Total			5	3	0	6

Fall Semester II

SGD	161	SG Animation	2	3	0	3
SGD	174	SG Level Design	2	3	0	3
SGD	214	3D Modeling II	2	3	0	3
PHY	131	Physics – Mechanics	3	2	0	4
–	–	Social / Behavior Science	3	0	0	3
Total			12	11	0	16

Spring Semester II

COM	110	Introduction to Communication <u>or</u>	3	0	0	3
COM	120	Interpersonal Communication <u>or</u>	(3)	(0)	(0)	(3)
COM	231	Public Speaking	(3)	(3)	(3)	(3)
SGD	124	MMO Programming	2	3	0	3
SGD	274	SG Level Design II	2	3	0	3
SGD	285	SG Software Engineering	2	3	0	3
–	–	Technical Elective	2	3	0	3
Total			12	15	0	15

Summer Term II

SGD	163	SG Documentation	2	3	0	3
SGD	289	SGD Project	2	3	0	3
Total			4	6	0	6

Total credit hours required for degree: 74.

Technical Electives: CSC 134, CSC 151, CSC 234, CSC 251, CSC 258, SGD 125, SGD 164, SGD 165, SGD 171 and SGD 173.

Gateway Courses SGD 112 and SGD 113. A minimum grade of C required in both.

This curriculum is subject to change.

Surgical Technology

A 45 74 0

Associate in Applied Science, Jamestown, day
Diploma, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2764 - from Greensboro • (336) 454-1126, ext. 2764 - from High Point

The Surgical Technology curriculum prepares individuals to assist in the care of the surgical patient in the operating room and to function as a member of the surgical team.

Students will apply theoretical knowledge to the care of patients undergoing surgery and develop skills necessary to prepare supplies, equipment, and instruments; maintain aseptic conditions; prepare patients for surgery; and assist surgeons during operations.

Graduates of this program will be eligible to apply to take the national Board of Surgical Technology and Surgical Assisting Certification examination for Surgical Technologists. Employment opportunities include labor/delivery/emergency departments, inpatient/outpatient surgery centers, dialysis units/facilities, physicians' offices, and central supply processing units.

Program graduate certification rate is 92% and above. The program offers diploma and associate level degrees for new students with no prior surgical experience and an Accelerated Alternate Delivery (AAD) program for graduates of unaccredited programs and on the job trained surgical technologists who seek certification. Applicants interested in the diploma (three semesters) or degree (five semesters) options should contact Enrollment Services to begin the application process. Applicants seeking the AAD (one semester) option should contact the Surgical Technology department chair to begin the application process.

Program Outcomes:

The surgical technologist is a professional who provides and participates in the coordination of patient care as a member of the surgical team by demonstrating knowledge of aseptic technique, surgical procedures, and instrumentation. Upon successful completion of the curriculum, graduates should be able to:

- participate in surgical procedures;
- practice sterile supply room procedures;
- prepare for surgical procedures;
- use equipment according to established policies and procedures;
- provide for patient and staff safety;
- care for instruments;
- practice aseptic technique;
- prepare medications.

Limited Enrollment Program: Contact the Enrollment Services Office for Program admission requirements and Program application deadlines.

Curriculum:

Surgical Technology - Associate in Applied Science, Jamestown, day
Advising Code: A 4574 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
SUR	110	Introduction to Surgical Technology	3	0	0	3
SUR	111	Perioperative Patient Care	5	4	0	7
ENG	111	Expository Writing	3	0	0	3
BIO	163	Basic Anatomy and Physiology	4	2	0	5
MAT	110	Mathematical Measurements	2	2	0	3
Total			17	10	0	21

Spring Semester

SUR	122	Surgical Procedures I	5	3	0	6
SUR	123	Surgical Clinical I	0	0	21	7
BIO	175	General Microbiology	2	2	0	3
Total			7	5	21	16

Summer Term

SUR	134	Surgical Procedures II	5	0	0	5
SUR	135	Surgical Clinical II	0	0	12	4
SUR	137	Professional Success Preparation	1	0	0	1
Total			6	0	12	10

Fall Semester II

SUR	211	Advanced Theoretical Concepts	2	0	0	2
ENG	114	Professional Research and Reporting	3	0	0	3
–	–	Humanities/ Fine Arts Elective	3	0	0	3
ECO	251	Principles of Microeconomics	3	0	0	3
CIS	110	Introduction to Computers	2	2	0	3
Total			13	2	0	14

Spring Semester II

SUR	210	Advanced Clinical Practice	0	0	6	2
COM	120	Intro to Interpersonal Communication	3	0	0	3
BUS	137	Principles of Management	3	0	0	3
PSY	150	General Psychology	3	0	0	3
Total			9	0	6	11

Total credit hours required for degree: 72 **This curriculum is subject to change.**

Curriculum:

Surgical Technology - Diploma, Jamestown, day
Advising Code: A 4574 0 D1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

SUR	110	Introduction to Surgical Technology	3	0	0	3
SUR	111	Perioperative Patient Care	5	4	0	7
ENG	111	Expository Writing	3	0	0	3
BIO	163	Basic Anatomy and Physiology	4	2	0	5
MAT	110	Mathematical Measurements	2	2	0	3
Total			17	8	0	21

Spring Semester I

SUR	122	Surgical Procedures I	5	3	0	6
SUR	123	Surgical Clinical I	0	0	21	7
BIO	175	General Microbiology	2	2	0	3
Total			7	5	21	16

Summer Term I

SUR	134	Surgical Procedures II	5	0	0	5
SUR	135	Surgical Clinical II	0	0	12	4
SUR	137	Professional Success Preparation	1	0	0	1
Total			6	0	12	10

Total credit hours required for diploma: 47 **This curriculum is subject to change.**

Curriculum: Surgical Technology - Accelerated Alternative Delivery Diploma, Jamestown, online
Advising Code: A 4574 0 D1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester or Spring Semester

SUR	110	Introduction to Surgical Technology	3	0	0	3
SUR	111	Perioperative Patient Care	5	4	0	7
SUR	122	Surgical Procedures I	5	3	0	6
SUR	134	Surgical Procedures II	5	0	0	5
Total			18	7	0	21

Total credit hours required for diploma: 47 **This curriculum is subject to change.**

Note: The AAD applicant must have transfer credit for BIO 163, MAT 110, ENG 111 and BIO 175. If the applicant does not have transfer credits for these courses, they must be completed as requisites of the program.

Surveying Technology

A 40 38 0

Associate in Applied Science, Greensboro, day and evening*
Certificate, Greensboro, day and evening

Contact Information:

(336) 334-4822, ext. 4443 - from Greensboro • (336) 454-1126, ext. 4443 - from High Point

The Surveying Technology curriculum provides training for students in the many areas of surveying. Surveyors are involved in land surveying, route surveying, construction surveying, photogrammetry, mapping, global positioning systems, and other areas of property description and measurements.

Course work includes the communication and computational skills required for boundary, construction, route, and control surveying; as well as study in photogrammetry; topography; drainage; surveying law; and subdivision design, with emphasis on programs electronic data collection applications and related software including CAD.

Graduates should qualify for jobs as survey party chief, instrument person, surveying technician, construction layout technician, deed research technician, highway surveying technician, mapper, GPS technician, and CAD operator. Graduates will be prepared to pursue the requirements necessary to become a Registered Land Surveyor in North Carolina.

Program Outcomes:

Upon successful completion of this program, the Surveying Technology graduate should be able to:

- recognize basic concepts of surveying law;
- prepare survey plats and perform survey calculations;
- use surveying equipment (transits, chains, EDMs, total stations);
- perform preliminary site investigations, and use computer software.

*Evening classes offered, contact department for additional information.

Curriculum: Surveying Technology - Associate in Applied Science, Greensboro, day and evening*
Advising Code: A 4038 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
EGR	115	Introduction to Technology	2	3	0	3
EGR	115A	Introduction to Technology Lab	1	2	0	1
ENG	111	Expository Writing	3	0	0	3
GIS	110	Survey of GIS/GPS	1	0	0	1
MAT(1)	121	Algebra / Trigonometry I	2	2	0	3
Total			9	7	0	11
Spring Semester I						
CIV(3)	110	Statics/Strength of Material	2	6	0	4
ENG	114	Professional Research and Reporting	3	0	0	3
MAT(1)	122	Algebra / Trigonometry II	2	2	0	3
PHY(2)	131	Physics - Mechanics	3	2	0	4
SRV	110	Surveying I	2	6	0	4
Total			12	16	0	18
Summer Term I						
CIV	111	Soils and Foundations	2	3	0	3
SRV	111	Surveying II	2	6	0	4
--	--	Technical Elective (5)	0	0	0(10)	1
Total			4	9	0(10)	8

Fall Semester II

CIV	125	Civil/Surveying CAD	1	6	0	3
CIV	211	Hydraulics and Hydrology	2	3	0	3
SRV	210	Surveying III	2	6	0	4
SRV	220	Surveying Law	2	2	0	3
--	--	Communication Elective (4)	3	0	0	3
--	--	Technical Elective (5)	0(2)	0(3)	0(20)	1(4)
Total			10(12)	17(20)	0(20)	17(20)

Spring Semester II

CIV	250	Civil Engineering Tech Project	1	3	0	2
SRV	230	Subdivision Planning	1	6	0	3
SRV	240	Topographical / Site Surveying	2	6	0	4
--	--	Social / Behavioral Science Elective	3	0	0	3
--	--	Humanities / Fine Arts Elective	3	0	0	3
Total			10	15	0	15

Total credit hours required for degree: 69-72 **This curriculum is subject to change.**

- (1) Students may take MAT 171 and MAT 172 instead of MAT 121 and MAT 122.
- (2) Students may take PHY 151 instead of PHY 131.
- (3) Students may substitute MEC 250 for CIV 110
- (4) Communications Elective is selected from: COM 110, COM 120 or COM 231.
- (5) Two Technical Electives must be selected from the following from the list :

Technical Electives:

CIV	215	Highway Technology	1	3	0	2
CIV	230	Construction Estimating	2	3	0	3
SRV	250	Advanced Surveying	2	6	0	4
COE	111	Co-op Experience I	0	0	10	1
COE	121	Co-op Experience II	0	0	10	1

Curriculum:

Surveying Technology - Certificate, Greensboro, day and evening
Advising Code: A 4038 0 C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

EGR	115	Introduction to Technology	2	3	0	3
EGR	115A	Introduction to Technology Lab	1	2	0	1
MAT(1)	121	Algebra / Trigonometry I	2	2	0	3
Total			5	7	0	7

Spring Semester I

SRV	110	Surveying I	2	6	0	4
Total			2	6	0	4

Summer Term I

SRV	111	Surveying II	2	6	0	4
Total			2	6	0	4

Fall Semester II

CIV	125	Civil/Surveying CAD	1	6	0	3
Total			1	6	0	3

Total credit hours required for certificate: 18 **This curriculum is subject to change.**

Students can take the NSPS - Level I Exam upon completion and Level I and II with work experience.

Telecommunications and Network Engineering Technology

A 40 40 0

Associate in Applied Science, Greensboro, day and evening

Contact Information:

(336) 334-4822, ext. 4433 - from Greensboro • (336) 454-1126, ext. 4433 - from High Point

The Telecommunications and Network Engineering Technology curriculum prepares individuals for positions in the telecommunications networking industry. This curriculum develops the knowledge to design, build, install, test, troubleshoot, repair, and modify telecommunication and network systems.

Course work includes basic electricity, solid-state fundamentals, digital concepts, microprocessors, telecommunications and network systems to ensure students develop skills to perform entry-level tasks. Emphasis is placed on developing the student's ability to analyze and troubleshoot telecommunications and network systems.

Graduates should qualify for employment as engineering assistants or electronic technicians with job titles such as electronic engineering technician, field service technician, maintenance technician, network system technician, network specialist, network systems integrator, and network administrator.

Program Outcomes:

Upon successful completion of the program, the student should be able to:

- Practice successful employability skills in the workplace;
- Demonstrate an understanding of telecommunication and networking concepts;
- Use and explain different operating systems and topologies;
- Install, maintain and manage a local/wide area network;
- Analyze, troubleshoot and repair electronic and telecommunications systems.

Curriculum:

**Telecommunications and Network Engineering Technology -
Associate in Applied Science, Greensboro, day
Advising Code: A 4040 0**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
EGR	131	Introduction to Electronic Technology	1	2	0	2
ELC	131	DC/AC Circuits Analysis	4	3	0	5
TNE	111	Campus Networks I	2	3	0	3
MAT	121	Algebra/Trigonometry I	2	2	0	3
ENG	111	Expository Writing	3	0	0	3
Total			12	10	0	16
Spring Semester I						
CET	111	Computer Upgrade/Repair I	2	3	0	3
CET	130	Operating System Principals	2	3	0	3
MAT	122	Algebra/Trigonometry II	2	2	0	3
ELN	133	Digital Electronics	3	3	0	4
TNE	121	Campus Networks II	2	3	0	3
Total			11	14	0	16

Summer Term I

–	–	Technical Elective*	0-3	0-3	0-10	1-4
CET	125	Voice & Data Cabling	2	3	0	3
TNE	250	Introduction to Telecom Networks	2	3	0	3
Total			0-7	0-9	0-10	7-10

Fall Semester II

–	–	Technical Elective*	2	3	0	3
TNE	255	Network Servers	2	3	0	3
TNE	251	Advanced Telecom Networks	2	3	0	3
–	–	Social/Behavioral Science Elective	3	0	0	3
ENG	114	Professional Research/ Report	3	0	0	3
Total			12	9	0	15

Spring Semester II

TNE	241	Network Management	2	3	0	3
TNE	242	Data Network Design	2	3	0	3
COM	231	Public Speaking	3	0	0	3
ELN	249	Digital Communications	2	3	0	3
–	–	Humanities/Fine Arts Elective	3	0	0	3
Total			12	9	0	15

Total credit hours required for degree: 69-72 **This curriculum is subject to change.**

*- Selected from COE 111, CET 222, EGR 125, ELN 236, TNE 231, TNE 235, TNE 245 or PHY 131.

Curriculum:

**Telecommunications and Network Engineering Technology -
Associate in Applied Science, Greensboro, evening
Advising Code A 40 40 0**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

MAT	121	Algebra/Trigonometry I	2	2	0	3
TNE	111	Campus Networks I	2	3	0	3
–	–	Social/Behavioral Science Elective	3	0	0	3
Total			7	5	0	9

Spring Semester I

EGR	131	Introduction to Electronics Tech	1	2	0	2
TNE	121	Campus Networks II	2	3	0	3
MAT	122	Algebra/Trigonometry II	2	2	0	3
Total			5	7	0	8

Summer Term I

CET	125	Voice & Data Cabling	2	3	0	3
–	–	Technical Elective*	2	3	0	3
Total			4	6	0	6

Fall Semester II

ELC	131	DC/AC Circuits Analysis	4	3	0	5
CET	111	Computer Upgrade/Repair I	2	3	0	3
–	–	Humanities/Fine Arts Elective	3	0	0	3
Total			9	6	0	11

Spring Semester II

ELN	133	Digital Electronics	3	3	0	4
ENG	111	Expository Writing	3	0	0	3
COM	231	Public Speaking	3	0	0	3
Total			9	3	0	10

Summer Term II

TNE	241	Network Management	2	3	0	3
TNE	250	Introduction to Telecom Networks	2	3	0	3
Total			5	3	0	6

Fall Semester III

CET	130	Operating System Principles	2	3	0	3
ENG	114	Professional Research & Reporting	3	0	0	3
TNE	251	Advanced Telecom Networks	2	3	0	3
Total			7	6	0	9

Spring Semester III

ELN	249	Digital Communications	2	3	0	3
TNE	242	Data Network Design	2	3	0	3
TNE	255	Network Servers	2	3	0	3
Total			6	9	0	9

Summer Term III

-	-	Technical Elective*	0-3	0-3	0-10	1-4
Total			0-3	0-3	0-10	1-4

Total credit hours required for degree: 69-72. **This curriculum is subject to change.**

*- Selected from COE 111, CET 222, EGR 125, ELN 236, TNE 231, TNE 235, TNE 245 or PHY 131.

Curriculum:

**Telecommunications and Network Engineering Technology -
Diploma, Greensboro
Advising Code A 40 40 0 D1**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
EGR	131	Introduction to Electronic Technology	1	2	0	2
CET	125	Voice and Data Cabling	2	3	0	3
ELC	131	DC/AC Circuits Analysis	4	3	0	5
MAT	121	Algebra/Trigonometry I	2	2	0	3
MAT	122	Algebra/Trigonometry II	2	2	0	3
CET	111	Computer Upgrade/Repair I	2	3	0	3
ENG	111	Expository Writing	3	0	0	3
ELN	133	Digital Electronics	3	3	0	4
TNE	111	Campus Networks I	2	3	0	3
TNE	121	Campus Networks II	2	3	0	3
TNE	250	Introduction to Telecom Networks	2	3	0	3
Total			25	27	0	35

Total credit hours required for diploma: 35 **This curriculum is subject to change.**

Curriculum:**Basic Telecommunications and Network Engineering Technology -
Certificate, Greensboro
Advising Code A 40 40 O C2**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
EGR	131	Introduction to Electronic Technology	1	2	0	2
CET	125	Voice & Data Cabling	2	3	0	3
CET	111	Computer Upgrade/Repair I	2	3	0	3
TNE	111	Campus Networks I	2	3	0	3
TNE	121	Campus Networks II	2	3	0	3
Total			9	14	0	14

Total credit hours required for diploma: 14 **This curriculum is subject to change.**

Curriculum:**Advanced Telecommunications and Network Engineering Technology -
Certificate, Greensboro
Advising Code A 40 40 O C1**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
TNE	242	Data Network Cabling	2	3	0	3
TNE	255	Network Servers	2	3	0	3
TNE	250	Introduction to Telecom Networks	2	3	0	3
TNE	241	Network Management	2	3	0	3
CET	130	Operating System Principles	2	3	0	3
TNE	251	Advanced Telecom Networks	2	3	0	3
Total			12	18	0	18

Total credit hours required for diploma: 18 **This curriculum is subject to change.**

Turfgrass Management Technology

A 15 42 0

Associate in Applied Science, Greensboro, day and evening

Contact Information:

(336) 334-4822, ext. 4424 - from Greensboro • (336) 454-1126, ext. 4424 - from High Point

The Turfgrass Management Technology curriculum is designed to provide skills necessary to perform duties related to management of golf courses, sports fields, lawn care, irrigation design, and sod production.

Coursework includes turfgrass management, irrigation, ornamental horticulture, soil science, entomology, plant pathology, as well as courses in communications, computers, and the social sciences.

Graduates should qualify for employment at golf courses, local, state, and national parks, sports complexes, highway vegetation and turf maintenance companies, and private and public gardens. Graduates should also be prepared to take the examination for the North Carolina pesticide licenses, N.C. Certified Plantsman, and N.C. Landscape Contractors' Registration Board License.

Program Outcomes:

Upon successful completion of the Turfgrass Management program, the graduate should be able to:

- practice successful employability skills in the workplace;
- establish, maintain, and troubleshoot turfgrass areas;
- implement cultural practices of evaluating weather conditions, aeration, top dressing and seeding;
- irrigate turf areas according to soil type and water resource regulations;
- maintain turf equipment;
- manage human resources and financial resources;
- diagnose and implement solutions to turfgrass problems;
- apply turfgrass chemicals as established by the North Carolina pesticide license board.

Curriculum:

Turfgrass Management Technology
Associate in Applied Science, Greensboro, day and evening
Advising Code: A 1542 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

TRF	110	Introduction to Turfgrass Cultivation ID	3	2	0	4
TRF	152	Landscape Maintenance	2	2	0	3
TRF	220	Turfgrass Calculations	2	0	0	2
HOR	118	Equipment Operations & Maintenance	1	3	0	2
HOR	160	Plant Materials I	2	2	0	3
—	—	Humanities/Fine Arts Elective	3	0	0	3
Total			13	9	0	17

Spring Semester I

SPA	120	Spanish for the Workplace	3	0	0	3
TRF	210	Turfgrass Equipment Management	1	4	0	3
HOR	114	Landscape Construction	2	2	0	3
HOR	166	Soils and Fertilizers	2	2	0	3
HOR	260	Plant Materials II	2	2	0	3
ENG	111	Expository Writing	3	0	0	3
Total			13	10	0	18

Summer Term I

COE	112	Co-op Work Experience	0	0	20	2
LSG	123	Summer Garden Lab	0	6	0	2
TRF	151	Intro Landscape Design	2	2	0	3
Total			2	8	20	7

Fall Semester II

LSG	231	Landscape Supervision	2	6	0	4
TRF	120	Turfgrass Irrigation & Design	2	4	0	4
TRF	230	Turfgrass Management Applications	1	2	0	2
MAT	110	Mathematical Measurements	2	2	0	3
ENG	114	Professional Research & Reporting	3	0	0	3
Total			10	14	0	16

Spring Semester II

TRF	125	Turfgrass Computer Applications	1	3	0	2
TRF	240	Turfgrass Pest Control	2	2	0	3
TRF	260	Advanced Turfgrass Management	3	2	0	4
HOR	257	Arboriculture Practices	1	3	0	2
COE	121	Co-op Work Experience II	0	0	10	1
COM	120	Intro to Interpersonal Communication	3	0	0	3
-	-	Social/Behavioral Science Elective	3	0	0	3
Total			13	10	10	18

Total credit hours required for degree: 76 **This curriculum is subject to change.**

Curriculum:

**Turfgrass Management Technology
Diploma, Greensboro, day and evening
Advising Code: A 1542 0 D1**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

TRF	110	Introduction to Turfgrass Cultivation ID	3	2	0	4
TRF	220	Turfgrass Calculations	2	0	0	2
HOR	160	Plant Materials I	2	2	0	3
Total			7	4	0	9

Spring Semester I

TRF	210	Turfgrass Equipment Management	1	4	0	3
HOR	114	Landscape Construction	2	2	0	3
HOR	166	Soils and Fertilizers	2	2	0	3
ENG	111	Expository Writing	3	0	0	3
Total			8	8	0	12

Summer Term I

TRF	151	Intro Landscape Design	2	2	0	3
Total			2	2	0	3

Fall Semester II

TRF	120	Turfgrass Irrigation & Design	2	4	0	4
TRF	230	Turfgrass Management Applications	1	2	0	2
MAT	110	Mathematical Measurements	2	2	0	3
Total			5	8	0	9

Spring Semester II

TRF	125	Turfgrass Computer Applications	1	3	0	2
TRF	240	Turfgrass Pest Control	2	2	0	3
COE	121	Co-op Work Experience II	0	0	10	1
Total			3	5	10	6

Total credit hours required for diploma: 39 **This curriculum is subject to change.**

Curriculum:

**Turfgrass Management Technology
Turfgrass Management Certificate Greensboro, day and evening
Advising Code: A 1542 0 C1**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

TRF	110	Introduction to Turfgrass Cultivation ID	3	2	0	4
TRF	120	Turfgrass Irrigation & Design	2	4	0	4
TRF	230	Turfgrass Management Applications	1	2	0	2
Total			6	8	0	10

Spring Semester I

HOR	166	soils and Fertilizers	2	2	0	3
TRF	260	Advanced Turfgrass Management	3	2	0	4
Total			5	4	0	7

Summer Term I

COE	121	Co-op Work Experience II	0	0	10	1
Total			0	0	10	1

Total credit hours required for certificate: 18 **This curriculum is subject to change.**

Curriculum:

**Turfgrass Management Technology
Landscape Design Certificate Greensboro, day and evening
Advising Code: A 1542 0 C2**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

HOR	160	Plant Materials I	2	2	0	3
TRF	120	Turfgrass Irrigation & Design	2	4	0	4
Total			4	6	0	7

Spring Semester I

TRF	125	Turfgrass Computer Applications	1	3	0	2
HOR	114	Landscape Construction	2	2	0	3
HOR	260	Plant Materials II	2	2	0	3
Total			5	7	0	8

Summer Term I

TRF	151	Intro Landscape Design	2	2	0	3
Total			2	2	0	3

Total credit hours required for certificate: 18 **This curriculum is subject to change.**

Curriculum:**Turfgrass Management Technology
Landscape Maintenance Certificate Greensboro, day and evening
Advising Code: A 1542 0 C3**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

TRF	152	Landscape Maintenance	2	2	0	3
TRF	120	Turfgrass Irrigation & Design	2	4	0	4
Total			4	6	0	7

Spring Semester I

HOR	114	Landscape Construction	2	2	0	3
HOR	257	Arboriculture Practices	1	3	0	2
TRF	240	Turfgrass Pest Control	2	2	0	3
Total			5	7	0	8

Summer Term I

COE	112	Co-op Work Experience I	0	0	20	2
Total			0	0	20	2

Total credit hours required for certificate: 17 **This curriculum is subject to change.**

Web Technologies

A 25 29 0

Associate in Applied Science, Jamestown, day

Contact Information:

(336) 334-4822, ext. 2263- from Greensboro • (336) 454-1126, ext. 2263 - from High Point

The Web Technologies curriculum prepares graduates for careers in the information technology arena using computers and distributed computing to disseminate and collect information via the web.

Course work in this program covers the terminology and use of computers, network devices, networks, servers, databases, applications, programming languages, as well as web applications, site development and design. Studies will provide opportunity for students to learn related industry standards.

This program is offered completely online. IN order be successful in this online program, students will be required to obtain Macromedia Creative Suite 4.0 Web Premium or higher, which includes:

- Dreamweaver
- Flash Catalyst
- Flash Professional
- Flash Builder
- Photoshop Illustrator
- Acrobat 9 Pro
- Fireworks
- Contribute

For more information contact the Online Program Coordinator at x2492.

Graduates should qualify for career opportunities as designers, administrators, or developers in the areas of web applications, websites, web services, and related areas of distributed computing.

Program Outcomes:

- Evaluate the requirements of effective website design and development
- Analyze the technical needs of the client and end-users
- Design a complete website while completing all phases the Software Development Life Cycle in its evolution
- Design a website to meet end-user specifications
- Code a website to meet end-user specifications
- Develop a website that integrates with a relational database
- Develop a website that incorporates static and dynamic content with current industry standard software and techniques
- Identify inefficiencies in existing website designs
- Revise existing websites to enhance appearance, coding, and overall functionality
- Assess the various tools utilized by website designers and developers
- Examine emerging technologies within the industry

Curriculum:**Web Technologies - Associate in Applied Science, Jamestown, day**
Advising Code: A25290

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
ACA	111	College Student Success or	1	0	0	1
ACA	112	Intro to Distance Learning	(0)	(2)	(0)	(1)
CIS	110	Introduction to Computers	2	2	0	3
CIS	115	Intro to Prog & Logic	2	3	0	3
DBA	110	Database Concepts	2	3	0	3
NOS	110	Operating System Concepts	2	3	0	3
WEB	110	Internet/Web Fundamentals	2	2	0	3
Total			11	13(15)	0	16
Spring Semester I						
ENG	111	Expository Writing	3	0	0	3
WEB	111	Intro to Web Graphics	2	2	0	3
WEB	115	Web Markup and Scripting	2	2	0	3
WEB	140	Web Development Tools	2	2	0	3
WEB	180	Active Server Pages	2	2	0	3
Total			11	8	0	15
Summer Term I						
NET	110	Networking Concepts	2	2	0	3
-	-	Technical Elective	2	2	0	3
Total			5	2	0	6
Fall Semester II						
ENG	114	Professional Research and Reporting	3	0	0	3
MAT	140	Survey of Mathematics	3	0	0	3
WEB	120	Intro Internet Multimedia	2	2	0	3
WEB	210	Web Design	2	2	0	3
WEB	230	Implementing Web Server	2	2	0	3
WEB	250	Database Driven Websites	2	2	0	3
Total			14	8	0	18
Spring Semester II						
WEB	289	Internet Technologies Project	1	4	0	3
COM	120	Intro to Interpersonal Communication	3	0	0	3
CTS	115	Info Sys Bus Concepts	3	0	0	3
SEC	110	Security Concepts	3	0	0	3
-	-	Humanities / Fine Arts	3	0	0	3
-	-	Social / Behavior Science	3	0	0	3
Total			15	6	0	18

Technical / Non-Transfer Degree

Total credit hours required for degree: 73. **This curriculum is subject to change.**

Technical Electives: CSC 139, CSC 151, DBA 115, WEB 182, WEB 186, WEB 211, WEB 240, WEB 285, DBA 120, CTS 112*.

* CTS 112 will not completely fulfill Technical Elective credit requirements.

Gateway Courses: WEB 111 and WEB 115. A minimum grade of C required in both.

Curriculum:**Web Technologies – Basic Certificate, Jamestown, day and evening
Advising Code: A25290 C1**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Courses

CIS	110	Introduction to Computers	2	2	0	3
CIS	115	Intro to Prog & Logic	2	3	0	3
WEB	110	Internet/Web Fundamentals	2	2	0	3
WEB	120	Intro Internet Multimedia	2	2	0	3
WEB	140	Web Development Tools	2	2	0	3
Total			10	11	0	15

Total credit hours required for certificate: 15. **This curriculum is subject to change.**

Curriculum:**Web Technologies – Advanced Certificate, Jamestown, evening
Advising Code: A25290 C2**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Courses

CIS	115	Intro to Prog & Logic	2	3	0	3
WEB	110	Internet/Web Fundamentals	2	2	0	3
WEB	120	Intro Internet Multimedia	2	2	0	3
WEB	211	Advanced Web Graphics	2	2	0	3
WEB	250	Database Driven Websites	2	2	0	3
Total			10	11	0	15

Total credit hours required for certificate: 15. Pre-requisites required. **This curriculum is subject to change.**

Welding Technology

D 50 42 0

Diploma, Jamestown, day
Certificate, Jamestown, day and evening

Contact Information:

(336) 334-4822, ext. 2715 - from Greensboro • (336) 454-1126, ext. 2715 - from High Point

The Welding Technology curriculum provides students with a sound understanding of the science, technology and applications essential for successful employment in the welding and metal industry. Instruction includes consumable and non-consumable electrode welding and cutting processes. Courses in math, blueprint reading, metallurgy, welding inspection, and destructive and non-destructive testing provide the student with industry-standard skills developed through classroom training and practical application.

Successful graduates of the Welding Technology curriculum may be employed as entry level-technicians in welding and metalworking industries. Career opportunities also exist in construction, manufacturing, fabrication, sales, quality control, supervision and welding-related self-employment.

Program Outcomes:

Emphasis is placed on developing the skills necessary to obtain certification in Gas Metal Arc, gas tungsten arc, and shielded metal arc welding of plate and pipe. Upon successful completion of the Welding program, the graduate should be able to:

- set up oxyacetylene equipment and cut metals using oxyacetylene plasma arc and carbon arc equipment;
- set up and weld metals using shielded metal arc, gas tungsten arc and gas metal arc equipment;
- identify metals and read drawings;
- perform miscellaneous welding activities;
- practice safety in the workplace.

Curriculum:

Welding Technology - Diploma, Jamestown, day Advising Code: D 5042 0

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	
Fall Semester I						
WLD	110	Cutting Processes	1	3	0	2
WLD	115	SMAW (Stick) Plate	2	9	0	5
WLD	121	GMAW (MIG) FCAW/Plate	2	6	0	4
ENG	102	Applied Communications II	3	0	0	3
Total			8	18	0	14
Spring Semester I						
WLD	131	GTAW (TIG) Plate	2	6	0	4
WLD	141	Symbols and Specifications	2	2	0	3
WLD	215	SMAW (Stick) Pipe	1	9	0	4
MAT	120	Geometry and Trigonometry	2	2	0	3
DFT	119	Basic CAD	1	2	0	2
Total			8	21	0	16

Summer Term I

WLD	261	Certification Practices	1	3	0	2
WLD	132	GTAW (TIG) Plate/Pipe	1	6	0	3
WLD	151	Fabrication I	2	6	0	4
Total			4	15	0	9

Total credit hours required for diploma: 39 **This curriculum is subject to change.**

Up to four cooperative work experience credits may be substituted for course work with Department Chair approval.

Curriculum:

Welding Technology - Certificate, Jamestown, day and evening
Advising Code: D 5042 0 C1

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab/Shop	Clinic/Co-Op	

Fall Semester I

WLD	115	SMAW (Stick) Plate	2	9	0	5
WLD	121	GMAW (MIG) FCAW/Plate	2	6	0	4
Total			4	15	0	9

Spring Semester I

WLD	131	GTAW (TIG) Plate	2	6	0	4
WLD	215	SMAW (Stick) Pipe	1	9	0	4
Total			3	15	0	8

Total credit hours required for certificate: 17 **This curriculum is subject to change.**

Course Descriptions

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COURSE DESCRIPTIONS

For Curriculum Programs

The following is an alpha-numeric listing of course descriptions for all curriculum programs. A three-letter course prefix identifies the program area in which a course is offered. The three or four digit course number identifies a specific course within a program. The course title introduces the subject matter of a course. The group of numbers to the right of a course title gives, in order of information, the lecture hours per week, laboratory and/or shop hours per week, clinic and/or cooperative work hours per week, and the last digit gives the semester credit hours awarded for successful completion of the course.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Academic Related (ACA)

ACA 085	Improving Study Skills	0	2	0	1
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This course is designed to improve academic study skills and introduces resources that will complement developmental courses and engender success in college-level courses. Topics include basic study skills, memory techniques, note-taking strategies, test-taking techniques, library skills, personal improvement strategies, goal setting, and learning resources. Upon completion, students should be able to apply the techniques learned to improve performance in college-level classes.

ACA 111	College Student Success	1	0	0	1
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This course introduces the college's physical, academic, and social environment and promotes the personal development essential for success. Topics include campus facilities and resources; policies, procedures, and programs; study skills; and life management issues such as health, self-esteem, motivation, goal-setting, diversity, and communication. Upon completion, students should be able to function effectively within the college environment to meet their educational objectives.

ACA 112	Intro to Distance Learning	0	2	0	1
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This course introduces the college's distance learning virtual, physical, academic, and global environments and develops skills and knowledge for successful distance learning. Topics include distance FAQs, course enrollment, study resources, learning formats, study completion tips, vocabulary and terminology, useful forms and guides, student logins, and online tutorials. Upon completion, students should be able to function effectively as learners in community college distance education environments.

ACA 115	Success and Study Skills	0	2	0	1
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This course provides an orientation to the campus resources and academic skills necessary to achieve educational objectives. Emphasis is placed on an exploration of facilities and services, study skills, library skills, self-assessment, wellness, goal-setting, and critical thinking. Upon completion, students should be able to manage their learning experiences to successfully meet educational goals.

ACA 118	College Study Skills	1	2	0	2
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This course covers skills and strategies designed to improve study behaviors. Topics include time management, note taking, test taking, memory techniques, active reading strategies, critical thinking, communication skills, learning styles, and other strategies for effective learning. Upon completion, students should be able to apply appropriate study strategies and techniques to the development of an effective study plan.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Accounting (ACC)

ACC 115 College Accounting 3 2 0 4

This course introduces basic accounting principles for a business. Topics include the complete accounting cycle with end-of-period statements, bank reconciliation, payrolls, and petty cash. Upon completion, students should be able to demonstrate an understanding of accounting principles and apply those skills to a business organization. Pre-requisites: MAT 070.

ACC 120 Principles of Financial Accounting 3 2 0 4

This course introduces business decision-making accounting information systems. Emphasis is placed on analyzing, summarizing, reporting, and interpreting financial information. Upon completion, students should be able to prepare financial statements, understand the role of financial information in decision-making and address ethical considerations. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.* Pre-requisites: (RED 090 and ENG 090) or ENG 095, and MAT 070.

ACC 121 Principles of Managerial Accounting 3 2 0 4

This course includes a greater emphasis on managerial and cost accounting skills. Emphasis is placed on managerial accounting concepts for external and internal analysis, reporting and decision-making. Upon completion, students should be able to analyze and interpret transactions relating to managerial concepts including product-costing systems. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.* Pre-requisite: ACC 120.

ACC 125 Mathematics of Finance 3 0 0 3

This course covers computations necessary in accounting for various business transactions. Emphasis is placed on time value of money concepts and calculations needed for topics such as stocks and bonds, annuities, sinking funds, and amortization. Upon completion, students should be able to make computations necessary in accounting for transactions involving these topics. Pre-requisite: BUS 121, MAT 115, MAT 120, MAT 140, or MAT 151.

ACC 129 Individual Income Taxes 2 2 0 3

This course introduces the relevant laws governing individual income taxation. Topics include tax law, electronic research and methodologies, and the use of technology for preparation of individual tax returns. Upon completion, students should be able to analyze basic tax scenarios, research applicable tax law, and complete various individual tax forms.

ACC 130 Business Income Taxes 2 2 0 3

This course introduces the relevant laws governing business and fiduciary income taxes. Topics include tax law relating to business organizations, electronic research and methodologies, and the use of technology for the preparation of business tax returns. Upon completion, students should be able to analyze basic tax scenarios, research applicable tax law, and complete various business tax forms. Pre-requisite: ACC 129.

ACC 140 Payroll Accounting 1 2 0 2

This course covers federal and state laws pertaining to wages, payroll taxes, payroll tax forms, and journal and general ledger transactions. Emphasis is placed on computing wages; calculating social security, income, and unemployment taxes; preparing appropriate payroll tax forms; and journalizing/posting transactions. Upon completion, students should be able to analyze data, make appropriate computations, complete forms, and prepare accounting entries using appropriate technology. Pre-requisite: ACC 115 or ACC 120.

ACC 149 Intro to Accounting Spreadsheets 1 2 0 2

This course provides a working knowledge of computer spreadsheets and their use in accounting. Topics include pre-programmed problems, model-building problems, beginning-level macros, graphics, and what-if analysis enhancements of template problems. Upon completion, students should be able to use a computer spreadsheet to complete many of the tasks required in accounting. Pre-requisite: ACC 115 or ACC 120.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
ACC	150	Accounting Software Applications	1	2	0	2
<p>This course introduces microcomputer applications related to the major accounting systems. Topics include general ledger, accounts receivable, accounts payable, inventory, payroll, and correcting, adjusting, and closing entries. Upon completion, students should be able to use a computer accounting package to solve accounting problems. Pre-requisite: ACC 115 or ACC 120.</p>						
ACC	151	Accounting Spreadsheet Applications	1	2	0	2
<p>This course is designed to facilitate the use of spreadsheet technology as applied to accounting principles. Emphasis is placed on using spreadsheet software as a problem-solving and decision-making tool. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered. Pre-requisites: ACC 149.</p>						
ACC	180	Practices in Bookkeeping	3	0	0	3
<p>This course provides advanced instruction in bookkeeping and record-keeping functions. Emphasis is placed on mastering adjusting entries, correction of errors, depreciation, payroll, and inventory. Upon completion, students should be able to conduct all key bookkeeping functions for small business. This course can be taken by non-degree seeking individuals who wish to obtain the Certified Bookkeeper Credential. Pre-requisite: ACC 120, ACC 140.</p>						
ACC	220	Intermediate Accounting I	3	2	0	4
<p>This course is a continuation of the study of accounting principles with in-depth coverage of theoretical concepts and financial statements. Topics include generally accepted accounting principles and an extensive analysis of financial statements. Upon completion, students should be able to demonstrate competence in the conceptual framework underlying financial accounting, including the application of financial standards. Pre-requisite: ACC 120.</p>						
ACC	221	Intermediate Accounting II	3	2	0	4
<p>This course is a continuation of ACC 220. Emphasis is placed on special problems which may include leases, bonds, investments, ratio analysis, present value applications, accounting changes, and corrections. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered. Pre-requisite: ACC 220.</p>						
ACC	225	Cost Accounting	3	0	0	3
<p>This course introduces the nature and purposes of cost accounting as an information system for planning and control. Topics include direct materials, direct labor, factory overhead, process, job order, and standard cost systems. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered. Pre-requisite: ACC 121.</p>						
ACC	226	Managerial Accounting	3	0	0	3
<p>This course is designed to develop an appreciation for the uses of cost information in the administration and control of business organizations. Emphasis is placed on how accounting data can be interpreted and used by management in planning and controlling business activities. Upon completion, students should be able to analyze and interpret cost information and present this information in a form that is usable by management.</p>						
ACC	227	Practices in Accounting	3	0	0	3
<p>This course provides an advanced in-depth study of selected topics in accounting using case studies and individual and group problem solving. Topics include cash flow, financial statement analysis, individual and group problem solving, practical approaches to dealing with clients, ethics, and critical thinking. Upon completion, students should be able to demonstrate competent analytical skills and effective communication of their analysis in written and/or oral presentations.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

ACC	240	Gov & Not-for-Profit Acct	3	0	0	3
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This course introduces principles and procedures applicable to governmental and not-for-profit organizations. Emphasis is placed on various budgetary accounting procedures and fund accounting. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered. Pre-requisite: **ACC 121**.

ACC	269	Audit & Assurance Services	3	0	0	3
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This course introduces selected topics pertaining to the objectives, theory and practices in engagements providing auditing and other assurance services. Topics will include planning, conducting and reporting, with emphasis on the related professional ethics and standards. Upon completion, students should be able to demonstrate an understanding of the types of professional services, the related professional standards, and engagement methodology. Pre-requisite: **ACC 220**.

Aerospace and Flight Training (AER)

AER	110	Air Navigation	2	2	0	3
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This course covers the basic elements of air navigation, fundamentals of pilotage and dead reckoning, and the use of a plotter, computer, and aerial charts. Topics include pilotage, dead reckoning, radio navigation, LORAN, Global Positioning Systems, and the use of FAA publications. Upon completion, students should be able to interpret aeronautical charts and apply navigational principles.

AER	111	Aviation Meteorology	3	0	0	3
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This course covers the atmosphere, interpretation and measurement of meteorological elements, and the effects of such on aircraft operations and performance. Topics include heat exchanges in the atmosphere; temperature, pressure, stability, clouds, air masses, fronts, and thunderstorms; and the use and interpretation of weather data. Upon completion, students should be able to analyze weather data for flight planning and safe flying.

AER	112	Aviation Laws and Federal Aviation Regulations	2	0	0	2
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This course provides an in-depth study of the state, federal, and international regulations forming the structure of aviation law. Emphasis is placed on Federal Aviation Regulations Parts 61, 91, and 135 with additional emphasis on legal issues in aviation law. Upon completion, students should be able to apply legal principles and interpret federal air regulations.

AER	113	History of Aviation	2	0	0	2
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This course provides a historical survey of the efforts of manned-flight. Topics include the development of aircraft, milestones in aviation, noted pioneers, and the socioeconomic impact of flight upon modern civilization. Upon completion, students should be able to demonstrate an understanding of the advancements that aviation has accrued for society and contemporary changes in aviation.

AER	114	Aviation Management	3	0	0	3
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This course covers operation of a flight department on a cost-effective basis and analysis of profit and loss statements. Topics include flight operations costs, aircraft acquisition analysis and cost comparisons, costs versus revenue, and break-even points. Upon completion, students should be able to calculate cost of flight operations and apply monthly and annual budget analysis.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
AER	119	Aircraft Structures	2	0	0	2
<p>This course introduces aircraft airframes and associated appliances. Emphasis is placed on strength of materials, aircraft standards, type certificate data sheets, basic airframe construction, and weight and balance fundamentals. Upon completion, students should be able to analyze strength of materials data and apply their analysis to semi-monocoque, full-cantilever, and truss-type airframes.</p>						
AER	150	Private Pilot Flight Theory	2	2	0	3
<p>This course covers the aeronautical knowledge required to meet the Federal Aviation Administration regulations for private pilot certification. Topics include the principles of flight, the flight environment, basic aircraft systems and performance, basic meteorology and weather data interpretation, and FAA regulations. Upon completion, students should be able to demonstrate the competencies required for the FAA written examination for a private pilot certificate.</p>						
AER	151	Flight-Private Pilot	0	3	0	1
<p>This course provides the hands-on training needed to qualify for a Federal Aviation Administration private pilot certificate. Topics include flight maneuvers (ground procedures, take-offs, climbs, level flight, turns, glides, stalls, slow flight, descents, slips, landings, emergency procedures) and cross-country planning and navigation. Upon completion, students should be able to demonstrate the competencies required for the flight test practical exam for the private pilot certificate.</p>						
AER	160	Instrument Flight Theory	2	2	0	3
<p>This course covers the required aeronautical knowledge of the Federal Aviation Administration Regulation Instrument Ground School. Topics include a study of instruments, systems, instrument flight charts, instrument flight planning, approach procedures, and the IFR regulations. Upon completion, students should be able to demonstrate the competencies required to complete the FAA written examination for an instrument rating. Pre-requisite: AER 150.</p>						
AER	161	Flight-Instrument Pilot	0	6	0	2
<p>This course covers instruction and training in instrument flight planning including IFR navigation, VOR, ILS, ADF, and compliance with ATC procedures. Emphasis is placed on approach and navigation procedures, including holding and missed approaches, and development of skill in executing en route and approach procedures. Upon completion, students should be able to plan and execute an IFR flight and demonstrate competencies required for the FAA instrument pilot flight exam. Pre-requisite: AER 151.</p>						
AER	170	Commercial Flight Theory	3	0	0	3
<p>This course covers advanced aircraft control, cross-country operations, and other topics required for the FAA commercial pilot written exam. Emphasis is placed on the principles of aircraft performance and operation, take-off performance, cruise performance, descent and landing performance, and weight and balance computations. Upon completion, students should be able to demonstrate commercial pilot skills and competence in the materials required for the FAA written commercial pilot examination. Pre-requisite: AER 150.</p>						
AER	171	Flight-Commercial Pilot	0	6	0	3
<p>This course provides the hands-on training needed to qualify for a Federal Aviation Administration commercial pilot certificate. Topics include flight instruction in advanced precision maneuvers, maximum performance take-off and landings, emergency procedures, operation of complex aircraft, aircraft performance, and range and fuel planning. Upon completion, students should be able to demonstrate competence in the areas of the flight test practical exam for the commercial pilot certificate. Pre-requisite: AER 161.</p>						
AER	210	Flight Dynamics	3	0	0	3
<p>This course covers basic and advanced principles of aerodynamic phenomena and fluid flow. Topics include airflow phenomena; lift/weight/thrust/drag; aircraft configuration characteristics, stability, and control; subsonic, transonic, and supersonic flight; critical Mach numbers; and the V-g Diagram. Upon completion, students should be able to explain the elements of applied aerodynamics and aeronautical engineering which relate directly to the problems of flight operations.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
AER	211	Air Traffic Control	2	0	0	2
<p>This course provides a detailed analysis of all aspects of air traffic control. Emphasis is placed on an in-depth analysis of air traffic control, including utilization of the air traffic environment based on the pilot's and controller's perspective. Upon completion, students should be able to operate an aircraft within the national airspace system under FAA air traffic control. Co-requisite: AER 160.</p>						
AER	212	Air Transport Pilot	3	0	0	3
<p>This course provides advanced study for the professional pilot. Topics include an in-depth study of B-727/737 weight and balance, high altitude weather, Part 121 FARs, and performance considerations of large aircraft. Upon completion, students should be able to calculate weight and balance of large aircraft, determine performance data, and apply high altitude weather principles. Pre-requisites: AER 160 and AER 170.</p>						
AER	213	Avionics	2	0	0	2
<p>This course covers standard navigational and communications equipment and theory. Emphasis is placed on aviation radio spectrum, VHF omnirange, ILS, ADF, transponders, weather radar, flight directors, and autopilots. Upon completion, students should be able to utilize VOR, ADF, ILS, GPS, flight directors, HSI's, and autopilots in the flight environment.</p>						
AER	215	Flight Safety	3	0	0	3
<p>This course covers the basic procedures and practices of aircraft accident prevention, accident investigation, and reporting. Topics include a comprehensive review of federal regulations pertinent to aviation safety and analysis of actual aviation accident cases and their causes. Upon completion, students should be able to demonstrate an understanding and respect for specific personal factors such as attitude, motivation, and skill related to flight safety.</p>						
AER	216	Engines and Systems	2	2	0	3
<p>This course introduces piston and turbine aircraft engines and associated systems. Topics include aircraft hydraulic, pneumatic, electrical, air conditioning, and pressurization systems along with the theory of engine operations, including power and thrust computations. Upon completion, students should be able to apply principles of engine and systems operation.</p>						
AER	217	Air Transportation	3	0	0	3
<p>This course covers the development and present status of the air transportation system. Topics include federal legislation, characteristics and classification of air carriers, development of the air traffic control system, and the organization and function of the FAA. Upon completion, students should be able to relate the knowledge acquired to career development.</p>						
AER	218	Human Factors in Aviation	2	0	0	2
<p>This course analyzes interpersonal relationships in the cockpit and related psychological factors that affect pilot performance and efficiency during flight operations. Topics include cockpit management, judgment, aircraft and flight crew coordination and control, physiological factors, responsibility, and decision-making capabilities. Upon completion, students should be able to apply work-proven routines to stress management, crew responsibility, and the team concept in the cockpit.</p>						
AER	220	Airport Management	2	0	0	2
<p>This course examines the major functions of airport management and the concepts underlying airport planning and construction. Topics include forecasting volumes and airport size and design, including master planning, location requirements, site selection, runway configuration, zoning laws, and other considerations. Upon completion, students should be able to demonstrate basic airport management skills including an understanding of the socioeconomic effect of airports on the community.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

AER 280	Instructor Pilot Flight Theory	3	0	0	3
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This course covers flight instruction and the skills and knowledge necessary to work effectively as a flight instructor. Topics include fundamentals of instruction, lesson planning, instructor regulations and endorsements, and related aeronautical knowledge. Upon completion, students should be able to demonstrate competence necessary for the Federal Aviation Administration Fundamentals of Instructing Test and the appropriate instructor written examination. Pre-requisite: **AER 170**.

AER 281	Flight-CFI	0	3	0	1
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This course provides experience in preparation for the flight instructor practical test. Emphasis is placed on the ability to transition to right seat flight while teaching performance maneuvers including operation of a complex aircraft. Upon completion, students should be able to demonstrate competence in right seat operation and CFI maneuvers as specified in the FAA Practical Test Standards. Pre-requisite: **AER 171**.

AER 285	Flight-Multi-Engine	0	3	0	1
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This course provides the flight training required to obtain a multi-engine rating. Topics include multi-engine safety procedures, single-engine operations and performance, VMC, instrument approaches (single- and multi-engine), and emergency procedures. Upon completion, students should be able to demonstrate the competencies required for the flight test practical examination for a multi-engine rating. Pre-requisite: **AER 171**.

Aviation Electronics Technology - Avionics (AET)

Pending NCCCS approval - courses are subject to change.

AET 120	Sheet Metal Aircraft Structures	1	2	0	1
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Study of methods and materials used in the construction, design, and repair of aircraft metallic structures. Topics include approved methods, processes, and procedures used in inspection, repair, manufacture, and fabrication of sheet metal structures.

AET 122	Airframe Systems	2	6	0	4
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Study of various type systems on modern aircraft, including atmosphere control systems, pressurization, heating, cooling and ventilation, and oxygen systems. Various pneumatic and electrical operated ice and rain control systems will be explored. Topics also include the theory and operation of various fuel and fire protection systems currently in use on aircraft. Position and warning system topics include speed and take-off, anti-skid, and landing gear positions units.

AET 124	Aircraft Electronics & Instrument Sys 1	2	2	0	1
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Theory and application of electronic flight instrument and avionics systems as found in modern aircraft. Topics include the markings and operation of gyroscopic, temperature, direction, and pilot/static operated instruments systems. Skills developed include installing, inspecting, testing and servicing of aircraft instruments and their systems.

AET 126	Advanced Aircraft Electrical Systems 2	2	4	0	4
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Operation, installation, and repair of engine and airframe electrical components. Electrical topics include wiring, controls, switches, protective devices, lighting systems as well as AC circuits and related electrical accessories.

AET 130	Engine Electrical Systems	2	4	0	4
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Study of engine electrical systems and instruments used on turbine powered and reciprocating engine powered aircraft. Emphasis on mechanical power generating and engine starting systems, including hands-on experience with removal, installation, disassembly, troubleshooting, and adjustment of generating, starting, regulating, and monitoring devices.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
AET	132	Practical Wiring / Human Factors	1	3	0	2
<p>This course is the study and practical application of aircraft wiring and avionics system interconnection procedures. Topics include aircraft structural considerations, wiring harness construction, schematic design and reading, cockpit instrument panel design, and FAA regulatory considerations in installations. Human factors</p> <p>Pre-requisite: AET 126 and AET 130</p>						
AET	210	Avionics Maintenance Theory	1	3	0	2
<p>Study of avionics communication, focusing on the theoretical concepts and maintenance of High Frequency (HF), Very High Frequency (VHF), and Ultra High Frequency (UHF) communication as well as inter-cabin communication and integration systems used on aircraft with all associated antennas. Also a topic of bench testing and ramp testing.</p>						
AET	212	Aviation Navigational Equipment	1	3	0	2
<p>Study of modern aviation navigational systems including Very High Frequency Omni Range (VOR), Instrument Landing Systems (ILS), and Automatic Direction Finding (ADF) systems, associated antennas. Emphasis on equipment block diagram and specialized test equipment will be covered in detail.</p>						
AET	214	Long Range Navigation Systems	1	3	0	2
<p>Study of area navigation systems, including Automatic Direction Finding (ADF), land-based area navigation (VOR/DME R-NAV), LORAN-C, and GPS. Emphasis on the most popular forms of aviation navigation and associated antennas. Overview of navigation systems, focusing on the modern satellite systems of today. Bench testing and ramp testing.</p>						
AET	216	Tactical Navigation Systems	1	3	0	2
<p>Study of microwave pulse systems used on board aircraft, focusing on flight line testing of distance measuring equipment (DME), air traffic control transponders, ADS-B, airborne weather radar, and radar altimeters with associated antennas. Exploration of tactical navigation, passive weather detection, and collision avoidance systems, and the role these systems play in the Federal Aviation Administration's reduced vertical separation minimums and terrain awareness systems. Bench testing and ramp testing.</p>						
AET	218	Flight Management and Control	1	3	0	2
<p>Study of flight management and control systems, including the theoretical concepts and maintenance of autopilots, integrated flight control systems, and flight management systems. Additional study includes interaction with area navigation systems, including Automatic Direction Finding (ADF), land-based area navigation (VOR/DME R-NAV), LORAN-C, and GPS. Pre-requisite: AET 210, AET 212, AET 214, and AET 216.</p>						
AET	220	Avionics Systems Interconnect	1	2	0	2
<p>Introduction to databus communications in avionics systems. Topics include databus architectures, topologies and protocols, study of industry standard busses including RS 232, ARINC 429 & 629, MIL-STD-1553, CSDB, and AFDX (Ethernet) as well as others. Students will construct, test, and communicate with a basic avionics databus in laboratory projects.</p>						
AET	222	Flight Line Testing	1	2	0	2
<p>A study of the avionics systems found aboard modern aircraft focusing on the flight line testing of such systems as VHF communications, VHF navigation, ADF, radar, autopilots and others.</p>						
AET	224	Advanced Avionics Troubleshooting	2	6	0	4
<p>Advanced electronics applied to aviation. Component level troubleshooting is studied. Students assemble, align, and troubleshoot an avionics stack in a Repair Station environment.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

AET	226	FARs for Avionics Cert. Repair Stat.	1	2	0	2
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Practical experience in the day-to-day operations of a Federal Aviation Administration Certified Repair Station. Students will perform tasks which will include completion of FAA forms and records, maintenance of technical data and servicing equipment.

AET	228	Avionics FCC Preparation	1	2	0	2
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Preparation for the Federal Communications Commission General Radio Telephone License examination. Topics covered include test equipment used in the aviation industry, avionics circuits, troubleshooting techniques, design considerations of aviation transmitters and receivers, and design considerations of aviation antennas. Study includes Federal Communications Commission rules and a review of test taking techniques.

Air Conditioning, Heating and Refrigeration (AHR)

AHR	110	Introduction to Refrigeration	2	6	0	5
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This course introduces the basic refrigeration process used in mechanical refrigeration and air conditioning systems. Topics include terminology, safety, and identification and function of components; refrigeration cycle; and tools and instrumentation used in mechanical refrigeration systems. Upon completion, students should be able to identify refrigeration systems and components, explain the refrigeration process, and use the tools and instrumentation of the trade.

AHR	111	HVACR Electricity	2	2	0	3
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This course introduces electricity as it applies to HVACR equipment. Emphasis is placed on power sources, interaction of electrical components, wiring of simple circuits, and the use of electrical test equipment. Upon completion, students should be able to demonstrate good wiring practices and the ability to read simple wiring diagrams.

AHR	112	Heating Technology	2	4	0	4
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This course covers the fundamentals of heating including oil, gas, and electric heating systems. Topics include safety, tools and instrumentation, system operating characteristics, installation techniques, efficiency testing, electrical power, and control systems. Upon completion, students should be able to explain the basic oil, gas, and electrical heating systems and describe the major components of a heating system.

AHR	113	Comfort Cooling	2	4	0	4
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This course covers the installation procedures, system operations, and maintenance of residential and light commercial comfort cooling systems. Topics include terminology, component operation, and testing and repair of equipment used to control and produce assured comfort levels. Upon completion, students should be able to use psychometrics, manufacturer specifications, and test instruments to determine proper system operation.

AHR	114	Heat Pump Technology	2	4	0	4
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This course covers the principles of air source and water source heat pumps. Emphasis is placed on safety, modes of operation, defrost systems, refrigerant charging, and system performance. Upon completion, students should be able to understand and analyze system performance and perform routine service procedures. Prerequisite: AHR 110 or AHR 113.

AHR	120	HVACR Maintenance	1	3	0	2
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This course introduces the basic principles of industrial air conditioning and heating systems. Emphasis is placed on preventive maintenance procedures for heating and cooling equipment and related components. Upon completion, students should be able to perform routine preventive maintenance tasks, maintain records, and assist in routine equipment repairs.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

AHR 130	HVAC Controls	2	2	0	3
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This course covers the types of controls found in residential and commercial comfort systems. Topics include electrical and electronic controls, control schematics and diagrams, test instruments, and analysis and troubleshooting of electrical systems. Upon completion, students should be able to diagnose and repair common residential and commercial comfort system controls. Pre-requisite: AHR 111 or ELC 111.

AHR 160	Refrigerant Certification	1	0	0	1
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This course covers the requirements for the EPA certification examinations. Topics include small appliances, high pressure systems, and low pressure systems. Upon completion, students should be able to demonstrate knowledge of refrigerants and be prepared for the EPA certification examinations.

AHR 210	Residential Building Code	1	2	0	2
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This course covers the residential building codes that are applicable to the design and installation of HVAC systems. Topics include current residential codes as applied to HVAC design, service, and installation. Upon completion, students should be able to demonstrate the correct usage of residential building codes that apply to specific areas of the HVAC trade.

AHR 211	Residential System Design	2	2	0	3
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This course introduces the principles and concepts of conventional residential heating and cooling system design. Topics include heating and cooling load estimating, basic psychometrics, equipment selection, duct system selection, and system design. Upon completion, students should be able to design a basic residential heating and cooling system.

AHR 212	Advanced Comfort Systems	2	6	0	4
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This course covers water-cooled comfort systems, water-source/geothermal heat pumps, and high efficiency heat pump systems including variable speed drives and controls. Emphasis is placed on the application, installation, and servicing of water-source systems and the mechanical and electronic control components of advanced comfort systems. Upon completion, students should be able to test, analyze, and troubleshoot water-cooled comfort systems, water-source/geothermal heat pumps, and high efficiency heat pumps. Pre-requisite: **AHR 114**.

AHR 215	Commercial HVAC Controls	1	3	0	2
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This course introduces HVAC control systems used in commercial applications. Topics include electric/electronic control systems, pneumatic control systems, DDC temperature sensors, humidity sensors, pressure sensors, wiring, controllers, actuators, and controlled devices. Upon completion, students should be able to verify or correct the performance of common control systems with regard to sequence of operation and safety. Pre-requisite: **AHR 111 or ELC 111**.

AHR 220	Commercial Building Codes	2	0	0	2
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This course covers the appropriate sections of the North Carolina State Building Code that govern the installation of commercial comfort, refrigeration, and mechanical systems. Emphasis is placed on using and understanding applications sections of the North Carolina State Building Code. Upon completion, students should be able to use the North Carolina State Building Code to locate information regarding the installation of commercial systems.

AHR 225	Commercial System Design	2	3	0	3
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This course covers the principles of designing heating and cooling systems for commercial buildings. Emphasis is placed on commercial heat loss/gain calculations, applied psychometrics, air-flow calculations, air distribution system design, and equipment selection. Upon completion, students should be able to calculate heat loss/gain, design and size air and water distribution systems, and select equipment. Pre-requisite: AHR 211.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

AHR	235	Refrigeration Design	2	2	0	3
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This course covers the principles of commercial refrigeration system operation and design. Topics include walk-in coolers, walk-in freezers, system components, load calculations, equipment selection, defrost systems, refrigerant line sizing, and electric controls. Upon completion, students should be able to design, adjust, and perform routine service procedures on a commercial refrigeration system. Pre-requisites: **AHR 110**.

AHR	240	Hydronic Heating	1	3	0	2
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This course covers the accepted procedures for proper design, installation, and balance of hydronic heating systems for residential or commercial buildings. Topics include heating equipment; pump, terminal unit, and accessory selection; piping system selection and design; and pipe sizing and troubleshooting. Upon completion, students should be able to assist with the proper design, installation, and balance of typical hydronic systems. Pre-requisite: **AHR 112**.

AHR	250	HVAC System Diagnostics	0	4	0	2
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This course is a comprehensive study of air conditioning, heating, and refrigeration system diagnostics and corrective measures. Topics include advanced system analysis, measurement of operating efficiency, and inspection and correction of all major system components. Upon completion, students should be able to restore a residential or commercial AHR system so that it operates at or near manufacturers' specifications. Co-requisite: **AHR 212**.

AHR	255	Indoor Air Quality	1	2	0	2
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This course introduces the techniques of assessing and maintaining the quality of the indoor environment in residential and commercial structures. Topics include handling and investigating complaints, filter selection, humidity control, testing for sources of carbon monoxide, impact of mechanical ventilation, and building and duct pressures. Upon completion, students should be able to assist in investigating and solving common indoor air quality problems.

AHR	263	Energy Management	1	3	0	2
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This course covers building automation computer programming as currently used in energy management. Topics include night setback, duty cycling, synchronization, schedule optimization, and anticipatory temperature control. Upon completion, students should be able to write programs utilizing the above topics and connect computer systems to HVAC systems. Pre-requisite: **AHR 125 or AHR 215**.

Alternative Energy Technology (ALT)

ALT	220	Photovoltaic Sys Tech	2	3	0	3
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This course introduces the concepts, tools, techniques, and materials needed to understand systems that convert solar energy into electricity with photovoltaic (pv) technologies. Topics include site analysis for system integration, building codes, and advances in photovoltaic technology. Upon completion, students should be able to demonstrate an understanding of the principles of photovoltaic technology and current applications. Pre-requisite: **ELC 113**.

ALT	221	Adv PV Sys Design	2	3	0	3
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This course introduces specific elements in photovoltaic (pv) systems technologies including efficiency, modules, inverters, charge controllers, batteries, and system installation. Topics include National Electrical Code (NEC), electrical specifications, photovoltaic system components, array design and power integration requirements that combine to form a unified structure. Upon completion, students should be able to demonstrate an understanding of various photovoltaic designs and proper installation of NEC compliant solar electric power systems. **Pre-requisite: ALT 220**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Anthropology (ANT)

ANT 210	General Anthropology	3	0	0	3
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This course introduces the physical, archaeological, linguistic, and ethnological fields of anthropology. Topics include human origins, genetic variations, archaeology, linguistics, primatology, and contemporary cultures. Upon completion, students should be able to demonstrate an understanding of the four major fields of anthropology. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: RED 090 or ENG 095.

ANT 220	Cultural Anthropology	3	0	0	3
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This course introduces the nature of human culture. Emphasis is placed on cultural theory, methods of field-work, and cross-cultural comparisons in the areas of ethology, language, and the cultural past. Upon completion, students should be able to demonstrate an understanding of basic cultural processes and how cultural data are collected and analyzed. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: RED 090 or ENG 095.

Architecture (ARC)

ARC 111	Introduction to Architectural Technology	1	6	0	3
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This course introduces basic architectural drafting techniques, lettering, use of architectural and engineer scales, and sketching. Topics include orthographic, axonometric, and oblique drawing techniques using architectural plans, elevations, sections, and details; reprographic techniques; and other related topics. Upon completion, students should be able to prepare and print scaled drawings within minimum architectural standards. Co-requisites: ARC 114, [(ENG 090 and RED 090) or ENG 095], MAT 070.

ARC 112	Construction Materials and Methods	3	2	0	4
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This course introduces construction materials and their methodologies. Topics include construction terminology, materials and their properties, manufacturing processes, construction techniques, and other related topics. Upon completion, students should be able to detail construction assemblies and identify construction materials and properties. Co-requisites: ENG 090, MAT 070, RED 090.

ARC 113	Residential Architectural Technology	1	6	0	3
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This course covers intermediate residential working drawings. Topics include residential plans, elevations, sections, details, schedules, and other related topics. Upon completion, students should be able to prepare a set of residential working drawings that are within accepted architectural standards. Pre-requisite: C or better in ARC 111 and ARC 114. Co-requisite: ARC 112.

ARC 114	Architectural CAD	1	3	0	2
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This course introduces basic architectural CAD techniques. Topics include basic commands and system hardware and software. Upon completion, students should be able to prepare and plot architectural drawings to scale within accepted architectural standards.

ARC 114A	Architectural CAD Lab	0	3	0	1
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This course provides a laboratory setting to enhance architectural CAD skills. Emphasis is placed on further development of commands and system operation. Upon completion, students should be able to prepare and plot scaled architectural drawings. Co-requisite: ARC 114.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
ARC	141	Elementary Structures for Architecture	4	0	0	4
<p>This course covers concepts of elementary structures in architecture. Topics include structural form, statics, strength of materials, structural behavior, and the relationship between structures and architectural form. Upon completion, students should be able to size simple structural elements. Pre-requisite: C or better in ARC 111 and (MAT 121, MAT 171, MAT 175, MAT 223, or MAT 271) Co-Requisite: (PHY 131 or PHY 151).</p>						
ARC	160	Residential Design	1	6	0	3
<p>This course introduces the methodology of basic residential design. Topics include residential site design, space organization and layout, residential styles, and the development of schematic design. Upon completion, students should be able to design a residence. Pre-requisite: C or better in ARC 111 and ARC 114. Co-requisite: ARC 112.</p>						
ARC	210	Intro to Sustain Design	1	3	0	2
<p>This course introduces concepts and principles related to sustainable site development and architectural design. Topics include low impact and sustainable site development, water efficiency, energy efficiency, material and resource management, indoor environmental quality, and return on investment. Upon completion, students should be able to articulate and integrate sustainable design principles into site and architectural design. Pre-requisite: C or better in ARC 111, ARC 114, and ARC 114A.</p>						
ARC	211	Light Construction Technology	1	6	0	3
<p>This course covers working drawings for light construction. Topics include plans, elevations, sections, and details; schedules; and other related topics. Upon completion, students should be able to prepare a set of working drawings which are within accepted architectural standards. Pre-requisite: C or better in ARC 111, ARC 112, ARC 114, and ARC 113. Co-requisite: ARC 221.</p>						
ARC	213	Design Project	2	6	0	4
<p>This course provides the opportunity to design and prepare a set of contract documents within an architectural setting. Topics include schematic design, design development, construction documents, and other related topics. Upon completion, students should be able to prepare a set of commercial contract documents. Pre-requisites: C or better in ARC 111, ARC 112, ARC 114, ARC 211 and ARC 221.</p>						
ARC	220	Advanced Architect CAD	1	3	0	2
<p>This course provides file management, productivity, and CAD customization skills. Emphasis is placed on developing advanced proficiency techniques. Upon completion, students should be able to create prototype drawings and symbol libraries, compose sheets with multiple details, and use advanced drawing and editing commands. Pre-requisite: C or better in ARC 114.</p>						
ARC	221	Architectural 3-D CAD	1	4	0	3
<p>This course introduces architectural three-dimensional CAD applications. Topics include three-dimensional drawing, coordinate systems, viewing, rendering, modeling, and output options. Upon completion, students should be able to prepare architectural three-dimensional drawings and renderings. Pre-requisite: C or better in ARC 114.</p>						
ARC	230	Environmental Systems	3	3	0	4
<p>This course introduces plumbing, mechanical (HVAC), and electrical systems for the architectural environment. Topics include basic plumbing, mechanical, and electrical systems for residential and/or commercial buildings with an introduction to selected code requirements. Upon completion, students should be able to develop schematic drawings for plumbing, mechanical, and electrical systems and perform related calculations. Pre-requisite: C or better in ARC 111, ARC 114, and (MAT 121, MAT 151, MAT 161, MAT 171, MAT 175, MAT 223, or MAT 271). Co-requisite: PHY 131 or PHY 151.</p>						
ARC	235	Architectural Portfolio	2	3	0	3
<p>This course covers the methodology for the creation of an architectural portfolio. Topics include preparation of marketing materials and a presentation strategy using conventional and/or digital design media. Upon completion students should be able to produce an architectural portfolio of selected projects. Pre-requisites : C or better in ARC 113, ARC 114, ARC 220 and ARC 221.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

ARC 240	Site Planning	2	2	0	3
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This course introduces the principles of site planning, grading plans, and earthwork calculations. Topics include site analysis, site work utilities, cut and fill, soil erosion control and other related topics. Upon completion, students should be able to prepare site development plans and details and perform cut and fill calculations. Pre-requisites: C or better in ARC 114 **ARC 111 or LAR 111**, and MAT 121 or MAT 171. Co-requisite: ARC 213.

ARC 250	Survey of Architecture	3	0	0	3
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This course introduces the historical trends in architectural form. Topics include historical and current trends in architecture. Upon completion, students should be able to demonstrate an understanding of significant historical and current architectural styles. Pre-requisites: C or better in ENG 090 and RED 090.

ARC 264	Digital CAD	1	3	0	2
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This course covers multiple digital architectural techniques. Topics include spreadsheets and word processing procedures, on-line resources, modems, e-mail, image capture, multimedia, and other related topics. Upon completion, students should be able to transmit/receive electronic data, create multimedia presentations, and produce a desktop publishing document. Emphasis in this course will be placed on incorporating and managing third party database applications with BIM Software. Co-requisites: ARC 112, ARC 220. Pre-requisites: ARC 111, ARC 114, ARC 114a

Art (ART)

ART 111	Art Appreciation	3	0	0	3
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This course introduces the origins and historical development of art. Emphasis is placed on the relationship of design principles to various art forms including but not limited to sculpture, painting, and architecture. Upon completion, students should be able to identify and analyze a variety of artistic styles, periods, and media. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: RED 090 or ENG 095.

ART 114	Art History Survey I	3	0	0	3
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This course covers the development of art forms from ancient times to the Renaissance. Emphasis is placed on content, terminology, design, and style. Upon completion, students should be able to demonstrate an historical understanding of art as a product reflective of human social development. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: RED 090 or ENG 095.

ART 115	Art History Survey II	3	0	0	3
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This course covers the development of art forms from the Renaissance to the present. Emphasis is placed on content, terminology, design, and style. Upon completion, students should be able to demonstrate an historical understanding of art as a product reflective of human social development. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: RED 090 or ENG 095.

ART 121	Design I	0	6	0	3
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This course introduces the elements and principles of design as applied to two-dimensional art. Emphasis is placed on the structural elements, the principles of visual organization, and the theories of color mixing and interaction. Upon completion, students should be able to understand and use critical and analytical approaches as they apply to two-dimensional visual art. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

ART	122	Design II	0	6	0	3
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This course introduces basic studio problems in three-dimensional visual design. Emphasis is placed on the structural elements and organizational principles as applied to mass and space. Upon completion, students should be able to apply three-dimensional design concepts. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: **C or better in ART 121.**

ART	131	Drawing I	0	6	0	3
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This course introduces the language of drawing and the use of various drawing materials. Emphasis is placed on drawing techniques, media, and graphic principles. Upon completion, students should be able to demonstrate competence in the use of graphic form and various drawing processes. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

ART	132	Drawing II	0	6	0	3
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This course continues instruction in the language of drawing and the use of various materials. Emphasis is placed on experimentation in the use of drawing techniques, media, and graphic materials. Upon completion, students should be able to demonstrate increased competence in the expressive use of graphic form and techniques. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: **C or better in ART 131.**

Astronomy (AST)

AST	111	Descriptive Astronomy	3	0	0	3
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This course introduces an overall view of modern astronomy. Topics include an overview of the solar system, the sun, stars, galaxies, and the larger universe. Upon completion, students should be able to demonstrate an understanding of the universe around them. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Co-requisite: AST 111A.

AST	111A	Descriptive Astronomy Lab	0	2	0	1
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This course is a laboratory to accompany AST 111. Emphasis is placed on laboratory experiences which enhance the materials presented in AST 111 and which provide practical experience. Upon completion, students should be able to demonstrate an understanding of the universe around them. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Co-requisite: **AST 111.**

AST	151	General Astronomy I	3	0	0	3
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This course introduces the science of modern astronomy with a concentration on the solar system. Emphasis is placed on the history and physics of astronomy and an introduction to the solar system, including the planets, comets, and meteors. Upon completion, students should be able to demonstrate a general understanding of the solar system. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Co-requisite: **AST 151A.**

AST	151A	General Astronomy I Lab	0	2	0	1
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This course is a laboratory to accompany AST 151. Emphasis is placed on laboratory experiences which enhance the materials presented in AST 151 and which provide practical experience. Upon completion, students should be able to demonstrate a general understanding of the solar system. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Co-requisite: **AST 151.**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

AST 152	General Astronomy II	3	0	0	3
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This course is a continuation of AST 151 with primary emphasis beyond the solar system. Topics include the sun, stars, galaxies, and the larger universe, including cosmology. Upon completion, students should be able to demonstrate a working knowledge of astronomy. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Pre-requisite: **AST 151**. Co-requisite: AST 152A.

AST 152A	General Astronomy II Lab	0	2	0	1
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This course is a laboratory to accompany AST 152. Emphasis is placed on laboratory experiences which enhance the materials presented in AST 152 and which provide practical experience. Upon completion, students should be able to demonstrate a working knowledge of astronomy. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Pre-requisite: **AST 151**. Co-requisite: **AST 152**.

AST 251	Observational Astronomy	1	3	0	2
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This course covers the operation of the telescope and related observatory equipment. Emphasis is placed on the use of the telescope and related observatory equipment, including techniques of data collection, measurements, and data analysis. Upon completion, students should be able to set up a telescope and use the coordinate system to locate objects, collect data, and make measurements with the telescope. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: **AST 111 or AST 152**.

Automation and Robotics (ATR)

ATR 112	Intro to Automation	2	3	0	3
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This course introduces the basic principles of automated manufacturing and describes the tasks that technicians perform on the job. Topics include the history, development, and current applications of robots and automated systems including their configuration, operation, components, and controls. Upon completion, students should be able to understand the basic concepts of automation and robotic systems.

ATR 211	Robot Programming	2	3	0	3
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This course provides the operational characteristics of industrial robots and programming in their respective languages. Topics include robot programming utilizing teach pendants, PLCs, and personal computers; and the interaction of external sensors, machine vision, network systems, and other related devices. Upon completion, students should be able to program and demonstrate the operation of various robots.

ATR 280	Robotic Fundamentals	3	2	0	4
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This course covers application, programming, and maintenance fundamentals for robotic devices. Emphasis is placed on terminology, problem solving, robotic system controls, and hands-on projects. Upon complete, students should be able to apply basic concepts in application, programming, and robotic control systems.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Automotive Body Repair (AUB)

AUB	111	Painting and Refinishing I	2	6	0	4
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This course introduces the proper procedures for using automotive refinishing equipment and materials in surface preparation and application. Topics include federal, state, and local regulations, personal safety, refinishing equipment and materials, surface preparation, masking, application techniques, and other related topics. Upon completion, students should be able to identify and use proper equipment and materials in refinishing following accepted industry standards. Pre-requisite: Enrollment in the Collision Repair & Refinishing Program and (RED 090 or ENG 095) Co-requisite: AUB 121.

AUB	112	Painting and Refinishing II	2	6	0	4
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This course covers advanced painting techniques and technologies with an emphasis on identifying problems encountered by the refinishing technician. Topics include materials application, color matching, correction of refinishing problems, and other related topics. Upon completion, students should be able to perform spot, panel, and overall refinishing repairs and identify and correct refinish problems. Pre-requisite: **AUB 111**.

AUB	114	Special Finishes	1	2	0	2
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This course introduces multistage finishes, custom painting, and protective coatings. Topics include base coats, advanced intermediate coats, clear coats, and other related topics. Upon completion, students should be able to identify and apply specialized finishes based on accepted industry standards. Pre-requisite: **AUB 111**.

AUB	121	Non-Structural Damage I	1	4	0	3
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This course introduces safety, tools, and the basic fundamentals of body repair. Topics include shop safety, damage analysis, tools and equipment, repair techniques, materials selection, materials usage, and other related topics. Upon completion, students should be able to identify and repair minor direct and indirect damage including removal/repairing/replacing of body panels to accepted standards. Pre-requisite: Enrollment in the Collision Repair & Refinishing Program and (RED 090 or ENG 095).

AUB	122	Non-Structural Damage II	2	6	0	4
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This course covers safety, tools, and advanced body repair. Topics include shop safety, damage analysis, tools and equipment, advanced repair techniques, materials selection, materials usage, movable glass, and other related topics. Upon completion, students should be able to identify and repair or replace direct and indirect damage to accepted standards including movable glass and hardware. Pre-requisite: **AUB 121**.

AUB	131	Structural Damage I	2	4	0	4
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This course introduces safety, equipment, structural damage analysis, and damage repairs. Topics include shop safety, design and construction, structural analysis and measurement, equipment, structural glass, repair techniques, and other related topics. Upon completion, students should be able to analyze and perform repairs to a vehicle which has received light/moderate structural damage. Pre-requisite: Enrollment in the Collision Repair & Refinishing Program and (RED 090 or ENG 095).

AUB	132	Structural Damage II	2	6	0	4
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This course provides an in-depth study of structural damage analysis and repairs to vehicles that have received moderate to heavy structural damage. Topics include shop safety, structural analysis and measurement, equipment, structural glass, advanced repair techniques, structural component replacement and alignment, and other related topics. Upon completion, students should be able to analyze and perform repairs according to industry standards. Pre-requisite: **AUB 131**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

AUB 134 Autobody MIG Welding 1 4 0 3

This course covers the terms and procedures for welding the various metals found in today's autobody repair industry with an emphasis on personal/environmental safety. Topics include safety and precautionary measures, setup/operation of MIG equipment, metal identification methods, types of welds/joints, techniques, inspection methods, and other related topics. Upon completion, students should be able to demonstrate a basic knowledge of welding operations and safety procedures according to industry standards.

AUB 136 Plastics and Adhesives 1 4 0 3

This course covers safety, plastic and adhesive identification, and the various repair methods of automotive plastic components. Topics include safety, identification, preparation, material selection, and the various repair procedures including refinishing. Upon completion, students should be able to identify, remove, repair, and/or replace automotive plastic components in accordance with industry standards. Pre-requisite: AUB 121.

AUB 141 Mechanical and Electrical Components I 2 2 0 3

This course covers the basic principles of automotive mechanical and electrical components. Topics include personal and environmental safety and suspension and steering, electrical, brake, heating and air-conditioning, cooling, drive train, and restraint systems. Upon completion, students should be able to identify system components and perform basic system diagnostic checks and/or repairs according to industry standards.

AUB 162 Autobody Estimating 1 2 0 2

This course provides a comprehensive study of autobody estimating. Topics include collision damage analysis, industry regulations, flat-rate and estimated time, and collision estimating manuals. Upon completion, students should be able to prepare and interpret a damage report.

Automotive (AUT)

AUT 110 Introduction to Auto Technology 2 2 0 3

This course covers workplace safety, hazardous material and environmental regulations, use of hand tools, service information resources, basic concepts, systems, and terms of automotive technology. Topics include familiarization with vehicle systems along with identification and proper use of various automotive hand and power tools. Upon completion, students should be able to describe safety and environmental procedures, terms associated with automobiles, identify and use basic tools and shop equipment. Pre-requisite: RED 090 or ENG 095.

AUT 113 Automotive Servicing I 0 6 0 2

This course is a lab used as an alternative to co-op placement. Emphasis is placed on shop operations, troubleshooting, testing, adjusting, repairing, and replacing components using appropriate test equipment and service information. Upon completion, students should be able to perform a variety of automotive repairs using proper service procedures and to operate appropriate equipment. Pre-requisite: AUT 110.

AUT 116 Engine Repair 2 3 0 3

This course covers the theory, construction, inspection, diagnosis, and repair of internal combustion engines and related systems. Topics include fundamental operating principles of engines and diagnosis, inspection, adjustment, and repair of automotive engines using appropriate service information. Upon completion, students should be able to perform basic diagnosis, measurement and repair of automotive engines using appropriate tools, equipment, procedures, and service information. Pre-requisite: AUT 110.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

AUT 116A Engine Repair Lab 0 3 0 1

This course is a lab to be used as an alternative to co-op placement in meeting the NATEF standards for total hours. Topics include diagnosis, inspection, adjustment, and repair of automotive engines using appropriate service information. Upon completion, students should be able to perform basic diagnosis, measurement and repair of automotive engines using appropriate tools, equipment, procedures, and service information. Co-requisite: **AUT 116.**

AUT 123 Powertrain Diagnosis & Service 1 3 0 2

This course covers the diagnosis, repair and service of the vehicle powertrain and related systems. Topics include fundamental operating principles of engines and transmissions and use of proper service procedures for diagnosis, service and removal and replacement of major components. Upon completion, students should be able to perform basic service and diagnosis of the powertrain and related systems, and to perform in vehicle repairs and remove and replace components. Pre-requisite: **AUT 110.**

AUT 141 Suspension & Steering Systems 2 3 0 3

This course covers principles of operation, types, and diagnosis/repair of suspension and steering systems to include steering geometry. Topics include manual and power steering systems and standard and electronically controlled suspension and steering systems. Upon completion, students should be able to service and repair steering and suspension components, check and adjust alignment angles, repair tires, and balance wheels. Pre-requisite: **AUT 110.**

AUT 141A Suspension & Steering Lab 0 3 0 1

This course is a lab to be used as an alternative to co-op placement in meeting the NATEF standards for total hours. Topics include manual and power steering systems and standard and electronically controlled suspension and steering systems. Upon completion, students should be able to service and repair steering and suspension components, check and adjust alignment angles, repair tires, and balance wheels. Co-requisite: **AUT 141.**

AUT 151 Brake Systems 2 3 0 3

This course covers principles of operation and types, diagnosis, service, and repair of brake systems. Topics include drum and disc brakes involving hydraulic, vacuum boost, hydra-boost, electrically powered boost, and anti-lock and parking brake systems. Upon completion, students should be able to diagnose, service, and repair various automotive braking systems. Pre-requisite: **AUT 110.**

AUT 151A Brakes Systems Lab 0 3 0 1

This course is a lab to be used as an alternative to co-op placement in meeting the NATEF standards for total hours. Topics include drum and disc brakes involving hydraulic, vacuum-boost, hydra-boost, electrically powered boost, and anti-lock, parking brake systems and emerging brake systems technologies. Upon completion, students should be able to diagnose, service, and repair various automotive braking systems. Co-requisite: **AUT 151.**

AUT 161 Basic Automotive Electricity 4 3 0 5

This course covers basic electrical theory, wiring diagrams, test equipment, and diagnosis, repair, and replacement of batteries, starters, and alternators. Topics include Ohm's Law, circuit construction, wiring diagrams, circuit testing, and basic troubleshooting. Upon completion, students should be able to properly use wiring diagrams, diagnose, test, and repair basic wiring, battery, starting, charging, and electrical concerns. Pre-requisite: **AUT 110.**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

AUT 163 Advanced Automotive Electricity 2 3 0 3

This course covers electronic theory, wiring diagrams, test equipment, and diagnosis, repair, and replacement of electronics, lighting, gauges, horn, wiper, accessories, and body modules. Topics include networking and module communication, circuit construction, wiring diagrams, circuit testing, and troubleshooting. Upon completion, students should be able to properly use wiring diagrams, diagnose, test, and repair wiring, lighting, gauges, accessories, modules, and electronic concerns. Pre-requisite: **AUT 161**.

AUT 163A Advanced Automotive Electricity Lab 0 3 0 1

This course is a lab to be used as an alternative to co-op placement in meeting the NATEF standards for total hours. Topics include networking and module communication, circuit construction, wiring diagrams, circuit testing, troubleshooting and emerging electrical/electronic systems technologies. Upon completion, students should be able to properly use wiring diagrams, diagnose, test, and repair wiring, lighting, gauges, accessories, modules, and electronic concerns. Co-requisite: **AUT 163**.

AUT 171 Automotive Climate Control 2 4 0 4

This course covers the theory of refrigeration and heating, electrical/electronic/pneumatic controls, and diagnosis/repair of climate control systems. Topics include diagnosis and repair of climate control components and systems, recovery/recycling of refrigerants, and safety and environmental regulations. Upon completion, students should be able to describe the operation, diagnose, and safely service climate control systems using appropriate tools, equipment, and service information. Pre-requisite: **AUT 110**.

AUT 181 Engine Performance I 2 3 0 3

This course covers the introduction, theory of operation, and basic diagnostic procedures required to restore engine performance to vehicles equipped with complex engine control systems. Topics include an overview of engine operation, ignition components and systems, fuel delivery, injection components and systems and emission control devices. Upon completion, students should be able to describe operation and diagnose/repair basic ignition, fuel and emission related drive ability problems using appropriate test equipment/service information. Pre-requisite: **AUT 161**.

AUT 181A Engine Performance I Lab 0 3 0 1

This course is a lab to be used as an alternative to co-op placement in meeting the NATEF standards for total hours. Topics include overviews of engine operation, ignition components and systems, fuel delivery, injection components and systems and emission control devices and emerging engine performance technologies. Upon completion, students should be able to describe operation and diagnose/repair basic ignition, fuel and emission related drive ability problems using appropriate test equipment/service information. Co-requisite: **AUT 181**.

AUT 183 Engine Performance II 2 6 0 4

This course covers study of the electronic engine control systems, the diagnostic process used to locate engine performance concerns, and procedures used to restore normal operation. Topics will include currently used fuels and fuel systems, exhaust gas analysis, emission control components and systems, OBD II (on-board diagnostics) and inter-related electrical/electronic systems. Upon completion, students should be able to diagnose and repair complex engine performance concerns using appropriate test equipment and service information. Pre-requisite: **AUT 181**.

AUT 186 PC Skills for Auto Techs 2 2 0 3

This course introduces students to personal computer literacy and Internet literacy with an emphasis on the automotive service industry. Topics include service information systems, management systems, computer-based systems, and PC based diagnostic equipment. Upon completion, students should be able to access information pertaining to automotive technology and perform word processing. Pre-requisite: **RED 090**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

AUT	213	Automotive Servicing 2	1	3	0	2
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This course is a lab used as an alternative to co-op placement. Emphasis is placed on shop operations, troubleshooting, testing, adjusting, repairing, and replacing components using appropriate test equipment and service information. Upon completion, students should be able to perform a variety of automotive repairs using proper service procedures and to operate appropriate equipment. Pre-requisite: AUT 113.

AUT	221	Auto Transmissions/Transaxles	2	3	0	3
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This course covers operation, diagnosis, service, and repair of automatic transmissions/transaxles. Topics include hydraulic, pneumatic, mechanical, and electrical/electronic operation of automatic drive trains and the use of appropriate service tools and equipment. Upon completion, students should be able to explain operational theory, diagnose and repair automatic drive trains. Pre-requisite: AUT 161.

AUT	221A	Auto Transmissions/Transaxles Lab	0	3	0	1
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This course is a lab to be used as an alternative to co-op placement in meeting the NATEF standards for total hours. Topics include hydraulic, pneumatic, mechanical, and electrical/electronic operation of automatic drive trains and the use of appropriate service tools and equipment. Upon completion, students should be able to diagnose and repair automatic drive trains. Co-requisite: AUT 221.

AUT	231	Manual Transmissions/ Axles/Drive trains	2	3	0	3
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This course covers the operation, diagnosis, and repair of manual transmissions/transaxles, clutches, drive-shafts, axles, and final drives. Topics include theory of torque, power flow, and manual drive train service and repair using appropriate service information, tools, and equipment. Upon completion, students should be able to explain operational theory, diagnose and repair manual drive trains. Pre-requisite: AUT 110.

AUT	231A	Manual Transmissions/ Axles/Drivetrains Lab	0	3	0	1
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This course is a lab for the program that is needed to meet NATEF hour standards but does not have a co-op component in the program. Topics include manual drive train diagnosis, service and repair using appropriate service information, tools, and equipment. Upon completion, students should be able to diagnose and repair manual drive trains. Co-requisite: AUT 231.

AUT	285	Intro to Alternative Fuels	2	2	0	3
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This course is an overview of alternative fuels and alternative fueled vehicles. Topics include composition and use of alternative fuels, including compressed natural gas, propane, biodiesel, ethanol, electric, hydrogen, synthetic fuels, and vehicles that use alternative fuels. Upon completion, students should be able to identify alternative fuel vehicles, explain how each alternative fuel delivery system works, and make minor repairs.

Aviation (AVI)

AVI	110	Aviation Maintenance-General	10	15	0	15
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This course introduces general subjects related to all aspects of aircraft maintenance. Topics include mechanic privileges/limitations; math and physics; basic electricity; aircraft drawings; maintenance forms; fluid lines/fittings; weight and balance; corrosion control; and ground operations. Upon completion, students should be prepared to pass the FAA knowledge, oral, and practical exams for the general portion of the mechanic's certificate with either the airframe or powerplant ratings. Pre-requisite: (RED 090 or ENG 095) and MAT 070.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

AVI 120 Airframe Maintenance I 6 18 0 12

This course covers airframe structures, systems, and components with an emphasis on the different types of aircraft construction and repair methods. Topics include aircraft non-metallic (composite), sheet metal, and wood structures; welding; covering and finishes (dope and fabric); assembly and rigging; and communication and navigation systems. Students should gain the knowledge and skills in these areas to prepare them for the airframe rating for the FAA mechanic's certificate. Pre-requisite: **AVI 110**.

AVI 130 Airframe Maintenance II 6 9 0 9

This course deals entirely with airframe systems and components. Topics include aircraft electrical, hydraulic, pneumatic, landing gear, position, warning, and fuel systems. Upon completion of the course, the student should be prepared to pass the applicable portions of the knowledge, oral, and practical tests of the airframe rating for the FAA mechanic's certificate. Pre-requisite: **AVI 110**.

AVI 230 Airframe Maintenance III 4 9 0 7

In this final course of the airframe series, the emphasis is on systems and components, culminating with the airframe inspection portion of the course. In addition to the inspection aspects, instrument, cabin environmental control, fire protection, and ice and rain control systems are covered. The student should be prepared to take the applicable portions of the written, oral, and practical examination for the airframe rating on the FAA mechanic's certificate. Pre-requisite: **AVI 110**.

AVI 240 Powerplant Maintenance I 3 9 0 6

This first course in the powerplant series covers theoretical and practical aspects of the two major types of aircraft propulsion systems, piston and jet engines. Auxiliary power units are also covered, including their relationship to the systems they operate. Upon completion, the student should be knowledgeable of aircraft engines to include maintenance and operation at the level required by the FAA to qualify for a powerplant rating on a mechanic's certificate. Pre-requisite: **AVI 110**.

AVI 250 Powerplant Maintenance II 10 15 0 15

This course emphasizes engine systems and components. Topics include engine instruments and fire protection, electrical, lubrication, fuel, ignition, starting, and fuel metering systems. Students completing this course should be capable of passing appropriate portions of the FAA knowledge, oral, and practical tests for the powerplant rating. Pre-requisites: **AVI 110**.

AVI 260 Powerplant Maintenance III 5 12 0 9

This final course of the powerplant series covers engine systems and components; propellers and unducted fans; and induction, airflow, cooling, exhaust, and reverser systems. The course culminates with engine inspections. The student should be prepared to pass the applicable portions of the knowledge, oral, and practical exams for the powerplant rating at the completion of this course. Pre-requisite: **AVI 110**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Biology (BIO)

BIO	094	Concepts of Human Biology	3	2	0	4
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This course focuses on fundamental concepts of human biology. Topics include terminology, biochemistry, cell biology, tissues, body systems, and other related topics. Upon completion, students should be able to demonstrate preparedness for college-level anatomy and physiology courses. Co-requisite: **RED 090 or ENG 095**.

BIO	106	Introduction to Anatomy/ Physiology/Microbiology	2	2	0	3
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This course covers the fundamental and principle concepts of human anatomy and physiology and microbiology. Topics include an introduction to the structure and function of cells, tissues, and human organ systems, and an overview of microbiology, epidemiology, and control of microorganisms. Upon completion, students should be able to identify structures and functions of the human body and describe microorganisms and their significance in health and disease. *This is a certificate and diploma level course.*

BIO	110	Principles of Biology	3	3	0	4
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This course provides a survey of fundamental biological principles for non-science majors. Emphasis is placed on basic chemistry, cell biology, metabolism, genetics, taxonomy, evolution, ecology, diversity, and other related topics. Upon completion, students should be able to demonstrate increased knowledge and better understanding of biology as it applies to everyday life. *This course has been approved to satisfy the Comprehensive Articulation Agreement* **general education core requirement in natural sciences/mathematics**. Student will not receive credit for both BIO 110 and BIO 111. Pre-requisite: C or better in RED 090 or ENG 095.

BIO	111	General Biology I	3	3	0	4
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This course introduces the principles and concepts of biology. Emphasis is placed on basic biological chemistry, cell structure and function, metabolism and energy transformation, genetics, evolution, classification, and other related topics. Upon completion, students should be able to demonstrate understanding of life at the molecular and cellular levels. A background in Chemistry is valuable in this course. A recent high school or college chemistry class or CHM 092 is available. *This course has been approved to satisfy the Comprehensive Articulation Agreement* **general education core requirement in natural sciences/mathematics**. Student will not receive credit for both BIO 110 and BIO 111. Pre-requisite: C or better in RED 090 or ENG 095.

BIO	112	General Biology II	3	3	0	4
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This course is a continuation of BIO 111. Emphasis is placed on organisms, biodiversity, plant and animal systems, ecology, and other selected topics. Upon completion, students should be able to demonstrate comprehension of life at the organismal and ecological levels. *This course has been approved to satisfy the Comprehensive Articulation Agreement* **general education core requirement in natural sciences/mathematics**. The laboratory component of this course includes cutting up preserved animal specimens. Pre-requisite: **BIO 111**.

BIO	140	Environmental Biology	3	0	0	3
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This course introduces environmental processes and the influence of human activities upon them. Topics include ecological concepts, population growth, natural resources, and a focus on current environmental problems from scientific, social, political, and economic perspectives. Upon completion, students should be able to demonstrate an understanding of environmental interrelationships and of contemporary environmental issues. *This course has been approved to satisfy the Comprehensive Articulation Agreement* **general education core requirement in natural sciences/mathematics**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

BIO 140A Environmental Biology Lab 0 3 0 1

This course provides a laboratory component to complement BIO 140. Emphasis is placed on laboratory and field experience. Upon completion, students should be able to demonstrate a practical understanding of environmental interrelationships and of contemporary environmental issues. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Co-requisite: **BIO 140**.

BIO 163 Basic Anatomy and Physiology 4 2 0 5

This course provides a basic study of the structure and function of the human body. Topics include a basic study of the body systems as well as an introduction to homeostasis, cells, tissues, nutrition, acid-base balance, and electrolytes. Upon completion, students should be able to demonstrate a basic understanding of the fundamental principles of anatomy and physiology and their interrelationships. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: C or better in RED 090 or ENG 095 or BIO 094.

BIO 165 Anatomy and Physiology I 3 3 0 4

This course is the first of a two-course sequence which provides a comprehensive study of the anatomy and physiology of the human body. Topics include the structure, function, and interrelationship of organ systems with emphasis on the processes which maintain homeostasis. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and their interrelationships. BIO 165 and BIO 166 should be completed in the same college to receive transfer credit. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisites: C or better in RED 090 or ENG 095.

BIO 166 Anatomy and Physiology II 3 3 0 4

This course is the second in a two-course sequence which provides a comprehensive study of the anatomy and physiology of the human body. Topics include the structure, function, and interrelationship of organ systems with emphasis on the processes which maintain homeostasis. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and the interrelationships of all body systems. BIO 165 and BIO 166 should be completed in the same college to receive transfer credit. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: C or better in **BIO 165**.

BIO 175 General Microbiology 2 2 0 3

This course covers principles of microbiology with emphasis on microorganisms and human disease. Topics include an overview of microbiology and aspects of medical microbiology, identification and control of pathogens, disease transmission, host resistance, and immunity. Upon completion, students should be able to demonstrate knowledge of microorganisms and the disease process as well as aseptic and sterile techniques. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisites: **BIO 110, BIO 111, BIO 163, BIO 165 or BIO 168**.

BIO 250 Genetics 3 3 0 4

This course covers principles of prokaryotic and eukaryotic cell genetics. Emphasis is placed on the molecular basis of heredity, chromosome structure, patterns of Mendelian and non-Mendelian inheritance, evolution, and biotechnological applications. Upon completion, students should be able to recognize and describe genetic phenomena and demonstrate knowledge of important genetic principles. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: **BIO 112**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

BIO	265	Cell Biology	3	3	0	4
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This course provides an in-depth study of cellular organization and communication, biochemical cell processes, and cellular growth, replication and death. Topics include organelle structure and function, nucleic acid and protein synthesis, gene organization and regulation, cell signaling mechanisms, bioenergetics, cell motility and apoptosis. Upon completion, students should be able to demonstrate knowledge of cell structure and function and lab skills including microscopy, cell culture, and molecular biology techniques. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.* Pre-requisites: **BIO 111, BIO 275, or BIO 280.**

BIO	275	Microbiology	3	3	0	4
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This course covers principles of microbiology and the impact these organisms have on man and the environment. Topics include the various groups of microorganisms, their structure, physiology, genetics, microbial pathogenicity, infectious diseases, immunology, and selected practical applications. Upon completion, students should be able to demonstrate knowledge and skills including microscopy, aseptic technique, staining, culture methods, and identification of microorganisms. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.* Pre-requisites: **BIO 110, BIO 111, BIO 163, BIO 165, or BIO 168.**

BIO	280	Biotechnology	2	3	0	3
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This course provides experience in selected laboratory procedures. Topics include proper laboratory techniques in biology and chemistry. Upon completion, students should be able to identify laboratory techniques and instrumentation in basic biotechnology. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.* Pre-requisite: **BIO 111, CHM 131 or CHM 151.**

Baking & Pastry (BPA)

BPA	210	Cake Design & Decorating	1	4	0	3
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This course covers advanced concepts in the design and decoration of wedding cakes and other specialty cakes. Topics include baking, filling and assembling cakes; cake design; and finishing techniques utilizing gum paste, fondant, and royal icing; and advanced piping skills. Upon completion, students should be able to design, create, and finish wedding and specialty cakes. Pre-requisite: **CUL 110 and CUL 160.**

BPA	250	Dessert & Bread Production	1	8	0	3
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This course is designed to merge artistry and innovation with the practical baking and pastry techniques utilized in a production setting. Topics include quantity bread and roll-in dough production, plated and platter presentations, and seasonal/theme product utilization with an emphasis on cost effectiveness. Upon completion, students should be able to plan and prepare breads and desserts within a restaurant environment and determine production costs and selling prices. Pre-requisite: **CUL 110 and CUL 160.**

Blueprint Reading (BPR)

BPR	111	Blueprint Reading	1	2	0	2
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This course introduces the basic principles of blueprint reading. Topics include line types, orthographic projections, dimensioning methods, and notes. Upon completion, students should be able to interpret basic blueprints and visualize the features of a part.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

BPR 121	Blueprint Reading: Mechanical	1	2	0	2
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This course covers the interpretation of intermediate blueprints. Topics include tolerancing, auxiliary views, sectional views, and assembly drawings. Upon completion, students should be able to read and interpret a mechanical working drawing. Pre-requisite: **BPR 111 or MAC 131**.

BPR 130	Blueprint Reading/Construction	1	2	0	2
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This course covers the interpretation of blueprints and specifications that are associated with the construction trades. Emphasis is placed on interpretation of details for foundations, floor plans, elevations, and schedules. Upon completion, students should be able to read and interpret a set of construction blueprints.

BPR 135	Schematics & Diagrams	2	0	0	2
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This course introduces schematics and diagrams used in a variety of occupations. Topics include interpretation of wiring diagrams, assembly drawings, exploded views, sectional drawings, and service manuals, specifications, and charts. Upon completion, students should be able to research and locate components and assemblies denoting factory specifications and requirements from service and repair manuals.

BPR 221	Interpretation of GD & T	2	0	0	2
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This course introduces dimensioning and tolerancing standards as established by ANSI and ISO 9000. Topics include dimensioning, symbols and terms, application of tolerances and limits, tolerances of position and form, and the advantages of geometric concepts. Upon completion, students should be able to interpret blueprints that utilize the GD & T system. Pre-requisite: **BPR 121 or MAC 132**.

Business (BUS)

BUS 110	Introduction to Business	3	0	0	3
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This course provides a survey of the business world. Topics include the basic principles and practices of contemporary business. Upon completion, students should be able to demonstrate an understanding of business concepts as a foundation for studying other business subjects. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisites: (RED 090 and ENG 090) or ENG 095. Co-requisite: MAT 070.

BUS 115	Business Law I	3	0	0	3
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This course introduces the ethics and legal framework of business. Emphasis is placed on contracts, negotiable instruments, Uniform Commercial Code, and the working of the court systems. Upon completion, students should be able to apply ethical issues and laws covered to selected business decision-making situations. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisites: (RED 090 and ENG 090) or ENG 095. Co-requisite: MAT 070.

BUS 121	Business Math	2	2	0	3
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This course covers fundamental mathematical operations and their application to business problems. Topics include payroll, pricing, interest and discount, commission, taxes, and other pertinent uses of mathematics in the field of business. Upon completion, students should be able to apply mathematical concepts to business. Pre-requisite: MAT 070.

BUS 125	Personal Finance	3	0	0	3
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This course provides a study of individual and family financial decisions. Emphasis is placed on building useful skills in buying, managing finances, increasing resources, and coping with current economic conditions. Upon completion, students should be able to develop a personal financial plan.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
BUS	137	Principles of Management	3	0	0	3
<p>This course is designed to be an overview of the major functions of management. Emphasis is placed on planning, organizing, controlling, directing, and communicating. Upon completion, students should be able to work as contributing members of a team utilizing these functions of management. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.</i> (RED 090 and ENG 090) or ENG 095</p>						
BUS	151	People Skills	3	0	0	3
<p>This course introduces the basic concepts of identity and communication in the business setting. Topics include self-concept, values, communication styles, feelings and emotions, roles versus relationships, and basic assertiveness, listening, and conflict resolution. Upon completion, students should be able to distinguish between unhealthy, self-destructive, communication patterns and healthy, non-destructive, positive communication patterns.</p>						
BUS	153	Human Resource Management	3	0	0	3
<p>This course introduces the functions of personnel/human resource management within an organization. Topics include equal opportunity and the legal environment, recruitment and selection, performance appraisal, employee development, compensation planning, and employee relations. Upon completion, students should be able to anticipate and resolve human resource concerns.</p>						
BUS	217	Employment Laws and Regulations	3	0	0	3
<p>This course introduces the principle laws and regulations affecting public and private organizations and their employees or prospective employees. Topics include fair employment practices, EEO, affirmative action, and employee rights and protections. Upon completion, students should be able to evaluate organizational policy for compliance and assure that decisions are not contrary to law.</p>						
BUS	225	Business Finance	2	2	0	3
<p>This course provides an overview of business financial management. Emphasis is placed on financial statement analysis, time value of money, management of cash flow, risk and return, and sources of financing. Upon completion, students should be able to interpret and apply the principles of financial management. Pre-requisite: ACC 120.</p>						
BUS	228	Business Statistics	3	0	0	3
<p>This course introduces the use of statistical methods and tools in evaluating research data for business applications. Emphasis is placed on basic probability, measures of spread and dispersion, central tendency, sampling, regression analysis, and inductive inference. Upon completion, students should be able to apply statistical problem solving to business. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. Pre-requisites: ACC 149, BUS 115, MAT 140, or MAT 161.</p>						
BUS	234	Training and Development	3	0	0	3
<p>This course covers developing, conducting, and evaluating employee training with attention to adult learning principles. Emphasis is placed on conducting a needs assessment, using various instructional approaches, designing the learning environment, and locating learning resources. Upon completion, students should be able to design, conduct, and evaluate a training program.</p>						
BUS	240	Business Ethics	3	0	0	3
<p>This course introduces contemporary and controversial ethical issues that face the business community. Topics include moral reasoning, moral dilemmas, law and morality, equity, justice and fairness, ethical standards, and moral development. Upon completion, students should be able to demonstrate an understanding of their moral responsibilities and obligations as members of the workforce and society.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

BUS 256	Recruit Selection & Personnel Planning	3	0	0	3
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This course introduces the basic principles involved in managing the employment process. Topics include personnel planning, recruiting, interviewing and screening techniques, maintaining employee records, and voluntary and involuntary separations. Upon completion, students should be able to acquire and retain employees who match position requirements and fulfill organizational objectives. *This course is a unique concentration requirement of the Human Resources Management concentration in the Business Administration program and is restricted to students in that program.*

BUS 258	Compensation and Benefits	3	0	0	3
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This course is designed to study the basic concepts of pay and its role in rewarding performance. Topics include wage and salary surveys, job analysis, job evaluation techniques, benefits, and pay-for-performance programs. Upon completion, students should be able to develop and manage a basic compensation system to attract, motivate and retain employees. *This course is a unique concentration requirement of the Human Resources Management concentration in the Business Administration program and is restricted to students in that program.*

BUS 259	Human Resource Management Applications	3	0	0	3
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This course provides students in the Human Resource Management concentration the opportunity to reinforce their learning experiences from preceding HRM courses. Emphasis is placed on application of day-to-day HRM functions by completing in-basket exercises and through simulations. Upon completion, students should be able to determine the appropriate actions called for by typical events that affect the status of people at work. This course is a unique concentration requirement of the Human Resources Management concentration in the Business Administration program and is restricted to students in that program. Pre-requisites: **BUS 217, BUS 234, BUS 256 and BUS 258.**

BUS 260	Business Communication	3	0	0	3
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This course is designed to develop skills in writing business communications. Emphasis is placed on business reports, correspondence, and professional presentations. Upon completion, students should be able to communicate effectively in the work place. Pre-requisite: **ENG 111.**

BUS 280	REAL Small Business	4	0	0	4
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This course introduces hands-on techniques and procedure for planning and opening a small business, including the personal qualities needed for entrepreneurship. Emphasis is placed on market research, finance, time management, and day-to-day activities of owning/operating a small business. Upon completion, students should be able to write and implement a viable business plan and seek funding.

Carpentry (CAR)

CAR 110	Carpentry	2	0	0	2
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This course introduces the student to the carpentry trade. Topics include duties of a carpenter, hand and power tools, building materials, construction methods, and safety. Upon completion, students should be able to identify hand and power tools, common building materials, and basic construction methods.

CAR 111	Carpentry I	3	15	0	8
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This course introduces the theory and construction methods associated with the building industry, including framing, materials, tools, and equipment. Topics include safety, hand/power tool use, site preparation, measurement and layout, footings and foundations, construction framing, and other related topics. Upon completion, students should be able to safely lay out and perform basic framing skills with supervision. This is a diploma-level course.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

CAR	112	Carpentry II	3	15	0	8
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This course covers the advanced theory and construction methods associated with the building industry including framing and exterior finishes. Topics include safety, hand/power tool use, measurement and layout, construction framing, exterior trim and finish, and other related topics. Upon completion, students should be able to safely frame and apply exterior finishes to a residential building with supervision. Pre-requisite: **CAR 111**.

CAR	113	Carpentry III	3	9	0	6
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This course covers interior trim and finishes. Topics include safety, hand/power tool use, measurement and layout, specialty framing, interior trim and finishes, cabinetry, and other related topics. Upon completion, students should be able to safely install various interior trim and finishes in a residential building with supervision. Pre-requisite: **CAR 111**.

CAR	114	Residential Building Codes	3	0	0	3
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This course covers building codes and the requirements of state and local construction regulations. Emphasis is placed on the minimum requirements of the North Carolina building codes related to residential structures. Upon completion, students should be able to determine if a structure is in compliance with North Carolina building codes.

CAR	115	Residential Planning/Estimating	3	0	0	3
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This course covers project planning, management, and estimating for residential or light commercial buildings. Topics include planning and scheduling, interpretation of working drawings and specifications, estimating practices, and other related topics. Upon completion, students should be able to perform quantity takeoffs and cost estimates. Pre-requisite: **BPR 130**.

Cyber Crime (CCT)

CCT	110	Intro to Cyber Crime	3	0	0	3
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This course introduces and explains the various types of offenses that qualify as cyber crime activity. Emphasis is placed on identifying cyber crime activity and the response to these problems from both the private and public domains. Upon completion, students should be able to accurately describe and define cyber crime activities and select an appropriate response to deal with the problem. Pre-requisite: (ENG 090 and RED 090) or ENG 095.

CCT	112	Ethics & High Technology	3	0	0	3
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This course covers ethical considerations and accepted standard practices applicable to technological investigations and computer privacy issues relative to the cyber crime investigator. Topics include illegal and unethical investigative activities, end-justifying-the-means issues, and privacy issues of massive personal database information gathered by governmental sources. Upon completion, students should be able to examine their own value system and apply ethical considerations in identifiable cyber crime investigations. Pre-requisite: (ENG 090 and RED 090) or ENG 095.

CCT	121	Computer Crime Investigation	3	2	0	4
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This course introduces the fundamental principles of computer crime investigation processes. Topics include crime scene/incident processing, information gathering techniques, data retrieval, collection and preservation of evidence, preparation of reports and court presentations. Upon completion, students should be able to identify cyber crime activity and demonstrate proper investigative techniques to process the scene and assist in case prosecution. Pre-requisite: (ENG 090 and RED 090) or ENG 095.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
CCT	231	Technology Crimes & Law	3	0	0	3
<p>This course covers the applicable technological laws dealing with the regulation of cyber security and criminal activity. Topics include an examination of state, federal and international laws regarding cyber crime with an emphasis on both general and North Carolina statutes. Upon completion, students should be able to identify the elements of cyber crime activity and discuss the trends of evolving laws. Pre-requisite: (ENG 090 and RED 090) or ENG 095.</p>						
CCT	240	Data Recovery Techniques	2	3	0	3
<p>This course introduces the unique skills and methodologies necessary to assist in the investigation and prosecution of cyber crimes. Topics include hardware and software issues, recovering erased files, overcoming encryption, advanced imaging, transient data, Internet issues and testimony considerations. Upon completion, students should be able to recover digital evidence, extract information for criminal investigation and legally seize criminal evidence.</p>						
CCT	250	Network Vulnerabilities I	2	2	0	3
<p>This course introduces students to penetration testing, network vulnerabilities, and hacking. Topics include an overview of traditional network security, system hardening, and known weaknesses. Upon completion, students should be able to evaluate weaknesses of traditional and wireless networks for the purpose of incident response, reconstruction, and forensic investigation. Pre-requisite: NET 110, and [(ENG 090 and RED 090) or ENG 095].</p>						
CCT	251	Network Vulnerabilities II	2	2	0	3
<p>This course advances students' knowledge of penetration testing, network vulnerabilities, and hacking. Topics include analyzing advanced techniques for circumventing network security hardware and software. Upon completion, students should be able to assemble test kits for multiple operating systems, scan and footprint networks, and perform advanced forensic investigation. Pre-requisite: CCT 250.</p>						
CCT	271	Mac Digital Forensics	1	4	0	3
<p>This course advances students' knowledge of penetration testing, network vulnerabilities, and hacking. Topics include analyzing advanced techniques for circumventing network security hardware and software. Upon completion, students should be able to assemble test kits for multiple operating systems, scan and footprint networks, and perform advanced forensic investigation.</p>						
CCT	272	Forensic Password Recov	1	4	0	3
<p>This course introduces the unique skills and methodologies necessary to assist in the investigation and prosecution of cyber crimes involving decryption. Topics include decryption of PGP key rings, private keys, EFS hard drives, and encrypted containers. Upon completion, students will be able to use the course processes and methodologies to obtain forensic evidence from encrypted files, folders, and systems.</p>						
CCT	285	Trends in Cyber Crime	2	2	0	3
<p>This course covers and explores advances and developments in cyber crime technologies. Emphasis is placed on computer forensics tools, information protection and security, threat response, and professional development. Upon completion, students should be able to articulate understanding of the current state of the industry as well as emerging technologies for cyber crime technology. Pre-requisite: CCT 110.</p>						
CCT	289	Capstone Project	1	6	0	3
<p>This course provides experience in cyber crime investigations or technology security audits in either the public or private domain. Emphasis is placed on student involvement with businesses or agencies dealing with technology security issues or computer crime activities. Upon completion, students should be able to successfully analyze, retrieve erased evidence and testify in mock proceedings against these criminal entrepreneurs. Pre-requisites: CCT 231 or CCT 220.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Computer Engineering Technology (CET)

CET 111 Computer Upgrade/Repair I 2 3 0 3

This course covers repairing, servicing, and upgrading computers and peripherals in preparation for industry certification. Topics include CPU/memory/bus identification, disk subsystems, hardware/software installation/configuration, common device drivers, data recovery, system maintenance, and other related topics. Upon completion, students should be able to safely repair and/or upgrade computer systems to perform within specifications.

CET 125 Voice and Data Cabling 2 3 0 3

This course provides an understanding of the industry and its worldwide standards, types of media and cabling, physical and logical networks, including signal transmission. Topics include network design documentation, part list set-up, pulling and mounting cable, cable management, wiring closets, patch panel installation and termination including cable testing. Upon completion, students should be able to understand documentation, design, installation, and safety issues associated with voice and data cabling.

CET 130 Operating System Principles 2 3 0 3

This course introduces the concepts, usage, internals and applications of operating systems used in engineering technology. Topics include resource management, shells, schedulers, file systems, networking, software considerations and other related topics. Upon completion, students should be able to choose and evaluate an operating system for engineering applications.

CET 222 Computer Architecture 2 0 0 2

This course introduces the organization and design philosophy of computer systems with respect to resource management, throughput, and operating system interaction. Topics include instruction sets, registers, data types, memory management, virtual memory, cache, storage management, multi-processing, and pipelining. Upon completion, students should be able to evaluate system hardware and resources for installation and configuration purposes. Pre-requisite: CET 111 or ELN 133.

Chemistry (CHM)

CHM 092 Fundamentals of Chemistry 3 2 0 4

This course covers fundamentals of chemistry with laboratory applications. Topics include measurements, matter, energy, atomic theory, bonding, molecular structure, nomenclature, balancing equations, stoichiometry, solutions, acids and bases, gases, and basic organic chemistry. Upon completion, students should be able to understand and apply basic chemical concepts and demonstrate basic laboratory skills necessary for success in college-level science courses.

CHM 131 Introduction to Chemistry 3 0 0 3

This course introduces the fundamental concepts of inorganic chemistry. Topics include measurement, matter and energy, atomic and molecular structure, nuclear chemistry, stoichiometry, chemical formulas and reactions, chemical bonding, gas laws, solutions, and acids and bases. Upon completion, students should be able to demonstrate a basic understanding of chemistry as it applies to other fields. A background in Chemistry is valuable in this course. A recent high school or college Chemistry class or CHM 092 is advised. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

CHM 131A Introduction to Chemistry Lab 0 3 0 1

This course is a laboratory to accompany CHM 131. Emphasis is placed on laboratory experiences that enhance materials presented in CHM 131. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical principles presented in CHM 131. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Co-requisite: **CHM 131**.

CHM 132 Organic and Biochemistry 3 3 0 4

This course provides a survey of major functional classes of compounds in organic and biochemistry. Topics include structure, properties, and reactions of the major organic and biological molecules and basic principles of metabolism. Upon completion, students should be able to demonstrate an understanding of fundamental chemical concepts needed to pursue studies in related professional fields. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Pre-requisites: **CHM 131 and CHM 131A or CHM 151**.

CHM 151 General Chemistry I 3 3 0 4

This course covers fundamental principles and laws of chemistry. Topics include measurement, atomic and molecular structure, periodicity, chemical reactions, chemical bonding, stoichiometry, thermochemistry, gas laws, and solutions. Upon completion, students should be able to demonstrate an understanding of fundamental chemical laws and concepts as needed in CHM 152. A background in Chemistry is valuable in this course. A recent high school or college Chemistry class or CHM 092 is advised. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Pre-requisite: MAT 080.

CHM 152 General Chemistry II 3 3 0 4

This course provides a continuation of the study of the fundamental principles and laws of chemistry. Topics include kinetics, equilibrium, ionic and redox equations, acid-base theory, electrochemistry, thermodynamics, introduction to nuclear and organic chemistry, and complex ions. Upon completion, students should be able to demonstrate an understanding of chemical concepts as needed to pursue further study in chemistry and related professional fields. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Pre-requisite: C or better in **CHM 151**.

CHM 251 Organic Chemistry I 3 3 0 4

This course provides a systematic study of the theories, principles, and techniques of organic chemistry. Topics include nomenclature, structure, properties, reactions, and mechanisms of hydrocarbons, alkyl halides, alcohols, and ethers; further topics include isomerization, stereochemistry, and spectroscopy. Upon completion, students should be able to demonstrate an understanding of the fundamental concepts of covered organic topics as needed in CHM 252. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement. Pre-requisite: C or better in **CHM 152**.

CHM 252 Organic Chemistry II 3 3 0 4

This course provides continuation of the systematic study of the theories, principles, and techniques of organic chemistry. Topics include nomenclature, structure, properties, reactions, and mechanisms of aromatics, aldehydes, ketones, carboxylic acids and derivatives, amines and heterocyclics; multi-step synthesis will be emphasized. Upon completion, students should be able to demonstrate an understanding of organic concepts as needed to pursue further study in chemistry and related professional fields. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: C or better in **CHM 251**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Information Systems (CIS)

CIS 070 Fundamentals of Computing 0 2 0 1

This course covers fundamental functions and operations of the computer. Topics include identification of components, overview of operating systems, and other basic computer operations. Upon completion, students should be able to operate computers, access files, print documents and perform basic applications operations.

CIS 110 Introduction to Computers 2 2 0 3

This course introduces computer concepts, including fundamental functions and operations of the computer. Topics include identification of hardware components, basic computer operations, security issues, and use of software applications. Upon completion, students should be able to demonstrate an understanding of the role and function of computers and use the computer to solve problems. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics (Quantitative Option).* Pre-requisite: RED 090 or ENG 095.

CIS 111 Basic PC Literacy 1 2 0 2

This course provides an overview of computer concepts. Emphasis is placed on the use of personal computers and software applications for personal and fundamental workplace use. Upon completion, students should be able to demonstrate basic personal computer skills. Pre-requisite: RED 080 or ENG 085.

CIS 115 Intro to Programming & Logic 2 3 0 3

This course introduces computer programming and problem solving in a structured program logic environment. Topics include language syntax, data types, program organization, problem solving methods, algorithm design, and logic control structures. Upon completion, students should be able to manage files with operating system commands, use top-down algorithm design, and implement algorithmic solutions in a programming language. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics (Quantitative Option). Pre-requisites: **MAT 070, MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, or MAT 175**, and either RED 090 or ENG 095.

CIS 155 Database Theory/Analysis 2 2 0 3

This course introduces database design theories and analyses. Emphasis is placed on data dictionaries, normalization, data integrity, and data modeling. Upon completion, students should be able to design normalized database structures which exhibit data integrity. Pre-requisites: **DBA 110 or DBA 120**

Civil Engineering (CIV)

CIV 110 Statics/Strength of Materials 2 6 0 4

This course includes vector analysis, equilibrium of force systems, friction, sectional properties, stress/strain, and deformation. Topics include resultants and components of forces, moments and couples, free-body diagrams, shear and moment diagrams, trusses, frames, beams, columns, connections, and combined stresses. Upon completion, students should be able to analyze simple structures. Pre-requisite: **MAT 121, MAT 161, MAT 171 or MAT 175**.

CIV 111 Soils and Foundations 2 3 0 3

This course presents an overview of soil as a construction material using both analysis and testing procedures. Topics include index properties, classification, stress analysis, compressibility, compaction, dewatering, excavation, stabilization, settlement, and foundations. Upon completion, students should be able to perform basic soil tests and analyze engineering properties of soil. Pre-requisite: **CIV 110 or MEC 250**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
CIV	125	Civil/Surveying CAD	1	6	0	3
<p>This course introduces civil/surveying computer-aided drafting (CAD) software. Topics include drawing, editing, and dimensioning commands; plotting; and other related civil/surveying topics. Upon completion, students should be able to produce civil/surveying drawings using CAD software. Pre-requisite: EGR 115 or ARC 111.</p>						
CIV	210	Engineering Materials	1	3	0	2
<p>This course covers the behavior and properties of Portland cement and asphaltic concretes and laboratory and field testing. Topics include cementing agents and aggregates; water and admixtures; proportioning, production, placing, consolidation, and curing; and inspection methods. Upon completion, students should be able to proportion concrete mixes to attain predetermined strengths and other properties and perform standard control tests.</p>						
CIV	211	Hydraulics and Hydrology	2	3	0	3
<p>This course introduces the basic engineering principles and characteristics of hydraulics and hydrology. Topics include precipitation and runoff, fluid statics and dynamics, flow measurement, and pipe and open channel flow. Upon completion, students should be able to analyze and size drainage structures. Pre-requisite: CIV 110 or MEC 250.</p>						
CIV	215	Highway Technology	1	3	0	2
<p>This course introduces the essential elements of roadway components and design. Topics include subgrade and pavement construction, roadway drawings and details, drainage, superelevation, and North Carolina Department of Transportation Standards. Upon completion, students should be able to use roadway drawings and specifications to develop superelevation, drainage, and general highway construction details. Pre-requisite: SRV 111. Co-requisite: CIV 211.</p>						
CIV	220	Basic Structural Concepts	1	3	0	2
<p>This course covers the historical perspective of structures as well as types, materials, common elements, and mechanical principles of structures. Topics include basic structure shapes, advantages and disadvantages of standard building materials, application of structural concepts, and other related topics. Upon completion, students should be able to demonstrate an understanding of basic structural concepts. Pre-requisite: CIV 110 or MEC 250.</p>						
CIV	221	Steel and Timber Design	2	3	0	3
<p>This course introduces the basic elements of steel and timber structures. Topics include the analysis and design of steel and timber beams, columns, and connections and the use of appropriate manuals and codes. Upon completion, students should be able to analyze, design, and draw simple steel and timber structures. Pre-requisite: CIV 110 or MEC 250.</p>						
CIV	222	Reinforced Concrete	2	3	0	3
<p>This course introduces the basic elements of reinforced concrete and masonry structures. Topics include analysis and design of reinforced concrete beams, slabs, columns, footings, and retaining walls; load-bearing masonry walls; and ACI manuals and codes. Upon completion, students should be able to analyze and design components of a structure using reinforced concrete and masonry elements and utilize appropriate ACI publications. Pre-requisite: CIV 110 or MEC 250.</p>						
CIV	230	Construction Estimating	2	3	0	3
<p>This course covers quantity takeoffs of labor, materials, and equipment and calculation of direct and overhead costs for a construction project. Topics include the interpretation of working drawings and specifications, types of contracts and estimates, building codes, bidding techniques and procedures, and estimating software. Upon completion, students should be able to prepare a detailed cost estimate and bid documents for a construction project. Pre-requisite: ARC 111, CIS 110, CIS 111 or EGR 115.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

CIV	240	Project Management	2	3	0	3
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This course introduces construction planning and scheduling techniques and project management software. Topics include construction safety, operation analysis, construction scheduling, construction control systems, claims and dispute resolutions, project records, and documentation. Upon completion, students should be able to demonstrate an understanding of the roles of construction project participants, maintain construction records, and prepare construction schedules. Pre-requisites: MAT 080 and either **EGR 115 or ARC 111**.

CIV	250	Civil Engineering Technology Project 1	3	0	0	2
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This course includes an integrated team approach to civil engineering technology projects. Emphasis is placed on project proposal, site selection, analysis/design of structures, construction material selection, time and cost estimating, planning, and management of a project. Up on completion, students should be able to apply team concepts, prepare estimates, submit bid proposals, and manage projects. Pre-requisites: Successful completion of three semesters of the Civil Engineering Technology program.

Criminal Justice (CJC)

CJC	100	Basic Law Enforcement Training	9	30	0	19
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This course covers the basic skills and knowledge needed for entry-level employment as a law enforcement officer in North Carolina. Topics are divided into general units of study: legal, patrol duties, law enforcement communications, investigations, practical application and sheriff-specific. Upon successful completion, the student will be able to demonstrate competence in the topics and areas required for the state comprehensive certification examination. This is a certificate-level course.

CJC	111	Introduction to Criminal Justice	3	0	0	3
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This course introduces the components and processes of the criminal justice system. Topics include history, structure, functions, and philosophy of the criminal justice system and their relationship to life in our society. Upon completion, students should be able to define and describe the major system components and their interrelationships and evaluate career options. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: (ENG 090 and RED 090) or ENG 095.

CJC	112	Criminology	3	0	0	3
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This course introduces deviant behavior as it relates to criminal activity. Topics include theories of crime causation; statistical analysis of criminal behavior; past, present, and future social control initiatives; and other related topics. Upon completion, students should be able to explain and discuss various theories of crime causation and societal response. Pre-requisite: (ENG 090 and RED 090) or ENG 095.

CJC	113	Juvenile Justice	3	0	0	3
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This course covers the juvenile justice system and related juvenile issues. Topics include an overview of the juvenile justice system, treatment and prevention programs, special areas and laws unique to juveniles, and other related topics. Upon completion, students should be able to identify/discuss juvenile court structure/ procedures, function and jurisdiction of juvenile agencies, processing/detention of juveniles, and case disposition. Pre-requisite: (ENG 090 and RED 090) or ENG 095.

CJC	114	Investigative Photography	1	2	0	2
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This course covers the operation of various photographic equipment and its application to criminal justice. Topics include using various cameras, proper exposure of film, developing film/prints, and preparing photographic evidence. Upon completion, students should be able to demonstrate and explain the role of photography and proper film exposure and development techniques. Pre-requisite: (ENG 090 and RED 090) or ENG 095.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
CJC	120	Interviews/Interrogations	1	2	0	2
<p>This course covers basic and special techniques employed in criminal justice interviews and interrogations. Emphasis is placed on the interview/interrogation process, including interpretation of verbal and physical behavior and legal perspectives. Upon completion, students should be able to conduct interviews/interrogations in a legal, efficient, and professional manner and obtain the truth from suspects, witnesses, and victims. Pre-requisite: (ENG 090 and RED 090) or ENG 095.</p>						
CJC	121	Law Enforcement Operations	3	0	0	3
<p>This course introduces fundamental law enforcement operations. Topics include the contemporary evolution of law enforcement operations and related issues. Upon completion, students should be able to explain theories, practices, and issues related to law enforcement operations. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.</i> Pre-requisites: Pre-requisite: (ENG 090 and RED 090) or ENG 095.</p>						
CJC	122	Community Policing	3	0	0	3
<p>This course covers the historical, philosophical, and practical dimensions of community policing. Emphasis is placed on the empowerment of police and the community to find solutions to problems by forming partnerships. Upon completion, students should be able to define community policing, describe how community policing strategies solve problems, and compare community policing to traditional policing. Pre-requisite: (ENG 090 and RED 090) or ENG 095.</p>						
CJC	131	Criminal Law	3	0	0	3
<p>This course covers the history/evolution/principles and contemporary applications of criminal law. Topics include sources of substantive law, classification of crimes, parties to crime, elements of crimes, matters of criminal responsibility, and other related topics. Upon completion, students should be able to discuss the sources of law and identify, interpret, and apply the appropriate statutes/elements. Pre-requisite: (ENG 090 and RED 090) or ENG 095.</p>						
CJC	132	Court Procedure and Evidence	3	0	0	3
<p>This course covers judicial structure/process/procedure from incident to disposition, kinds and degrees of evidence, and the rules governing admissibility of evidence in court. Topics include consideration of state and federal courts, arrest, search and seizure laws, exclusionary and statutory rules of evidence, and other related issues. Upon completion, students should be able to identify and discuss procedures necessary to establish a lawful arrest/search, proper judicial procedures, and the admissibility of evidence. Pre-requisite: (ENG 090 and RED 090) or ENG 095.</p>						
CJC	141	Corrections	3	0	0	3
<p>This course covers the history, major philosophies, components, and current practices and problems of the field of corrections. Topics include historical evolution, functions of the various components, alternatives to incarceration, treatment programs, inmate control, and other related topics. Upon completion, students should be able to explain the various components, processes, and functions of the correctional system. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.</i> Pre-requisite: (ENG 090 and RED 090) or ENG 095.</p>						
CJC	145	Crime Scene CAD	2	3	0	3
<p>This course introduces the student to CAD software for crime scenes. Topics include drawing, editing, file management and drafting theory and practices. Upon completion, students should be able to produce and plot a crime scene drawing. Pre-requisite: (ENG 090 and RED 090) or ENG 095.</p>						
CJC	161	Intro Homeland Security	3	0	0	3
<p>This course introduces the historical, organizational and practical aspects of Homeland Security. Topics include a historic overview, definitions and concepts, organizational structure, communications, technology, mitigation, prevention and preparedness, response and recovery, and the future of Homeland Security. Upon completion, students should be able to explain essential characteristics of terrorism and Homeland Security, and define roles, functions and interdependency between agencies.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

CJC 162 Intel Analysis & Sec Mgmt 3 0 0 3

This course introduces the historical, organizational and practical aspects of Homeland Security. Topics include a historic overview, definitions and concepts, organizational structure, communications, technology, mitigation, prevention and preparedness, response and recovery, and the future of Homeland Security. Upon completion, students should be able to explain essential characteristics of terrorism and Homeland Security, and define roles, functions and interdependency between agencies.

CJC 163 Trans and Border Security 3 0 0 3

This course provides an in-depth view of modern border and transportation security including the technologies used for detecting potential threats from terrorists and weapons. Topics include an overview of security challenges, detection devices and equipment, transportation systems, facilities, threats and counter-measures, and security procedures, policies and agencies. Upon completion, students should be able to describe border security, the technologies used to enforce it, and the considerations and strategies of border security agencies.

CJC 211 Counseling 3 0 0 3

This course introduces the basic elements of counseling and specific techniques applicable to the criminal justice setting. Topics include observation, listening, recording, interviewing, and problem exploration necessary to form effective helping relationships. Upon completion, students should be able to discuss and demonstrate the basic techniques of counseling. Pre-requisite: (ENG 090 and RED 090) or ENG 095.

CJC 212 Ethics and Community Relations 3 0 0 3

This course covers ethical considerations and accepted standards applicable to criminal justice organizations and professionals. Topics include ethical systems; social change, values, and norms; cultural diversity; citizen involvement in criminal justice issues; and other related topics. Upon completion, students should be able to apply ethical considerations to the decision-making process in identifiable criminal justice situations. Pre-requisite: (ENG 090 and RED 090) or ENG 095.

CJC 213 Substance Abuse 3 0 0 3

This course is a study of substance abuse in our society. Topics include the history and classifications of drug abuse and the social, physical, and psychological impact of drug abuse. Upon completion, students should be able to identify various types of drugs, their effects on human behavior and society, and treatment modalities. Pre-requisite: (ENG 090 and RED 090) or ENG 095.

CJC 214 Victimology 3 0 0 3

This course introduces the study of victims. Emphasis is placed on roles/characteristics of victims, victim interaction with the criminal justice system and society, current victim assistance programs, and other related topics. Upon completion, students should be able to discuss and identify victims, the uniqueness of victims' roles, and current victim assistance programs. Pre-requisite: (ENG 090 and RED 090) or ENG 095.

CJC 215 Organization and Administration 3 0 0 3

This course introduces the components and functions of organization and administration as it applies to the agencies of the criminal justice system. Topics include operations/functions of organizations; recruiting, training, and retention of personnel; funding and budgeting; communications; span of control and discretion; and other related topics. Upon completion, students should be able to identify and discuss the basic components and functions of a criminal justice organization and its administrative operations. Pre-requisite: (ENG 090 and RED 090) or ENG 095.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
CJC	221	Investigative Principles	3	2	0	4
<p>This course introduces the theories and fundamentals of the investigative process. Topics include crime scene/incident processing, information gathering techniques, collection/preservation of evidence, preparation of appropriate reports, court presentations, and other related topics. Upon completion, students should be able to identify, explain, and demonstrate the techniques of the investigative process, report preparation, and courtroom presentation. Pre-requisite: (ENG 090 and RED 090) or ENG 095.</p>						
CJC	222	Criminalistics	3	0	0	3
<p>This course covers the functions of the forensic laboratory and its relationship to successful criminal investigations and prosecutions. Topics include advanced crime scene processing, investigative techniques, current forensic technologies, and other related topics. Upon completion, students should be able to identify and collect relevant evidence at simulated crime scenes and request appropriate laboratory analysis of submitted evidence. Pre-requisite: (ENG 090 and RED 090) or ENG 095.</p>						
CJC	223	Organized Crime	3	0	0	3
<p>This course introduces the evolution of traditional and non-traditional organized crime and its effect on society and the criminal justice system. Topics include identifying individuals and groups involved in organized crime, areas of criminal activity, legal and political responses to organized crime, and other related topics. Upon completion, students should be able to identify the groups and activities involved in organized crime and the responses of the criminal justice system. Pre-requisite: (ENG 090 and RED 090) or ENG 095.</p>						
CJC	225	Crisis Intervention	3	0	0	3
<p>This course introduces critical incident intervention and management techniques as they apply to operational criminal justice practitioners. Emphasis is placed on the victim/offender situation as well as job-related high stress, dangerous, or problem-solving citizen contacts. Upon completion, students should be able to provide insightful analysis of emotional, violent, drug-induced, and other critical and/or stressful incidents that require field analysis and/or resolution. Pre-requisite: (ENG 090 and RED 090) or ENG 095.</p>						
CJC	231	Constitutional Law	3	0	0	3
<p>This course covers the impact of the Constitution of the United States and its amendments on the criminal justice system. Topics include the structure of the Constitution and its amendments, court decisions pertinent to contemporary criminal justice issues, and other related topics. Upon completion, students should be able to identify/discuss the basic structure of the United States Constitution and the rights/procedures as interpreted by the courts. Pre-requisite: (ENG 090 and RED 090) or ENG 095.</p>						
CJC	232	Civil Liability	3	0	0	3
<p>This course covers liability issues for the criminal justice professional. Topics include civil rights violations, tort liability, employment issues, and other related topics. Upon completion, students should be able to explain civil trial procedures and discuss contemporary liability issues. Pre-requisite: (ENG 090 and RED 090) or ENG 095.</p>						
CJC	233	Correctional Law	3	0	0	3
<p>This course introduces statutory/case law pertinent to correctional concepts, facilities, and related practices. Topics include examination of major legal issues encompassing incarceration, probation, parole, restitution, pardon, restoration of rights, and other related topics. Upon completion, students should be able to identify/discuss legal issues which directly affect correctional systems and personnel. Pre-requisite: (ENG 090 and RED 090) or ENG 095</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Construction Management (CMT)

CMT 210 Professional Construction Supervision 3 0 0 3

This course introduces the student to the fundamentals of effective supervision emphasizing professionalism through knowledge and applied skills. Topics include safety, planning and scheduling, contract, problem-solving, communications, conflict resolution, recruitment, employment laws and regulations, leadership, motivation, teamwork, discipline, setting objectives, and training. Upon completion, the student should be able to demonstrate the basic skills necessary to be successful as a supervisor in the construction industry.

CMT 212 Total Safety Performance 3 0 0 3

This course covers the importance of managing safety and productivity equally by encouraging people to take individual responsibility for safety and health in the workplace. Topics include safety management, controlling construction hazards, communicating and enforcing policies, OSHA compliance, personal responsibility and accountability, safety planning, training, and personal protective equipment. Upon completion, students should be able to supervise safety at a construction job site and qualify for the OSHA Training Certification. Co-requisite: **CMT 210**.

CMT 214 Planning and Scheduling 3 0 0 3

This course covers the need for the process of planning construction projects, as well as the mechanics and vocabulary of project scheduling. Topics include project preplanning, scheduling format, planning for production, short interval planning, schedule updating and revising, and computer-based planning and scheduling. Upon completion, the student should be able to understand the need for planning and scheduling, the language and logic of scheduling, and use of planning skills. Pre-requisites: **CMT 210 and BPR 130**.

CMT 216 Costs and Productivity 3 0 0 3

This course covers the relationships between time, work completed, work-hours spent, schedule duration, equipment hours, and materials used. Topics include production rates, productivity unit rates, work method improvements, and overall total project cost control. Upon completion, the student should be able to demonstrate an understanding of how costs may be controlled and productivity improved on a construction project. Pre-requisite: **CMT 210**.

CMT 218 Human Relations Issues 3 0 0 3

This course provides instruction on human relations issues as they relate to construction project supervision. Topics include relationships, human behavior, project staffing issues, teamwork, effective communication networks, laws and regulations, and identifying and responding to conflict, crisis, and discipline. Upon completion, the student will demonstrate an understanding of the importance of human relations in the success of a construction project. Pre-requisite: **CMT 210**.

Cooperative Education (COE)

COE 111 Co-op Work Experience I 0 0 10 1

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 112 Co-op Work Experience I 0 0 20 2

This course provides work experience with a college approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
COE	113	Co-op Work Experience I	0	0	30	3
This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.						
COE	115	Work Experience Seminar I	1	0	0	1
This course description may vary depending on individual program requirements. Contact your program's department for more information. Co-requisite: COE 111, COE 112, or COE 114.						
COE	121	Co-op Work Experience II	0	0	10	1
This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.						
COE	122	Co-op Work Experience II	0	0	20	2
This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.						
COE	124	Co-op Work Experience II	0	0	40	4
This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.						
COE	125	Work Experience Seminar II	1	0	0	1
This course description may vary depending on individual program requirements. Contact your program's department for more information. Co-requisite: COE 121, COE 122, COE 123 or COE 124.						
COE	131	Co-op Work Experience III	0	0	10	1
This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.						
COE	132	Co-op Work Experience III	0	0	20	2
This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.						
COE	135	Work Experience Seminar III	1	0	0	1
This course description may vary depending on individual program requirements. Contact your program's department for more information. Co-requisite: COE 131, COE 132, COE 133 or COE 134.						
COE	211	Co-op Work Experience IV	0	0	10	1
This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

COE	212	Co-op Work Experience IV	0	0	20	2
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This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE	215	Work Experience Seminar IV	1	0	0	1
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This course description may vary depending on individual program requirements. Contact your program's department for more information. Co-requisite: **COE 211, COE 212, COE 213 or COE 214.**

COE	221	Co-op Work Experience V	0	0	10	1
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This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE	222	Co-op Work Experience V	0	0	20	2
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This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE	231	Co-op Work Experience VI	0	0	10	1
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This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

Communication (COM)

For AA, AS, and AEA programs, three credit hours in Speech/ Communication may be substituted for three credit hours in Humanities/Fine Arts. Speech/Communication may not substitute for the literature requirement.

COM	110	Introduction to Communication	3	0	0	3
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This course provides an overview of the basic concepts of communication and the skills necessary to communicate in various contexts. Emphasis is placed on communication theories and techniques used in interpersonal group, public, intercultural, and mass communication situations. Upon completion, students should be able to explain and illustrate the forms and purposes of human communication in a variety of contexts. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in speech/communication.* Pre-requisite: (ENG 090 and RED 090) or ENG 095.

COM	111	Voice and Diction I	3	0	0	3
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This course provides guided practice in the proper production of speech. Emphasis is placed on improving speech, including breathing, articulation, pronunciation, and other vocal variables. Upon completion, students should be able to demonstrate effective natural speech in various contexts. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: (ENG 090 and RED 090) or ENG 095.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

COM	120	Introduction to Interpersonal Communication	3	0	0	3
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This course introduces the practices and principles of Intro to Interpersonal Communication in both dyadic and group settings. Emphasis is placed on the communication process, perception, listening, self-disclosure, speech apprehension, ethics, nonverbal communication, conflict, power, and dysfunctional communication relationships. Upon completion, students should be able to demonstrate Intro to Interpersonal Communication skills, apply basic principles of group discussion, and manage conflict in Intro to Interpersonal Communication situations. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in speech/communication.* Pre-requisite: (ENG 090 and RED 090) or ENG 095.

COM	130	Nonverbal Communication	3	0	0	3
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This course introduces the contemporary study of nonverbal communication in daily life. Topics include haptics, kinesics, proxemics, facial displays, and appearance. Upon completion, students should be able to analyze/interpret nonverbal communication and demonstrate greater awareness of their own nonverbal communication habits. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: **C or better in COM 110 or COM 120.**

COM	140	Intro to Intercultural Communication	3	0	0	3
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This course introduces techniques of cultural research, definitions, functions, characteristics, and impacts of cultural differences in public address. Emphasis is placed on how diverse backgrounds influence the communication act and how cultural perceptions and experiences determine how one sends and receives messages. Upon completion, students should be able to demonstrate an understanding of the principles and skills needed to become effective in communicating outside one's primary culture. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a Humanities/Fine Arts elective course requirement.* Pre-requisite: (ENG 090 and RED 090) or ENG 095.

COM	150	Introduction to Mass Communication	3	0	0	3
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This course introduces print and electronic media and the new information technologies in terms of communication theory and as economic, political, and social institutions. Emphasis is on the nature, history, functions, and responsibilities of mass communication industries in a global environment and their role and impact in American society. Upon completion, students should have an awareness of the pervasive nature of the mass media and how the media operate in an advanced post-industrial society. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: **C or better in ENG 111.**

COM	231	Public Speaking	3	0	0	3
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This course provides instruction and experience in preparation and delivery of speeches within a public setting and group discussion. Emphasis is placed on research, preparation, delivery, and evaluation of informative, persuasive, and special occasion public speaking. Upon completion, students should be able to prepare and deliver well-organized speeches and participate in group discussion with appropriate audiovisual support. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in speech/communication.* Pre-requisite: (ENG 090 and RED 090) or ENG 095.

Cosmetology (COS)

COS	111	Cosmetology Concepts I	4	0	0	4
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This course introduces basic cosmetology concepts. Topics include safety, first aid, sanitation, bacteriology, anatomy, diseases and disorders, hygiene, product knowledge, chemistry, ethics, manicures, and other related topics. Upon completion, students should be able to safely and competently apply cosmetology concepts in the salon setting. Co-requisite: **COS 112.**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
COS	112	Salon I	0	24	0	8
<p>This course introduces basic salon services. Topics include scalp treatments, shampooing, rinsing, hair color, design, haircutting, permanent waving, pressing, relaxing, wigs, and other related topics. Upon completion, students should be able to safely and competently demonstrate salon services. Co-requisite: COS 111.</p>						
COS	113	Cosmetology Concepts II	4	0	0	4
<p>This course covers more comprehensive cosmetology concepts. Topics include safety, product knowledge, chemistry, manicuring, chemical restructuring, and hair coloring. Upon completion, students should be able to safely and competently apply these cosmetology concepts in the salon setting. Pre-requisites: COS 111. Co-requisite: COS 114.</p>						
COS	114	Salon II	0	24	0	8
<p>This course provides experience in a simulated salon setting. Topics include basic skin care, manicuring, nail application, scalp treatments, shampooing, rinsing, hair color, design, haircutting, chemical restructuring, pressing, wigs, and other related topics. Upon completion, students should be able to safely and competently demonstrate these salon services. Pre-requisite: COS 112. Co-requisite: COS 113.</p>						
COS	115	Cosmetology Concepts III	4	0	0	4
<p>This course covers more comprehensive cosmetology concepts. Topics include safety, product knowledge, salon management, salesmanship, skin care, electricity/light therapy, wigs, thermal hair styling, lash and brow tinting, superfluous hair removal, and other related topics. Upon completion, students should be able to safely and competently apply these cosmetology concepts in the salon setting. Pre-requisite: COS 111. Co-requisite: COS 116.</p>						
COS	116	Salon III	0	12	0	4
<p>This course provides comprehensive experience in a simulated salon setting. Emphasis is placed on intermediate-level of skin care, manicuring, scalp treatments, shampooing, hair color, design, haircutting, chemical restructuring, pressing, and other related topics. Upon completion, students should be able to safely and competently demonstrate these salon services. Pre-requisite: COS 112. Co-requisite: COS 115.</p>						
COS	117	Cosmetology Concepts IV	2	0	0	2
<p>This course covers advanced cosmetology concepts. Topics include chemistry and hair structure, advanced cutting and design, and an overview of all cosmetology concepts in preparation for the licensing examination. Upon completion, students should be able to demonstrate an understanding of these cosmetology concepts and meet program completion requirements. Pre-requisite: COS 115. Co-requisite: COS 118.</p>						
COS	118	Salon IV	0	21	0	7
<p>This course provides advanced experience in a simulated salon setting. Emphasis is placed on efficient and competent delivery of all salon services in preparation for the licensing examination and employment. Upon completion, students should be able to demonstrate competence in program requirements and the areas covered on the Cosmetology Licensing Examination and meet entry-level employment requirements. Pre-requisite: COS 116. Co-requisite: COS 117.</p>						
COS	223	Contemporary Hair Coloring	1	3	0	2
<p>This course covers basic color concepts, hair coloring problems, and application techniques. Topics include color theory, terminology, contemporary techniques, product knowledge, and other related topics. Upon completion, students should be able to identify a client's color needs and safely and competently perform color applications and correct problems. Pre-requisites: COS 111 and COS 112.</p>						
COS	224	Trichology and Chemistry	1	3	0	2
<p>This course is a study of hair and the interaction of applied chemicals. Emphasis is placed on pH actions and the reactions and effects of chemical ingredients. Upon completion, students should be able to demonstrate an understanding of chemical terminology, pH testing, and chemical reactions on hair.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

COS 240	Contemporary Design	1	3	0	2
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This course covers methods and techniques for contemporary designs. Emphasis is placed on contemporary designs and other related topics. Upon completion, students should be able to demonstrate and apply techniques associated with contemporary design. Pre-requisites: **COS 111 and COS 112.**

COS 250	Computerized Salon Operations	1	0	0	1
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This course introduces computer and salon software. Emphasis is placed on various computer and salon software applications. Upon completion, students should be able to utilize computer skills and software applications in the salon setting.

Computer Science (CSC)

CSC 119	Programming Orient	1	2	0	2
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This course provides students with an opportunity to develop the knowledge and skills required to succeed in the programming program. Emphasis is placed on introducing students to the tools and resources available to them in programming. Upon completion, students should be able to demonstrate knowledge of programming tools, resources, and services available.

CSC 120	Computing Fundamentals I	3	2	0	4
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This course provides the essential foundation for the discipline of computing and a program of study in computer science, including the role of the professional. Topics include algorithm design, data abstraction, searching and sorting algorithms, and procedural programming techniques. Upon completion, students should be able to solve problems, develop algorithms, specify data types, perform sorts and searches, and use an operating system. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.* Pre-requisite: **MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT-171, or MAT 175.**

CSC 134	C++ Programming	2	3	0	3
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This course introduces computer programming using the C++ programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test and debug at a beginning level. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.* Pre-requisite: CIS 115.

CSC 139	Visual Basic Programming	2	3	0	3
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This course introduces computer programming using the Visual BASIC programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test and debug at a beginning level. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.* Pre-requisite: CIS 115 or ELN 232.

CSC 143	Object-Oriented Prog	2	3	0	3
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This course introduces the concepts of object-oriented programming. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, test, debug, and implement objects at the application level using the appropriate environment.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
CSC	151	JAVA Programming	2	3	0	3
<p>This course introduces computer programming using the JAVA programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test, debug JAVA language programs. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.</i> Pre-requisite: CIS 115.</p>						
CSC	153	C# Programming	2	3	0	3
<p>This course introduces computer programming using the C# programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test, debug, and implement objects using the appropriate environment at the beginning level. Pre-requisite: CIS 115.</p>						
CSC	234	Advanced C++	2	3	0	3
<p>This course is a continuation of CSC 134 using the C++ programming language with standard programming principles. Emphasis is placed on advanced arrays/tables, file management/processing techniques, data structures, sub-programs, interactive processing, sort/merge routines, and libraries. Upon completion, students should be able to design, code, test, debug and document programming solutions. Pre-requisite: CSC 134.</p>						
CSC	239	Advanced Visual BASIC	2	3	0	3
<p>This course is a continuation of CSC 139 using the Visual BASIC programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test, debug, and implement objects using the appropriate environment. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.</i> Pre-requisite: CSC 139.</p>						
CSC	249	Data Structure & Algorithms	2	3	0	3
<p>This course introduces the data structures and algorithms frequently used in programming applications. Topics include lists, stacks, queues, dequeues, heaps, sorting, searching, mathematical operations, recursion, encryption, random numbers, algorithm testing, and standards. Upon completion, students should be able to design data structures and implement algorithms to solve various problems.. Pre-requisite: CSC 133, CSC 134, CSC 135, CSC 136, CSC 138, CSC 139, CSC 140, CSC 141, or CSC 142.</p>						
CSC	251	Advanced JAVA Programming	2	3	0	3
<p>This course is a continuation of CSC 151 using the JAVA programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test, debug, and implement objects using the appropriate environment. Pre-requisite: CSC 151.</p>						
CSC	253	Advanced C# Programming	2	3	0	3
<p>This course is a continuation of CSC 153 using the C# programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test, debug, and implement objects using the appropriate environment. Pre-requisite: CSC 153.</p>						
CSC	258	JAVA Enterprise Programs	2	3	0	3
<p>This course provides a continuation to CSC 151 using the Java Enterprise Edition (JEE) programming architecture. Topics include distributed network applications, database connectivity, Enterprise Java Beans, servlets, collection frameworks, JNDI, RMI, JSP, multithreading XML and multimedia development. Upon completion, students should be able to program a client/server enterprise application using the JEE framework. Pre-requisite: CSC 151.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

CSC 289	Programming Capstone Project	1	4	0	3
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This course provides an opportunity to complete a significant programming project from the design phase through implementation with minimal instructor support. Emphasis is placed on project definition, testing, presentation, and implementation. Upon completion, students should be able to complete a project from the definition phase through implementation. Pre-requisite: **CTS 285**.

Computer Tech Integration (CTI)

CTI 110	Web, Pgm, & Db Foundation	2	2	0	3
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This course covers the introduction of the tools and resources available to students in programming, mark-up language and services on the Internet. Topics include standard mark-up language Internet services, creating web pages, using search engines, file transfer programs; and database design and creation with DBMS products. Upon completion students should be able to demonstrate knowledge of programming tools, deploy a web-site with mark-up tools, and create a simple database table.

CTI 120	Network & Sec Fundamentals	2	2	0	3
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This course introduces students to the Network concepts, including networking terminology and protocols, local and wide area networks, and network standards. Emphasis is placed on securing information systems and the various implementation policies. Upon completion, students should be able to perform basic tasks related to networking mathematics, terminology, media and protocols.

Computer Information Technology (CTS)

CTS 112	Windows	1	2	0	2
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This course includes the fundamentals of the Windows software. Topics include graphical user interface, icons, directories, file management, accessories, and other applications. Upon completion, students should be able to use Windows software in an office environment.

CTS 115	Info Sys Business Concept	3	0	0	3
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The course introduces the role of IT in managing business processes and the need for business process and IT alignment. Emphasis is placed on industry need for understanding business challenges and developing/managing information systems to contribute to the decision making process based on these challenges. Upon completion, students should be able to demonstrate knowledge of the 'hybrid business manager' and the potential offered by new technology and systems. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. (TAC – 05/24/06)

CTS 120	Hardware/Software Support	2	3	0	3
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This course covers the basic hardware of a personal computer, including installation, operations and interactions with software. Topics include component identification, memory-system, peripheral installation and configuration, preventive maintenance, hardware diagnostics/repair, installation and optimization of system software, commercial programs, system configuration, and device-drivers. Upon completion, students should be able to select appropriate computer equipment and software, upgrade/maintain existing equipment and software, and troubleshoot/repair non-functioning personal computers. Pre-requisite: **CIS 110 or CIS 111**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

CTS	130	Spreadsheet	2	2	0	3
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This course introduces basic spreadsheet design and development. Topics include writing formulas, using functions, enhancing spreadsheets, creating charts, and printing. Upon completion, students should be able to design and print basic spreadsheets and charts. Pre-requisite: **CIS 110 or CIS 111 or OST 137.**

CTS	210	Computer Ethics	3	0	0	3
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This course introduces the student to current legal and ethical issues in the computer/engineering field. Topics include moral reasoning, ethical standards, intellectual property, social issues, encryption, software piracy, constitutional issues, and public policy in related matters. Upon completion, students should be able to demonstrate an understanding of the moral and social responsibilities and public policy issues facing an industry. Pre-requisites: **CIS 110 or CIS 111 or NET 110 or TNE 111, and either RED 090 ENG 095.**

CTS	285	Systems Analysis & Design	3	0	0	3
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This course introduces established and evolving methodologies for the analysis, design, and development of an information system. Emphasis is placed on system characteristics, managing projects, prototyping, CASE/OOM tools, and systems development life cycle phases. Upon completion, students should be able to analyze a problem and design an appropriate solution using a combination of tools and techniques. Pre-requisites: **CIS 115, NET 110, NOS 110.**

CTS	287	Emerging Technologies	3	0	0	3
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This course introduces emerging information technologies. Emphasis is placed on evolving technologies and trends in business and industry. Upon completion, students should be able to articulate an understanding of the current trends and issues in emerging technologies for information systems.

CTS	289	System Support Project	1	4	0	3
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This course provides an opportunity to complete a significant support project with minimal instructor assistance. Emphasis is placed on written and oral communication skills, project definition, documentation, installation, testing, presentation, and user training. Upon completion, students should be able to complete a project from the definition phase through implementation. Pre-requisite: **CTS 285.**

Culinary (CUL)

CUL	110	Sanitation and Safety	2	0	0	2
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This course introduces the basic principles of sanitation and safety and their relationship to the hospitality industry. Topics include personal hygiene, sanitation and safety regulations, use and care of equipment, the principles of food-borne illness, and other related topics. Upon completion, students should be able to demonstrate an understanding of sanitation and safety procedures in the hospitality industry. Pre-requisite: (ENG 090 and RED 090) or ENG 095. Co-requisite: CUL 110A

CUL	110A	Sanitation and Safety Lab	0	2	0	1
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This course is a laboratory to accompany CUL 110. Emphasis is placed on practical experiences that enhance the materials presented in CUL 110. Upon completion, students should be able to demonstrate practical applications of sanitation and safety procedures in the hospitality industry. Co-requisites: **CUL 110.**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

CUL 112 Nutrition for Foodservice 3 0 0 3

This course covers the principles of nutrition and its relationship to the foodservice industry. Topics include fundamentals of personal nutrition, nutrition over the life cycle, weight management and exercise, health aspects of nutrition, developing healthy recipes and menus, healthy cooking techniques and marketing nutrition in a food-service operation. Upon completion, students should be able to apply basic nutritional concepts to food preparation and selection. Pre-requisite: (ENG 090 and RED 090) or ENG 095, and MAT 070.

CUL 120 Purchasing 2 0 0 2

This course covers purchasing for hotels and restaurants. Emphasis is placed on procurement, yield tests, inventory control, specification, planning, forecasting, market trends, terminology, cost controls, pricing, and foodservice ethics. Upon completion, students should be able to apply effective purchasing techniques based on the end-use of the product. Pre-requisites: Pre-requisite: (ENG 090 and RED 090) or ENG 095, and MAT 070.

CUL 130 Menu Design 2 0 0 2

This course introduces menu design. Topics include development of standardized recipes, layout, nutritional concerns, product utilization, demographics, and customer needs. Upon completion, students should be able to write, lay out, and produce effective menus for a variety of hospitality settings. Pre-requisite: (ENG 090 and RED 090) or ENG 095, and MAT 070.

CUL 135 Food and Beverage Service 2 0 0 2

This course covers the practical skills and knowledge for effective food and beverage service in a variety of settings. Topics include reservations, greeting and service of guests, styles of service, handling complaints, and sales and merchandising. Upon completion, students should be able to demonstrate competence in human relations and technical skills required in the service of foods and beverages. Pre-requisites: MAT 070. Co-requisites: CUL 110 and CUL 135A.

CUL 135A Food and Beverage Service Lab 0 2 0 1

This course is a laboratory to accompany CUL 135. Emphasis is placed on practical experiences that enhance the materials presented in CUL 135. Upon completion, students should be able to demonstrate practical applications of skills required in the service of foods and beverages. Co-requisites: CUL 135.

CUL 140 Basic Culinary Skills 2 6 0 5

This course introduces the fundamental concepts, skills, and techniques involved in basic cookery. Emphasis is placed on recipe conversion, measurements, terminology, knife skills, safe food handling, cooking methods, flavorings, seasonings, stocks/sauces/soups, and other related topics. Upon completion, students should be able to exhibit the basic cooking skills used in the food service industry. Co-requisites: MAT 070, CUL 110 and CUL 110A.

CUL 160 Baking I 1 4 0 3

This course covers basic ingredients, weights and measures, baking terminology, and formula calculations. Topics include yeast-raised products, quick breads, pastry dough, various cakes and cookies, and appropriate filling and finishing techniques. Upon completion, students should be able to prepare and evaluate baked products. Co-requisites: MAT 070, CUL 110 and CUL 110A.

CUL 170 Garde-Manger I 1 4 0 3

This course introduces basic cold food preparation techniques and pantry production. Topics include salads, sandwiches, appetizers, dressings, basic garnishes, cheeses, cold sauces, and related food items. Upon completion, students should be able to lay out a basic cold food display and exhibit an understanding of the cold kitchen and its related terminology. Pre-requisite: CUL 140.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

CUL 180 International and American Regional Cuisine 1 8 0 5

This course provides practical experience in the planning, preparation, and service of representative foods from different countries and regions of America. Emphasis is placed on eating habits, indigenous foods and customs, nutritional concerns, and traditional equipment. Upon completion, students should be able to research and execute international and domestic menus. Pre-requisite: **CUL 140**, CUL 160, CUL 250, CUL 270.

CUL 240 Advanced Culinary Skills 1 8 0 5

This course is a continuation of CUL 140. Emphasis is placed on meat fabrication and butchery; vegetable, starch, and protein cookery; compound sauces; plate presentation; breakfast cookery; and quantity food preparation. Upon completion, students should be able to plan, execute, and successfully serve entrees with complementary side items. Pre-requisites: **CUL 140** and CUL 160.

CUL 250 Classical Cuisine 1 8 0 5

This course reinforces the classical culinary kitchen as established by Escoffier. Topics include the working Grand Brigade of the kitchen, table d'hôte menus, signature dishes, and classical banquets. Upon completion, students should be able to demonstrate competence in food preparation in a classical/upscale restaurant or banquet setting. Pre-requisites: **CUL 140 and CUL 240**.

CUL 260 Baking II 1 4 0 3

This course is a continuation of CUL 160. Topics include specialty breads, understanding, development and maintaining of natural sourdough, classical desserts, laminated pastry dough, cake and torte decorating and dessert plating and presentation. Upon completion, students should be able to demonstrate pastry preparation and plating, specialty sourdough production, cake decorating, and dessert buffet production skills. Pre-requisites: **CUL 160**.

CUL 270 Garde-Manger II 1 4 0 3

This course is a continuation of CUL 170. Topics include pates, terrines, galantines, ice and tallow carving, chaud-froid/aspic work, charcuterie, smoking, canapés, hors d'oeuvres, and related food items. Upon completion, students should be able to design, set up, and evaluate a catering function to include a classical cold buffet with appropriate show pieces. Pre-requisite: **CUL 170**.

CUL 285 Competition Fundamentals 1 4 0 3

This course provides practical experience in the planning, techniques, and procedures required for culinary competitions and exhibitions. Emphasis is placed on competition strategies including menu planning, teamwork, plate design, flavor profiles, recipe development, nutrition, advanced knife/culinary skills, professionalism, and portfolio development. Upon completion, students should be able to apply competition/exhibition skills and standards in the competition arena and professional kitchen. Pre-requisite: CUL 110, CUL 110A and CUL 140 or CUL 160.

Database Management (DBA)

DBA 110 Database Concepts 2 3 0 3

This course introduces database design and creation using a DBMS product. Emphasis is placed on data dictionaries, normalization, data integrity, data modeling, and creation of simple tables, queries, reports, and forms. Upon completion, students should be able to design and implement normalized database structures by creating simple database tables, queries, reports, and forms. Co-requisite: CIS 110 or CIS 111.

DBA 115 Database Applications 2 2 0 3

This course applies concepts learned in DBA 110 to a specific DBMS. Topics include manipulating multiple tables, advanced queries, screens and reports, linking, and command files. Upon completion, students should be able to create multiple table systems that demonstrate updates, screens, and reports representative of industry requirements. Pre-requisite: **DBA 110**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

DBA	120	Database Programming I	2	2	0	3
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This course is designed to develop SQL programming proficiency. Emphasis is placed on data definition, data manipulation, and data control statements as well as on report generation. Upon completion, students should be able to write programs which create, update, and produce reports. Pre-requisites: CIS 115, DBA 110.

DBA	210	Database Administration	2	3	0	3
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This course covers database administration issues and distributed database concepts. Topics include database administrator (DBA) goals and functions, backup and recovery, standards and procedures, training, and database security and performance evaluations. Upon completion, students should be able to produce functional DBA documentation and administer a database. Pre-requisites: CIS 155.

DBA	230	Database in Corp Environs	3	0	0	3
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This course covers database systems as they relate to the corporate environment. Topics include knowledge-based, decision-support, and expert systems; database choices; data warehousing; and corporate structure. Upon completion, students should be able to analyze and recommend database systems needed by a corporation. Pre-requisites: DBA 210.

DBA	240	Database Analysis & Design	2	3	0	3
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This course is an exploration of the established and evolving methodologies for the analysis, design, and development of a database system. Emphasis is placed on business data characteristics and usage, managing database projects, prototyping and modeling, and CASE tools. Upon completion, students should be able to analyze, develop, and validate a database implementation plan. Pre-requisites: DBA 210.

Design Drafting (DDF)

DDF	211	Design Process I	1	6	0	4
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This course emphasizes design processes for finished products. Topics include data collection from manuals and handbooks, efficient use of materials, design sketching, specifications, and vendor selection. Upon completion, students should be able to research and plan the design process for a finished product. Pre-requisite: DFT 112.

DDF	212	Design Process II	1	6	0	4
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This course stresses the integration of various design practices. Emphasis is placed on the creation of an original design. Upon completion, students should be able to apply engineering graphics and design procedures to a design project. Pre-requisite: **DDF 211**.

DDF	213	Design Process III	1	6	0	4
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This course provides an opportunity to produce a complete design project. Topics include materials, production means, analysis, documentation, calculations, and specifications. Upon completion, students should be able to produce a completed design project. Pre-requisite: **DDF 212**.

Dental (DEN)

DEN	101	Preclinical Procedures	4	6	0	7
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This course provides instruction in procedures for the clinical dental assistant as specified by the North Carolina Dental Practice Act. Emphasis is placed on orientation to the profession, infection control techniques, instruments, related expanded functions, and diagnostic, operative, and specialty procedures. Upon completion, students should be able to demonstrate proficiency in clinical dental assisting procedures. *This is a diploma-level course.*

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
DEN	102	Dental Materials	3	4	0	5
<p>This course provides instruction in identification, properties, evaluation of quality, principles, and procedures related to manipulation and storage of operative and specialty dental materials. Emphasis is placed on the understanding and safe application of materials used in the dental office and laboratory. Upon completion, students should be able to demonstrate proficiency in the laboratory and clinical application of routinely used dental materials. <i>This is a diploma-level course.</i></p>						
DEN	103	Dental Sciences	2	0	0	2
<p>This course is a study of oral pathology, pharmacology, and dental office emergencies. Topics include oral pathological conditions, dental therapeutics, and management of emergency situations. Upon completion, students should be able to recognize abnormal oral conditions, identify classifications, describe actions and effects of commonly prescribed drugs, and respond to medical emergencies. <i>This is a diploma-level course.</i></p>						
DEN	104	Dental Health Education	2	2	0	3
<p>This course covers the study of preventive dentistry to prepare dental assisting students for the role of dental health educator. Topics include etiology of dental diseases, preventive procedures, and patient education theory and practice. Upon completion, students should be able to demonstrate proficiency in patient counseling and oral health instruction in private practice or public health settings. <i>This is a diploma-level course.</i> Pre-requisites: DEN 101 and DEN 111.</p>						
DEN	105	Practice Management	2	0	0	2
<p>This course provides a study of principles and procedures related to management of the dental practice. Emphasis is placed on maintaining clinical and financial records, patient scheduling, and supply and inventory control. Upon completion, students should be able to demonstrate fundamental skills in dental practice management. <i>This is a diploma-level course.</i></p>						
DEN	106	Clinical Practice I	1	0	12	5
<p>This course is designed to provide experience assisting in a clinical setting. Emphasis is placed on the application of principles and procedures of four-handed dentistry and laboratory and clinical support functions. Upon completion, students should be able to utilize classroom theory and laboratory and clinical skills in a dental setting. <i>This is a diploma-level course.</i> Pre-requisites: DEN 101 and DEN 111.</p>						
DEN	107	Clinical Practice II	1	0	12	5
<p>This course is designed to increase the level of proficiency in assisting in a clinical setting. Emphasis is placed on the application of principles and procedures of four-handed dentistry and laboratory and clinical support functions. Upon completion, students should be able to combine theoretical and ethical principles necessary to perform entry-level skills including functions delegable to a DA II. <i>This is a diploma-level course.</i> Pre-requisite: DEN 106.</p>						
DEN	110	Orofacial Anatomy	2	2	0	3
<p>This course introduces the structures of the head, neck, and oral cavity. Topics include tooth morphology, head and neck anatomy, histology, and embryology. Upon completion, students should be able to relate the identification of normal structures and development to the practice of dental assisting and dental hygiene. Core course: Dental Hygiene & Dental Assisting.</p>						
DEN	111	Infection/Hazard Control	2	0	0	2
<p>This course introduces the infection and hazard control procedures necessary for the safe practice of dentistry. Topics include microbiology, practical infection control, sterilization and monitoring, chemical disinfectants, aseptic technique, infectious diseases, OSHA standards, and applicable North Carolina laws. Upon completion, students should be able to understand infectious diseases, disease transmission, infection control procedures, biohazard management, OSHA standards, and applicable North Carolina laws. Core course: Dental Hygiene & Dental Assisting.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
DEN	112	Dental Radiography	2	3	0	3
<p>This course provides a comprehensive view of the principles and procedures of radiology as they apply to dentistry. Topics include techniques in exposing, processing, and evaluating radiographs, as well as radiation safety, quality assurance, and legal issues. Upon completion, students should be able to demonstrate proficiency in the production of diagnostically acceptable radiographs using appropriate safety precautions. Core course: Dental Hygiene & Dental Assisting.</p>						
DEN	120	Dental Hygiene Preclinic Lecture	2	0	0	2
<p>This course introduces preoperative and clinical dental hygiene concepts. Emphasis is placed on the assessment phase of patient care as well as the theory of basic dental hygiene instrumentation. Upon completion, students should be able to collect and evaluate patient data at a basic level and demonstrate knowledge of dental hygiene instrumentation. Co-requisite: DEN 121.</p>						
DEN	121	Dental Hygiene Pre-clinic Laboratory	0	6	0	2
<p>This course provides the opportunity to perform clinical dental hygiene procedures discussed in DEN 120. Emphasis is placed on clinical skills in patient assessment and instrumentation techniques. Upon completion, students should be able to demonstrate the ability to perform specific preclinical procedures. Co-requisite: DEN 120.</p>						
DEN	123	Nutrition/Dental Health	2	0	0	2
<p>This course introduces basic principles of nutrition with emphasis on nutritional requirements and their application to individual patient needs. Topics include the study of the food pyramid, nutrient functions, Recommended Daily Allowances, and related psychological principles. Upon completion, students should be able to recommend and counsel individuals on their food intake as related to their dental health. Pre-requisite: ENG 095 or RED 090 or CHM 092.</p>						
DEN	124	Periodontology	2	0	0	2
<p>This course provides an in-depth study of the periodontium, periodontal pathology, periodontal monitoring, and the principles of periodontal therapy. Topics include periodontal anatomy and a study of the etiology, classification, and treatment modalities of periodontal diseases. Upon completion, students should be able to describe, compare, and contrast techniques involved in periodontal/maintenance therapy, as well as patient care management. Pre-requisite: DEN 110.</p>						
DEN	125	Dental Office Emergencies	0	2	0	1
<p>This course provides a study of the management of dental office emergencies. Topics include methods of prevention, necessary equipment/drugs, medicolegal considerations, recognition and effective initial management of a variety of emergencies. Upon completion, the student should be able to recognize, assess and manage various dental office emergencies and activate advanced medical support when indicated.</p>						
DEN	130	Dental Hygiene Theory I	2	0	0	2
<p>This course is a continuation of the didactic dental hygiene concepts necessary for providing an oral prophylaxis. Topics include deposits/removal, instrument sharpening, patient education, fluorides, planning for dental hygiene treatment, charting, and clinical records and procedures. Upon completion, students should be able to demonstrate knowledge needed to complete a thorough oral prophylaxis. Pre-requisite: DEN 120. Co-requisite: DEN 131.</p>						
DEN	131	Dental Hygiene Clinic I	0	0	9	3
<p>This course continues skill development in providing an oral prophylaxis. Emphasis is placed on treatment of the recall patients with gingivitis or light deposits. Upon completion, students should be able to assess these patients' needs and complete the necessary dental hygiene treatment. Pre-requisite: DEN 121. Co-requisite: DEN 130.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
DEN	140	Dental Hygiene Theory II	1	0	0	1
<p>This course provides a continuation of the development, theory, and practice of patient care. Topics include modification of treatment for special needs patients, advanced radiographic interpretation, and ergonomics. Upon completion, students should be able to differentiate necessary treatment modifications, effective ergonomic principles, and radiographic abnormalities. Pre-requisite: DEN 130. Co-requisite: DEN 141.</p>						
DEN	141	Dental Hygiene Clinic II	0	0	6	2
<p>This course continues skill development in providing an oral prophylaxis. Emphasis is placed on treatment of patients with early periodontal disease and subgingival deposits. Upon completion, students should be able to assess these patients' needs and complete the necessary dental hygiene treatment. Pre-requisite: DEN 131. Co-requisite: DEN 140.</p>						
DEN	220	Dental Hygiene Theory III	2	0	0	2
<p>This course provides a continuation in developing the theories and practices of patient care. Topics include periodontal debridement, pain control, subgingival irrigation, air polishing, and case presentations. Upon completion, students should be able to demonstrate knowledge of methods of treatment and management of periodontally compromised patients. Pre-requisite: DEN 140. Co-requisite: DEN 221.</p>						
DEN	221	Dental Hygiene Clinic III	0	0	12	4
<p>This course continues skill development in providing an oral prophylaxis. Emphasis is placed on treatment of patients with moderate to advanced periodontal involvement and moderate deposits. Upon completion, students should be able to assess these patients' needs and complete the necessary dental hygiene treatment. Pre-requisite: DEN 141. Co-requisite: DEN 220.</p>						
DEN	222	General and Oral Pathology	2	0	0	2
<p>This course provides a general knowledge of oral pathological manifestations associated with selected systemic and oral diseases. Topics include developmental and degenerative diseases, selected microbial diseases, specific and nonspecific immune and inflammatory responses with emphasis on recognizing abnormalities. Upon completion, students should be able to differentiate between normal and abnormal tissues and refer unusual findings to the dentist for diagnosis. Pre-requisite: BIO 163 or BIO 165 or BIO 168.</p>						
DEN	223	Dental Pharmacology	2	0	0	2
<p>This course provides basic drug terminology, general principles of drug actions, dosages, routes of administration, adverse reactions, and basic principles of anesthesiology. Emphasis is placed on knowledge of drugs in overall understanding of patient histories and health status. Upon completion, students should be able to recognize that each patient's general health or drug usage may require modification of the treatment procedures. Co-requisite: BIO 163 or BIO 165 or BIO 168.</p>						
DEN	224	Materials and Procedures	1	3	0	2
<p>This course introduces the physical properties of materials and related procedures used in dentistry. Topics include restorative and preventive materials, fabrication of casts and appliances, and chairside functions of the dental hygienist. Upon completion, students should be able to demonstrate proficiency in the laboratory and/or clinical application of routinely used dental materials and chairside functions. Pre-requisite: DEN 111.</p>						
DEN	230	Dental Hygiene Theory IV	1	0	0	1
<p>This course provides an opportunity to increase knowledge of the profession. Emphasis is placed on dental specialties and completion of a case presentation. Upon completion, students should be able to demonstrate knowledge of various disciplines of dentistry and principles of case presentations. Pre-requisite: DEN 220. Co-requisite: DEN 231.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

DEN	231	Dental Hygiene Clinic IV	0	0	12	4
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This course continues skill development in providing an oral prophylaxis. Emphasis is placed on periodontal maintenance and on treating patients with moderate to advanced/refractory periodontal disease. Upon completion, students should be able to assess these patients' needs and complete the necessary dental hygiene treatment. Pre-requisite: **DEN 221**. Co-requisite: **DEN 230**.

DEN	232	Community Dental Health	2	0	3	3
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This course provides a study of the principles and methods used in assessing, planning, implementing, and evaluating community dental health programs. Topics include epidemiology, research methodology, biostatistics, preventive dental care, dental health education, program planning, and financing and utilization of dental services. Upon completion, students should be able to assess, plan, implement, and evaluate a community dental health program.

DEN	233	Professional Development	2	0	0	2
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This course includes professional development, ethics, and jurisprudence with applications to practice management. Topics include conflict management, state laws, resumes, interviews, and legal liabilities as health care professionals. Upon completion, students should be able to demonstrate the ability to practice dental hygiene within established ethical standards and state laws.

Design: Creative (DES)

DES	225	Textiles/Fabrics	2	2	0	3
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This course includes the study of woven and non-woven fabrics for interiors. Topics include characteristics of fibers, yarns, weaving, felting, and knitting; processing of leather; and adorning and finishing of interior fabrics. Upon completion, students should be able to recognize and use correct terminology for upholstery, window treatments, and rugs/carpets with regard to flammability, performance, and durability.

DES	255	History/Int & Furn I	3	0	0	3
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This course covers interiors, exteriors, and furnishings from ancient Egypt through French Neo-Classicism. Emphasis is placed on vocabulary, chronology, and style recognition. Upon completion, students should be able to classify and date interior and exterior architecture and furnishings and be conversant with pertinent vocabulary.

DES	275	Furniture Design & Const	2	2	0	3
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This course introduces contemporary furniture design and construction techniques used in custom and hand-made furniture building. Topics include design and manufacturing processes and materials selection for handmade and production, case goods, and upholstery manufacturing. Upon completion, students should be able to design and describe manufacturing processes used in both case goods and upholstered furniture manufacturing.

Drafting (DFT)

DFT	111	Technical Drafting I	1	3	0	2
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This course introduces basic drafting skills, equipment, and applications. Topics include sketching, measurements, lettering, dimensioning, geometric construction, orthographic projections and pictorials drawings, sections, and auxiliary views. Upon completion, students should be able to understand and apply basic drawing principles and practices. Co-requisites: **DFT 151**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

DFT 111A	Technical Drafting I Lab	0	3	0	1
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This course provides a laboratory setting to enhance basic drafting skills. Emphasis is placed on practical experiences that enhance the topics presented in DFT 111. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in DFT 111. Co-requisites: **DFT 111**.

DFT 112	Technical Drafting II	1	3	0	2
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This course provides for advanced drafting practices and procedures. Topics include detailed working drawings, hardware, fits and tolerances, assembly and sub-assembly, geometric dimensioning and tolerancing, intersections, and developments. Upon completion, students should be able to produce detailed working drawings. Pre-requisite: **DFT 111**.

DFT 112A	Technical Drafting II Lab	0	3	0	1
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This course provides a laboratory setting to enhance advance drafting skills. Emphasis is placed on practical experiences that enhance the topics presented in DFT 112. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in DFT 112. Co-requisite: **DFT 112**

DFT 119	Basic CAD	1	2	0	2
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This course introduces computer-aided drafting software for specific technologies to non-drafting majors. Emphasis is placed on understanding the software command structure and drafting standards for specific technical fields. Upon completion, students should be able to create and plot basic drawings.

DFT 151	CAD I	2	3	0	3
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This course introduces CAD software as a drawing tool. Topics include drawing, editing, file management, and plotting. Upon completion, students should be able to produce and plot a CAD drawing.

DFT 152	CAD II	2	3	0	3
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This course is a continuation of DFT 151. Topics include advanced two-dimensional, three-dimensional, and solid modeling and extended CAD applications. Upon completion, students should be able to generate and manage CAD drawings and models to produce engineering documents. Pre-requisite: **DFT 151**.

DFT 153	CAD III	2	3	0	3
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This course covers basic principles of three-dimensional CAD wireframe and surface models. Topics include user coordinate systems, three-dimensional viewpoints, three-dimensional wireframes, and surface components and viewpoints. Upon completion, students should be able to create and manipulate three-dimensional wireframe and surface models. Pre-requisite: **DFT 151**.

DFT 253	CAD Data Management	2	2	0	3
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This course covers engineering document management techniques. Topics include efficient control of engineering documents, manipulation of CAD drawing data, generation of bill of materials, and linking to spreadsheets or databases. Upon completion, students should be able to utilize systems for managing CAD drawings, extract data from drawings, and link data to spreadsheets or database applications. Pre-requisite: **DFT 151**.

Digital Media Technology (DME)

DME 110	Intro to Digital Media	2	2	0	3
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This course introduces students to key concepts, technologies, and issues related to digital media. Topics include emerging standards, key technologies and related design issues, terminology, media formats, career paths, and ethical issues. Upon completion, students should be able to demonstrate the various media formats that are used in digital media technology.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

DME 115 Graphic Design Tools 2 2 0 3

This course provides students with an introduction to creative expression and art/design techniques in a digital environment. Emphasis is placed on designing, creating, editing and integrating visual components consisting of bit-mapped and vector-based images, drawings, banners, text, simple animations, and multiple layers. Upon completion, students should be able to design and produce a range of visual products using digital processing techniques.

DME 120 Intro to Multimedia Appl 2 2 0 3

This course introduces storyboarding and multimedia application design. Topics include vector and bit-mapped graphics, interactive multimedia interfaces, layering techniques, image and animation libraries, and scripting. Upon completion, students should be able to produce basic high-quality interactive multimedia applications. Pre-requisite: **DME 110**

DME 130 Digital Animation I 2 2 0 3

This course introduces concepts for planning and developing animation sequences. Emphasis will be placed on review of digital animation concepts and exploration of various animation software packages. Upon completion, students should be able to produce simple animations. Pre-requisite: **DME 110**

DME 140 Intro to Audio/Video Media 2 2 0 3

This course is designed to teach students how to manipulate digital and audio content for multimedia applications. Topics include format conversion and a review of current technologies and digital formats. Upon completion, students should be able to modify existing audio and video content to meet a range of production requirements associated with digital media applications. Pre-requisite: **DME 110**

DME 210 User Interface Design 2 2 0 3

This course covers current design approaches and emerging standards related to the design and development of user interfaces. Emphasis is placed on conducting research, and analyzing and reviewing current practices in effective interface design. Upon completion, students should be able to intelligently discuss and evaluate new and existing digital media products in terms of the user interface. Pre-requisite: **DME 110**

DME 220 Interactive Multimedia Prog 2 2 0 3

This course is designed to build on concepts developed in DME 120 and teaches students to apply custom programming to develop advanced applications and components. Emphasis is placed on scripting language functionalities associated with a variety of software packages. Upon completion, students should be able to produce advanced, high-quality interactive multimedia applications. Pre-requisite: **DME 120**

DME 230 Digital Animation II 2 2 0 3

This course introduces state-of-the-art 3D animation techniques and concepts. Emphasis is placed on utilizing the features of current animation software. Upon completion, students should be able to produce 3D animations as components of a multimedia application. Pre-requisite: **DME 130**

DME 260 Emerging Tech Digital Media 2 2 0 3

This course provides students with the latest technologies and strategies in the field of digital media. Emphasis is placed on the evaluation of emerging digital media technologies and presenting those findings to the class. Upon completion, students should be able to critically analyze emerging digital media technologies and establish informed opinions. Pre-requisite: **DME 120 and 130.**

DME 270 Prof Pract Digital Media 2 2 0 3

This course introduces students to business skills needed to succeed in the digital media workplace. Topics include portfolio development, resume design, and preparation of media contacts. Upon completion, students should be able to prepare themselves and their work for a career in the digital media workplace. Pre-requisite: **DME 120 and 130.**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

DME 285 Systems Project 2 2 0 3

This course provides an opportunity to complete a significant digital media project from the design phase through implementation with minimal instructor support. Emphasis is placed on project definition, testing, presentation, and implementation. Upon completion, students should be able to complete, maintain and implement a digital media project. Pre-requisite: **DME 120 and 130.**

Drama/Theatre (DRA)

DRA 111 Theatre Appreciation 3 0 0 3

This course provides a study of the art, craft, and business of the theatre. Emphasis is placed on the audience's appreciation of the work of the playwright, director, actor, designer, producer, and critic. Upon completion, students should be able to demonstrate a vocabulary of theatre terms and to recognize the contributions of various theatre artists. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: ENG 095 or RED 090.

DRA 112 Literature of the Theatre 3 0 0 3

This course provides a survey of dramatic works from the classical Greek through the present. Emphasis is placed on the language of drama, critical theory, and background as well as on play reading and analysis. Upon completion, students should be able to articulate, orally and in writing, their appreciation and understanding of dramatic works. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Co-requisite: ENG 111.

DRA 120 Voice for Performance 3 0 0 3

This course provides guided practice in the proper production of speech for the theatre. Emphasis is placed on improving speech, including breathing, articulation, pronunciation, and other vocal variables. Upon completion, students should be able to demonstrate effective theatrical speech. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Co-requisite: DRA 111.

DRA 126 Storytelling 3 0 0 3

This course introduces the art of storytelling and the oral traditions of folk literature. Topics include the history of storytelling, its value and purpose, techniques of the storyteller, and methods of collecting verbal art. Upon completion, students should be able to present and discuss critically stories from the world's repertory of traditional lore. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: ENG 095 or RED 090.

DRA 130 Acting I 0 6 0 3

This course provides an applied study of the actor's craft. Topics include role analysis, training the voice, and body concentration, discipline, and self-evaluation. Upon completion, students should be able to explore their creativity in an acting ensemble. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Co-requisite: DRA 111.

DRA 131 Acting II 0 6 0 3

This course provides additional hands-on practice in the actor's craft. Emphasis is placed on further analysis, characterization, growth, and training for acting competence. Upon completion, students should be able to explore their creativity in an acting ensemble. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: **C or better in DRA 130.**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

DRA 132 Stage Movement 2 2 0 3

This course provides an applied study of selected principles of stage movement for actors. Topics include improvisation, mime, stage combat, clowning, choreography, and masks. Upon completion, students should be able to focus properly on stage, to create characters, and to improvise scenes, perform mimes, fight, clown, juggle, and waltz. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Co-requisites: **DRA 111.**

DRA 140 Stagecraft I 0 6 0 3

This course introduces the theory and basic construction of stage scenery and properties. Topics include stage carpentry, scene painting, stage electrics, properties, and backstage organization. Upon completion, students should be able to pursue vocational and avocational roles in technical theatre. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Co-requisite: **DRA 111.**

DRA 142 Costuming 2 2 0 3

This course covers the techniques of costume construction and crafts processes. Emphasis is placed on learning costuming techniques, using equipment and materials, and finishing production-appropriate costumes. Upon completion, students should be able to demonstrate an understanding of pattern drafting, construction techniques, and costume fitting procedures. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

DRA 143 Costume Design 2 2 0 3

This course covers the analysis, research, design, and problem solving related to costume design. Emphasis is placed on director/designer communication, concepting, research, and rendering of designs. Upon completion, students should be able to demonstrate skills in communication, design process, and rendering. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

DRA 145 Stage Make-up 1 2 0 2

This course covers the research, design, selection of materials, and application of stage make-up, prosthetics, wigs, and hairpieces. Emphasis is placed on the development of techniques, style, and presentation of the finished makeup. Upon completion, students should be able to create and apply make-up, prosthetics, and hairpieces. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

DRA 170 Play Production I 0 9 0 3

This course provides an applied laboratory study of the processes involved in the production of a play. Topics include fundamental practices, principles, and techniques associated with producing plays of various periods and styles. Upon completion, students should be able to participate in an assigned position with a college theatre production. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Co-requisite: **DRA 111.**

DRA 171 Play Production II 0 9 0 3

This course provides an applied laboratory study of the processes involved in the production of a play. Topics include fundamental practices, principles, and techniques associated with producing plays of various periods and styles. Upon completion, students should be able to participate in an assigned position with a college theatre production. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisites: **C or better in DRA 170.**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

DRA	240	Lighting for the Theatre	2	2	0	3
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This course is an applied study of theatre lighting and is designed to train theatre technicians. Emphasis is placed on lighting technology including the mechanics of lighting and light control equipment by practical work with lighting equipment. Upon completion, students should be able to demonstrate competence with lighting equipment. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: C or better in DRA 111.

DRA	270	Play Production III	0	9	0	3
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This course provides an applied laboratory study of the processes involved in the production of a play. Topics include fundamental practices, principles, and techniques associated with producing plays of various periods and styles. Upon completion, students should be able to participate in an assigned position with a college theatre production. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisites: **C or better in DRA 171.**

DRA	271	Play Production IV	0	9	0	3
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This course provides an applied laboratory study of the processes involved in the production of a play. Topics include fundamental practices, principles, and techniques associated with producing plays of various periods and styles. Upon completion, students should be able to participate in an assigned position with a college theatre production. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: **C or better in DRA 270.**

Economics (ECO)

ECO	251	Principles of Microeconomics	3	0	0	3
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This course introduces economic analysis of individual, business, and industry choices in the market economy. Topics include the price mechanism, supply and demand, optimizing economic behavior, costs and revenue, market structures, factor markets, income distribution, market failure, and government intervention. Upon completion, students should be able to identify and evaluate consumer and business alternatives in order to efficiently achieve economic objectives. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisites: (RED 080 and ENG 080) or ENG 085, and MAT 070.

ECO	252	Principles of Macroeconomics	3	0	0	3
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This course introduces economic analysis of aggregate employment, income, and prices. Topics include major schools of economic thought; aggregate supply and demand; economic measures, fluctuations, and growth; money and banking; stabilization techniques; and international trade. Upon completion, students should be able to evaluate national economic components, conditions, and alternatives for achieving socioeconomic goals. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisites: (RED 080 and ENG 080) or ENG 085, and MAT 070.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Education (EDU)

EDU 119 Introduction to Early Child Education 4 0 0 4

This course covers the foundations of the education profession; the diverse educational settings for young children, professionalism and planning developmentally appropriate programs for children. Topics include historical foundations, program types, career options, professionalism, and creating inclusive environments and curriculum that are responsive to the needs of children and families. Upon completion, students should be able design career plans and develop appropriate schedules, environments and activity plans while incorporating adaptations for children with exceptionalities. This course is a unique requirement of the Early Childhood Education program. Pre-requisites: RED 070

EDU 131 Child, Family and Community 3 0 0 3

This course covers the development of partnerships between families, inclusive programs for children/schools that serve young children with and without disabilities, and the community. Emphasis is placed on requisite skills and benefits for successfully establishing, supporting, and maintaining respectful collaborative relationships between today's diverse families, centers/schools, and community resources. Upon completion, students should be able to describe appropriate relationships with parents/caretakers, center/school colleagues, and community agencies that enhance the educational experiences/well-being of all children. Pre-requisite: **(ENG 080 and RED 080) or ENG 085.**

EDU 144 Child Development I 3 0 0 3

This course covers the theories of child development, developmental sequences, and factors that influence children's development, from conception through pre-school for all children. Emphasis is placed on sequences in physical/motor, social, emotional, cognitive, and language development and the multiple influences on development and learning of the whole child. Upon completion, students should be able to identify typical and atypical developmental characteristics, plan experiences to enhance development, and describe appropriate interaction techniques and environments. This course is a unique requirement of the Early Childhood Education program. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.* Pre-requisite: (ENG 090 and RED 090) or ENG 095.

EDU 145 Child Development II 3 0 0 3

This course covers theories of child development, developmental sequences, and factors that influence children's development, from pre-school through middle childhood for all children. Emphasis is placed on sequences in physical/motor, social, emotional, cognitive, and language development multiple influences on development and learning of the whole child. Upon completion, students should be able to identify typical and atypical developmental characteristics, plan experiences to enhance development, and describe appropriate interaction techniques and environments. This course is a unique requirement of the Early Childhood Education program. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.* Pre-requisite: (ENG 090 and RED 090) or ENG 095.

EDU 146 Child Guidance 3 0 0 3

This course introduces practical principles and techniques for providing developmentally appropriate guidance for all children with and without disabilities, including those at risk. Emphasis is placed on encouraging self-esteem, cultural awareness, effective communication skills, direct/indirect techniques/strategies and observation to understand the underlying causes of behavior. Upon completion, students should be able to demonstrate appropriate interactions with children and families and promote conflict resolution, self-control, self-motivation, and self-esteem in children. This course is a unique requirement of the Early Childhood Education program. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.* Pre-requisite: (ENG 090 and RED 090) or ENG 095.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

EDU 151 Creative Activities 3 0 0 3

This course covers planning, creation and adaptation of developmentally supportive learning environments with attention to curriculum, interactions, teaching practices and learning materials. Emphasis is placed on creating and adapting integrated, meaningful, challenging and engaging developmentally supportive learning experiences in art, music, movement and physical skills, and dramatics. Upon completion, students should be able to create, manage, adapt and evaluate developmentally supportive learning materials, experiences and environments. This course is a unique requirement of the Early Childhood Education program. Pre-requisite: **(ENG 080 and RED 080) or ENG 085.**

EDU 153 Health, Safety and Nutrition 3 0 0 3

This course focuses on promoting and maintaining the health and well-being of all children. Topics include health and nutritional guidelines, common childhood illnesses, maintaining safe and healthy learning environments, recognizing and reporting of abuse and neglect and state regulations. Upon completion, students should be able to demonstrate knowledge of health, safety, and nutritional needs, implement safe learning environments, and adhere to state regulations. Pre-requisite: **(ENG 080 and RED 080) or ENG 085.**

EDU 154 Social/Emotion/Behav Dev 3 0 0 3

This course covers the social-emotional and behavioral development of children and the causes, expressions, and prevention and management of challenging behaviors in all children. Emphasis is placed on caregiver-child relationships, positive social-emotional environments, developmental concerns, risk factors, early identification and screening and intervention strategies. Upon completion, students should be able to identify factors influencing social-emotional development and behaviors, utilize screening measures, design behavioral plans and make appropriate referrals. This course is a unique elective of the Early Childhood Education program. Pre-requisite: **EDU 144, EDU 145, and ENG 085.**

EDU 157 Active Play 2 2 0 3

This course introduces the use of indoor and outdoor physical activities to promote the physical, cognitive, and social/emotional development of children. Topics include the role of active play, development of play skills, playground design, selection of safe equipment and materials, and surfacing for active play. Upon completion, students should be able to discuss the stages of play, the role of teachers in play, and the design of appropriate active play areas and activities. This course is a unique elective of the Early Childhood Education program. Pre-requisite: **(ENG 080 and RED 080) or ENG 085.**

EDU 161 Intro to Exceptional Children 3 0 0 3

This course covers children with exceptionalities as life long learners within the context of the community school and family. Emphasis is placed on inclusion, legal, social/political, environmental, and cultural issues relating to the teaching of children with exceptionalities. Upon completion, students should be able to demonstrate knowledge of identification processes, inclusive techniques, and professional practices and attitudes. This course is a unique requirement of the Occupational Education program. Pre-requisite: **(ENG 080 and RED 080) or ENG 085.**

EDU 175 Intro to Trade & Industrial Education 3 0 0 3

This course introduces the philosophy, scope, and objectives of industrial education. Topics include the development of industrial education, employment opportunities, current events, current practices, and emerging trends. Upon completion, students should be able to describe the history, identify current practices, and describe current trends in industrial education. This course is a unique requirement of the Occupational Education Associate program. Pre-requisite: **(ENG 080 and RED 080) or ENG 085.**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

EDU 176	Occupation Analysis and Course Development	3	0	0	3
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This course covers the principles and techniques of analyzing occupations to select suitable competencies and teaching methods for learning activities. Topics include occupational analysis, instructional methods, competency identification, and curriculum writing. Upon completion, students should be able to identify competencies, organize instructional materials, and select appropriate instructional methods. This course is a unique requirement of the Occupational Education Associate program. Pre-requisite: **(ENG 080 and RED 080) or ENG 085.**

EDU 177	Instructional Methods	2	2	0	3
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This course covers instructional methods in technical education with emphasis on competency-based instruction. Topics include writing objectives, industrial methods, and determining learning styles. Upon completion, students should be able to select and demonstrate the use of a variety of instructional methods. This course is a unique requirement of the Occupational Education Associate program. Pre-requisite: **(ENG 080 and RED 080) or ENG 085.**

EDU 178	Facilities Org & Planning	2	2	0	3
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This course is a study of the problems related to educational facilities planning, layout, and management. Emphasis is placed on applying basic principles to actual projects relating to specific occupational areas. Upon completion, students should be able to lay out an educational facility for an occupational area and develop a plan for the facilities. This course is a unique requirement of the Occupational Education Associate program. Pre-requisite: **(ENG 080 and RED 080) or ENG 085.**

EDU 179	Vocational Student Organizations	3	0	0	3
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This course covers planning and organizing vocational youth clubs by understanding the structure and operating procedures to use club activities for personal and professional growth. Topics include self-assessment to set goals, club structure, election and installation of officers, club activities, function of committees, running meetings, contest preparation, and leadership skills. Upon completion students should be able to set personal goals, outline club structure, elect and install offices. This course is a unique requirement of the Occupational Education Associate program. Pre-requisite: **(ENG 080 and RED 080) or ENG 085.**

EDU 214	Early Child Intern Pract	1	9	0	4
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This course is designed to allow students to apply skills in a three star (minimum) or NAEYC accredited or equivalent, quality early childhood environment. Emphasis is placed on observing children and assisting with the implementation of developmentally appropriate activities and environments for all children; modeling reflective and professional practices. Upon completion, students should be able to demonstrate developmentally appropriate plans/assessments, appropriate guidance techniques and ethical/professional behaviors as indicated by assignments and onsite faculty visits. Pre-requisites: **(ENG 090 and RED 090) or ENG 095, EDU 119, EDU 144 and EDU 146.**

EDU 216	Foundations of Education	4	0	0	4
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This course introduces the American educational system and the teaching profession. Topics include historical and philosophical foundations of education, contemporary educational, structural, legal, and financial issues, experiences in public school classrooms. Upon completion, students should be able to relate classroom observations to the roles of teachers and schools and the process of teacher education. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.* This course is a unique elective of Pre-Major Education Associate program(s). Pre-requisites: **(ENG 090 and RED 090) or ENG 095.**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

EDU	221	Children with Exceptionalities	3	0	0	3
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This course, based on the foundation of typical development, introduces working with children with exceptionalities. Emphasis is placed on the characteristics and assessment of children and strategies for adapting the learning environment. Upon completion, students should be able to recognize atypical development, make appropriate referrals, collaborate with families and professionals to plan, implement, and evaluate inclusion strategies. This course is a unique requirement of the Early Childhood Education program. Pre-requisites: **EDU 144 and EDU 145**.

EDU	234	Infants, Toddlers, & Two's	3	0	0	3
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This course covers the skills needed to effectively implement group care for infants, toddlers, and two-year olds. Emphasis is placed on child development and developmentally appropriate practices. Upon completion, students should be able to identify, plan, select materials and equipment, and implement and evaluate a developmentally appropriate curriculum. This course is a unique elective of the Early Childhood Education program. Pre-requisite: **EDU 144 and EDU 119**.

EDU	235	School-Age Development & Program	3	0	0	3
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This course presents developmentally appropriate practices in group care for school-age children. Topics include principles of development, environmental planning, and positive guidance techniques. Upon completion, students should be able to discuss developmental principles for children five to twelve years of age and plan and implement age-appropriate activities. This course is a unique elective of the Early Childhood Education program. Pre-requisite: **(ENG 090 and RED 090) or ENG 095**.

EDU	243	Learning Theory	3	0	0	3
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This course provides lateral entry teachers an introduction to learning theory, various styles of learning, and motivational factors involved in the learning process. Emphasis is placed on the development of cognitive skills using the seven types of intelligence and applying these to practical classroom situations. Upon completion, students should be able to describe theories and styles of learning and discuss the relationship between different types of intelligence to learning motivation. This course is a unique requirement of the Lateral Entry Education program. Pre-requisite: **(ENG 090 and RED 090) or ENG 095**.

EDU	244	Human Growth/Development	3	0	0	3
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This course introduces lateral entry teachers to theories and ages and stages related to human growth and development from birth through adolescence. Emphasis is placed on development through the stages of a child's life in the areas of physical, emotional, social, intellectual, and moral development. Upon completion, students should be able to identify and describe milestones of each stage in all areas of development and discuss factors that influence growth. This course is a unique requirement of the Lateral Entry Education program. Pre-requisite: **(ENG 090 and RED 090) or ENG 095**.

EDU	251	Exploration Activities	3	0	0	3
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This course covers discovery experiences in science, math, and social studies. Emphasis is placed on developing concepts for each area and encouraging young children to explore, discover, and construct concepts. Upon completion, students should be able to discuss the discovery approach to teaching, explain major concepts in each area, and plan appropriate experiences for children. This course is a unique requirement of the Early Childhood Education program. Pre-requisite: **EDU 144 or EDU 145**. Co-requisite: **EDU 251A**.

EDU	251A	Exploration Activities Lab	0	2	0	1
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This course provides a laboratory component to complement EDU 251. Emphasis is placed on practical experiences that enhance concepts introduced in the classroom. Upon completion, students should be able to demonstrate a practical understanding of the development and implementation of appropriate science, math, and social studies activities for children. This course is a unique requirement of the Early Childhood Education program. Co-requisite: **EDU 251**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

EDU 259 Curriculum Planning 3 0 0 3

This course covers early childhood curriculum planning. Topics include philosophy, curriculum, indoor and outdoor environmental design, scheduling, observation and assessment, and instructional planning and evaluation. Upon completion, students should be able to assess children and curriculum; plan for daily, weekly, and long-range instruction; and design environments with appropriate equipment and supplies. This course is a unique requirement of the Early Childhood Education program. Pre-requisites: **EDU 119** and EDU 144, EDU 145, EDU 151, EDU 214.

EDU 261 Early Childhood Administration I 3 0 0 3

This course covers the policies, procedures, and responsibilities for the management of early childhood education programs. Topics include implementation of goals, principles of supervision, budgeting and financial management, and meeting the standards for a NC Child Day Care license. Upon completion, students should be able to develop program goals, explain licensing standards, determine budgeting needs, and describe effective methods of personnel supervision. This course is a unique requirement of the Early Childhood Education program. Pre-requisite: **(ENG 090 and RED 090) or ENG 095**. Co-requisite: EDU 119.

EDU 262 Early Childhood Administration II 3 0 0 3

This course provides a foundation for budgetary, financial, and personnel management of the child care center. Topics include budgeting, financial management, marketing, hiring, supervision, and professional development of a child care center. Upon completion, students should be able to formulate marketing, financial management, and fund development plans and develop personnel policies, including supervision and staff development plans. This course is a unique elective of the Early Childhood Education program. Pre-requisite: **EDU 261**. Co-requisite: EDU 119.

EDU 271 Educational Technology 2 2 0 3

This course introduces the use of technology to enhance teaching and learning in all educational settings. Topics include technology concepts, instructional strategies, materials and adaptive technology for children with exceptionalities, facilitation of assessment/evaluation, and ethical issues surrounding the use of technology. Upon completion, students should be able to apply technology enhanced instructional strategies, use a variety of technology resources and demonstrate appropriate technology skills in educational environments. Pre-requisite: **(ENG 090 and ENG 090) or ENG 095**.

EDU 275 Effective Teacher Training 2 0 0 2

This course provides specialized training using an experienced-based approach to learning. Topics include instructional preparation and presentation, student interaction, time management, learning expectations, evaluation, and curriculum principles and planning. Upon completion, students should be able to prepare and present a six-step lesson plan and demonstrate ways to improve students' time-on-task. This course is a unique elective of the Occupational Education Associate program. Pre-requisite: **(ENG 090 and RED 090) or ENG 095**.

EDU 280 Language & Literacy Experiences 3 0 0 3

This course explores the continuum of children's communication development, including verbal and written language acquisition and other forms of communication. Topics include selection of literature and other media, the integration of literacy concepts throughout the classroom environment, inclusive practices and appropriate assessments. Upon completion, students should be able to select, plan, implement and evaluate developmentally appropriate literacy experiences. This course is a unique requirement of the Early Childhood Education program. Pre-requisite: EDU 144 or EDU 145. Co-requisite: EDU 280A.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

EDU 280A	Literacy Experiences Lab	0	2	0	1
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This course provides a laboratory component to complement EDU 280. Emphasis is placed on practical experiences that enhance concepts introduced in the classroom. Upon completion, students should be able to demonstrate a practical understanding of the development and implementation of appropriate early literacy experiences. This course is a unique requirement of the Early Childhood Education program. Co-requisite: **EDU 280**.

EDU 281	Instructional Strat/Reading & Writing 2	2	0	3
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This course covers concepts, resources, and methods for teaching reading and writing to elementary through middle-grade children. Topics include the importance of literacy, learning styles, skills assessment, various reading and writing approaches and instructional strategies. Upon completion, students should be able to assess, plan, implement and evaluate school-age literacy experiences as related to the North Carolina Standard Course of Study. This course is a unique requirement of the Occupational Education Associate program. Pre-requisite: **(ENG 090 and RED 090) or ENG 095**.

EDU 284	Early Childhood Capstone Prac	1	9	0	4
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This course is designed to allow students to apply skills in a three star (minimum) or NAEYC accredited or equivalent, quality early childhood environment. Emphasis is placed on designing, implementing and evaluating developmentally appropriate activities and environments for all children; supporting/involving families; and modeling reflective and professional practices. Upon completion, students should be able to demonstrate developmentally appropriate plans/assessments, appropriate guidance techniques and ethical/professional behaviors. Pre-requisite: **Set 1 From State List (ENG 090, RED 090, EDU 119, EDU 144, EDU 145, EDU 146, EDU 151) and MAT 070**

English As A Foreign Language (EFL)

Initial student placement in developmental courses is based on individual college placement testing policies and procedures. Students should begin developmental course work at the appropriate level indicated by the college's placement test.

EFL 081	Grammar I	5	0	0	5
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This course provides non-native speakers of English with a variety of fundamental grammatical concepts which enrich language skills and comprehension. Emphasis is on key basic grammatical structures and opportunities for practice which incorporate grammatical knowledge into various skills areas. Upon completion, students should be able to demonstrate comprehension and correct usage of specified grammatical concepts. This course is intended for non-native speakers of English who, upon completion will progress to ENG 070 **or** ENG 080 or ENG 085 depending on level of competency.

EFL 091	Composition I	5	0	0	5
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This course introduces basic sentence structure and writing paragraphs. Emphasis is placed on word order, verb tense-aspect system, auxiliaries, word forms, and simple organization and basic transitions in writing paragraphs. Upon completion, students should be able to demonstrate a basic understanding of grammar and ability to write English paragraphs using appropriate vocabulary, organization, and transitions. This course is intended for non-native speakers of English who, upon completion will progress to ENG 080 or ENG 085 **or** ENG 090 or ENG 095 depending on level of competency.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

EFL	092	Composition II	5	0	0	5
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This course provides preparation in low-intermediate academic and general-purpose writing. Emphasis is placed on writing as a process, paragraph development, and basic essay organization. Upon completion, students should be able to write and independently edit and understand the major elements of the writing process, sentence, paragraph and essay. This course is intended for non-native speakers of English and satisfies the developmental writing Pre-requisite for ENG 111. Pre-requisite: **EFL 091**.

Engineering (EGR)

EGR	115	Introduction to Technology	2	3	0	3
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This course introduces the basic skills and career fields for technicians. Topics include career options, technical vocabulary, dimensional analysis, measurement systems, engineering graphics, calculator applications, professional ethics, safety practices, and other related topics. Upon completion, students should be able to demonstrate an understanding of the basic technologies, prepare drawings and sketches, and perform computations using a scientific calculator.

EGR	115A	Introduction to Technology Lab	0	3	0	1
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This course provides a laboratory setting for EGR 115. Emphasis is placed on developing skills in dimensional analysis, measurement systems, engineering graphics, and calculator applications. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in EGR 115. Co-requisite: **EGR 115**.

EGR	125	Appl Software for Tech	1	2	0	2
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This course introduces personal computer software and teaches students how to customize the software for technical applications. Emphasis is placed on the use of common office applications software such as spreadsheets, word processing, graphics, and Internet access. Upon completion, students should be able to demonstrate competency in using applications software to solve technical problems and communicate the results in text and graphical formats.

EGR	131	Intro to Electronics Technology	1	2	0	2
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This course introduces the basic skills required for electrical/electronics technicians. Topics include soldering/desoldering, safety practices, test equipment, scientific calculators, AWG wire table, the resistor color code, electronic devices, problem solving, and use of hand tools. Upon completion, students should be able to solder/desolder, operate test equipment, apply problem-solving techniques, and use a scientific calculator.

EGR	285	Design Project	0	4	0	2
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This course provides the opportunity to design an instructor-approved project using previously acquired skills. Emphasis is placed on selection, proposal, design, testing, and documentation of the approved project. Upon completion, students should be able to present and demonstrate projects. Pre-requisites: ELN 232 and ELN 234.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Electricity (ELC)

ELC 111	Introduction to Electricity	2	2	0	3
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This course introduces the fundamental concepts of electricity and test equipment to non-electrical/electronic majors. Topics include basic DC and AC principles (voltage, resistance, current, impedance); components (resistors, inductors, and capacitors); power; and operation of test equipment. Upon completion, students should be able to construct and analyze simple DC and AC circuits using electrical test equipment.

ELC 112	DC/AC Electricity	3	6	0	5
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This course introduces the fundamental concepts of and computations related to DC/AC electricity. Emphasis is placed on DC/AC circuits, components, operation of test equipment; and other related topics. Upon completion, students should be able to construct, verify, troubleshoot, and repair DC/AC circuits. Co-requisite: ELC 126 or MAT 070.

ELC 113	Basic Wiring I	2	6	0	4
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This course introduces the care/usage of tools and materials used in electrical installations and the requirements of the National Electrical Code. Topics include NEC, electrical safety, and electrical blueprint reading; planning, layout, and installation of electrical distribution equipment; lighting; overcurrent protection; conductors; branch circuits; and conduits. Upon completion, students should be able to properly install conduits, wiring, and electrical distribution equipment associated with basic electrical installations.

ELC 114	Basic Wiring II	2	6	0	4
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This course provides instruction in the application of electrical tools, materials, and test equipment associated with electrical installations. Topics include the NEC; safety; electrical blueprints; planning, layout, and installation of equipment and conduits; and wiring devices such as panels and overcurrent devices. Upon completion, students should be able to properly install equipment and conduit associated with electrical installations. Pre-requisite: ELC 113.

ELC 115	Industrial Wiring	2	6	0	4
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This course covers layout, planning, and installation of wiring systems in industrial facilities. Emphasis is placed on industrial wiring methods and materials. Upon completion, students should be able to install industrial systems and equipment.

ELC 117	Motors and Controls	2	6	0	4
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This course introduces the fundamental concepts of motors and motor controls. Topics include ladder diagrams, pilot devices, contractors, motor starters, motors, and other control devices. Upon completion, students should be able to properly select, connect, and troubleshoot motors and control circuits. Pre-requisite: ELC 112 or ELC 131 or ELC 111 or AHR 111.

ELC 118	National Electrical Code	1	2	0	2
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This course covers the use of the current National Electrical Code. Topics include the NEC history, wiring methods, overcurrent protection, materials, and other related topics. Upon completion, students should be able to effectively use the NEC. Co-requisite: ELC 113.

ELC 126	Electrical Computations	2	2	0	3
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This course introduces the fundamental applications of mathematics which are used by an electrical/electronics technician. Topics include whole numbers, fractions, decimals, powers, roots, simple electrical formulas, and usage of a scientific calculator. Upon completion, students should be able to solve simple electrical mathematical problems.

ELC 127	Software for Technicians	1	3	0	2
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This course introduces computer software which can be used to solve electrical/electronics problems. Topics include electrical/electronics calculations and applications. Upon completion, students should be able to utilize a personal computer for electrical/electronics-related applications.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

ELC 128	Introduction to PLC	2	3	0	3
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This course introduces the programmable logic controller (PLC) and its associated applications. Topics include ladder logic diagrams, input/output modules, power supplies, surge protection, selection/installation of controllers, and interfacing of controllers with equipment. Upon completion, students should be able to install PLCs and create simple programs.

ELC 130	Advanced Motors/Controls	2	2	0	3
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This course introduces DC and AC electricity with an emphasis on circuit analysis, measurements, and operation of test equipment. Topics include DC and AC principles, circuit analysis laws and theorems, components, test equipment operation, circuit simulation, and other related topics. Upon completion, students should be able to interpret circuit schematics; design, construct, verify, and analyze DC/AC circuits; and properly use test equipment. Pre-requisite: **ELC 111, 112, or 138**.

ELC 131	DC/AC Circuit Analysis	4	3	0	5
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This course introduces DC and AC electricity with an emphasis on circuit analysis, measurements, and operation of test equipment. Topics include DC and AC principles, circuit analysis laws and theorems, components, test equipment operation, circuit simulation, and other related topics. Upon completion, students should be able to interpret circuit schematics; design, construct, verify, and analyze DC/AC circuits; and properly use test equipment. Co-requisite: MAT 070.

ELC 213	Instrumentation	3	2	0	4
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This course covers the fundamentals of instrumentation used in industry. Emphasis is placed on electric, electronic, and other instruments. Upon completion, students should be able to install, maintain, and calibrate instrumentation.

ELC 228	PLC Applications	2	6	0	4
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This course covers programming and applications of programmable logic controllers. Emphasis is placed on programming techniques, networking, specialty I/O modules, and system troubleshooting. Upon completion, students should be able to specify, implement, and maintain complex PLC controlled systems. Pre-requisite: ELC 128

ELC 229	Applications Project	1	3	0	2
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This course provides an individual and/or integrated team approach to a practical project as approved by the instructor. Topics include project selection and planning, implementation and testing, and a final presentation. Upon completion, students should be able to plan and implement an applications-oriented project. Pre-requisite: ELC 228.

Electronics (ELN)

ELN 131	Electronic Devices	3	3	0	4
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This course includes semiconductor-based devices such as diodes, bipolar transistors, FETs, thyristors, and related components. Emphasis is placed on analysis, selection, biasing, and applications in power supplies, small signal amplifiers, and switching and control circuits. Upon completion, students should be able to construct, analyze, verify, and troubleshoot discrete component circuits using appropriate techniques and test equipment. Pre-requisite: ELC 131.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
ELN	132	Linear IC Applications	3	3	0	4
<p>This course introduces the characteristics and applications of linear integrated circuits. Topics include op-amp circuits, differential amplifiers, instrumentation amplifiers, waveform generators, active filters, PLLs, and IC voltage regulators. Upon completion, students should be able to construct, analyze, verify, and troubleshoot linear integrated circuits using appropriate techniques and test equipment. Pre-requisite: ELC 131.</p>						
ELN	133	Digital Electronics	3	3	0	4
<p>This course covers combinational and sequential logic circuits. Topics include number systems, Boolean algebra, logic families, MSI and LSI circuits, AD/DA conversion, and other related topics. Upon completion, students should be able to construct, analyze, verify, and troubleshoot digital circuits using appropriate techniques and test equipment. Pre-requisite: ELC 111, ELC 112, ELC 131 or ELC 140.</p>						
ELN	229	Industrial Electronics	3	3	0	4
<p>This course covers semiconductor devices used in industrial applications. Topics include the basic theory, application, and operating characteristics of semiconductor devices (filters, rectifiers, FET, SCR, Diac, Triac, Op-amps, etc). Upon completion, students should be able to install and/or troubleshoot these devices for proper operation in an industrial electronic circuit. Pre-requisite: ELC 112, ELC 131 or ELC 140.</p>						
ELN	232	Introduction to Microprocessors	3	3	0	4
<p>This course introduces microprocessor architecture and microcomputer systems including memory and input/output interfacing. Topics include assembly language programming, bus architecture, bus cycle types, I/O systems, memory systems, interrupts, and other related topics. Upon completion, students should be able to interpret, analyze, verify, and troubleshoot fundamental microprocessor circuits and programs using appropriate techniques and test equipment. Pre-requisite: ELN 133.</p>						
ELN	234	Communication Systems	3	3	0	4
<p>This course introduces the fundamentals of electronic communication systems. Topics include the frequency spectrum, electrical noise, modulation techniques, characteristics of transmitters and receivers, and digital communications. Upon completion, students should be able to interpret analog and digital communication circuit diagrams, analyze transmitter and receiver circuits, and use appropriate communication test equipment. Pre-requisite: ELC 131.</p>						
ELN	236	Fiber Optics and Lasers	3	2	0	4
<p>This course introduces the fundamentals of fiber optics and lasers. Topics include the transmission of light; characteristics of fiber optic and lasers and their systems; fiber optic production; types of lasers; and laser safety. Upon completion, students should be able to understand fiber optic communications and basic laser fundamentals. Pre-requisite: ELC 131.</p>						
ELN	249	Digital Communication	2	3	0	3
<p>This course covers the core processes and applications associated with digital communication techniques. Topics include the characteristics of RF circuits, modulation, transmitters and receivers, electromagnetic transmission, antennas, and related applications. Upon completion, students should be able to demonstrate knowledge of the concepts associated with digital communication systems. Pre-requisite: ELN 133.</p>						
ELN	271	RF Circuit Components I	1	3	0	2
<p>This course introduces the core processes and applications associated with the analysis of RF circuit components. Topics include the characteristics of RF circuits, testing, analysis, optimization, tuning, and test fixtures. Upon completion, students should be able to demonstrate basic skills associated with RF circuit component testing and analysis. Pre-requisite: ELN 133 and ELN 132.</p>						
ELN	272	RF Circuit Components II	1	3	0	2
<p>This course provides the study of core processes and applications associated with the analysis and optimization of RF circuit components. Topics include the characteristics of RF circuits, testing, analysis, optimization, tuning, and test fixtures. Upon completion, students should be able to demonstrate more advanced skills associated with RF circuit component testing and analysis. Pre-requisite: ELN 271.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Emergency Medical Science (EMS)

EMS 110	EMT - Basic	5	6	0	7
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This course introduces basic emergency medical care. Topics include preparatory, airway, patient assessment, medical emergencies, trauma, infants and children, and operations. Upon completion, students should be able to demonstrate the skills necessary to achieve North Carolina State or National Registry EMT-Basic certification. Pre-requisite: (RED 090 and ENG 090) or ENG 095, and MAT 060.

EMS 120	Intermediate Interventions	2	3	0	3
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This course is designed to provide the necessary information for interventions appropriate to the EMT-Intermediate and is required for intermediate certification. Topics include automated external defibrillation, basic cardiac electrophysiology, intravenous therapy, venipuncture, acid-base balance, and fluids and electrolytes. Upon completion, students should be able to properly establish an IV line, obtain venous blood, utilize AEDs, and correctly interpret arterial blood gases. Pre-requisite: **EMS 110**. Co-requisites: (**EMS 121 or EMS 122**) and **EMS 130 and EMS 131**.

EMS 121	EMS Clinical Practicum I	0	0	6	2
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This course is the initial hospital and field internship and is required for intermediate and paramedic certification. Emphasis is placed on intermediate-level care. Upon completion, students should be able to demonstrate competence with intermediate-level skills. Pre-requisite: **EMS 110**. Co-requisites: **EMS 120, EMS 130 and EMS 131**.

EMS 130	Pharmacology I for EMS	1	3	0	2
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This course introduces the fundamental principles of pharmacology and medication administration and is required for intermediate and paramedic certification. Topics include terminology, pharmacokinetics, pharmacodynamics, weights, measures, drug calculations, legislation, and administration routes. Upon completion, students should be able to accurately calculate drug dosages, properly administer medications, and demonstrate general knowledge of pharmacology. Pre-requisites: **EMS 110, and either BIO 163 or BIO 165**. Co-requisites: **EMS 120 and EMS 131**.

EMS 131	Advanced Airway Management	1	2	0	2
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This course is designed to provide advanced airway management techniques and is required for intermediate and paramedic certification. Topics include respiratory anatomy and physiology, airway, ventilation, adjuncts, surgical intervention, and rapid sequence intubation. Upon completion, students should be able to properly utilize all airway adjuncts and pharmacology associated with airway control and maintenance. Pre-requisite: **EMS 110**. Co-requisites: **EMS 120 and EMS 130**.

EMS 140	Rescue Scene Management	1	3	0	2
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This course introduces rescue scene management and is required for paramedic certification. Topics include response to hazardous material conditions, medical incident command, and extrication of patients from a variety of situations. Upon completion, students should be able to recognize and manage rescue operations based upon initial and follow-up scene assessment. Pre-requisite: Permission of department chair and enrollment in the EMS program.

EMS 150	Emergency Vehicles and EMS Communication	1	3	0	2
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This course examines the principles governing emergency vehicles, maintenance of emergency vehicles, and EMS communication equipment and is required for paramedic certification. Topics include applicable motor vehicle laws affecting emergency vehicle operation, defensive driving, collision avoidance techniques, communication systems, and information management systems. Upon completion, students should have a basic knowledge of emergency vehicles, maintenance, and communication needs. Pre-requisite: Permission from Department Chair and enrollment in the EMS program..

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
EMS	210	Advanced Patient Assessment	1	3	0	2
<p>This course covers advanced patient assessment techniques and is required for paramedic certification. Topics include initial assessment, medical-trauma history, field impression, complete physical exam process, on-going assessment, and documentation skills. Upon completion, students should be able to utilize basic communication skills and record and report collected patient data. Pre-requisite: EMS 120, EMS 130, EMS 131, EMS 121 or EMS 122.</p>						
EMS	220	Cardiology	2	6	0	4
<p>This course provides an in-depth study of cardiovascular emergencies and is required for paramedic certification. Topics include anatomy and physiology, pathophysiology, rhythm interpretation, cardiac pharmacology, and patient treatment. Upon completion, students should be able to certify at the Advanced Cardiac Life Support Provider level utilizing American Heart Association guidelines. Pre-requisites: EMS 120, EMS 130, EMS 131.</p>						
EMS	221	EMS Clinical Practicum II	0	0	9	3
<p>This course is a continuation of the hospital and field internship required for paramedic certification. Emphasis is placed on advanced-level care. Upon completion, students should be able to demonstrate continued progress in advanced-level patient care. Pre-requisites: EMS 121; or EMS 122 and COE 111.</p>						
EMS	230	Pharmacology II for EMS	1	3	0	2
<p>This course explores the fundamental classification and action of common pharmacologic agents. Emphasis is placed on the action and use of compounds most commonly encountered in the treatment of chronic and acutely ill patients. Upon completion, students should be able to demonstrate general knowledge of drugs covered during the course. Pre-requisites: EMS 130</p>						
EMS	231	EMS Clinical Pract III	0	0	9	3
<p>This course is a continuation of the hospital and field internship required for paramedic certification. Emphasis is placed on advanced-level care. Upon completion, students should be able to demonstrate continued progress in advanced-level patient care. Pre-requisites: EMS 221 or EMS 222 and COE 121.</p>						
EMS	240	Special Needs Patients	1	2	0	2
<p>This course includes concepts of crisis intervention and techniques of dealing with special needs patients and is required for paramedic certification. Topics include behavioral emergencies, abuse, assault, challenged patients, personal well-being, home care, and psychotherapeutic pharmacology. Upon completion, students should be able to recognize and manage frequently encountered special needs patients. Pre-requisites: EMS 120, EMS 121 or EMS 122, EMS 130, and EMS 131.</p>						
EMS	241	EMS Clinical Practicum IV	0	0	9	3
<p>This course is a continuation of the hospital and field internship required for paramedic certification. Emphasis is placed on advanced-level care. Upon completion, students should be able to provide advanced-level patient care as an entry-level paramedic. Pre-requisites: EMS 231 or EMS 232 and COE 131.</p>						
EMS	250	Advanced Medical Emergencies	2	3	0	3
<p>This course provides an in-depth study of medical conditions frequently encountered in the pre-hospital setting and is required for paramedic certification. Topics include pulmonology, neurology, endocrinology, anaphylaxis, gastroenterology, toxicology, and environmental emergencies integrating case presentation and emphasizing pharmacotherapeutics. Upon completion, students should be able to recognize and manage frequently encountered medical conditions based upon initial patient impression. Pre-requisites: EMS 120, EMS 130, EMS 131, and EMS 121 or EMS 122.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

EMS 260 Advanced Trauma Emergencies 1 3 0 2

This course provides in-depth study of trauma including pharmacological interventions for conditions frequently encountered in the pre-hospital setting and is required for paramedic certification. Topics include hemorrhage control, shock, burns, and trauma to head, spine, soft tissue, thoracic, abdominal, and musculoskeletal areas with case presentations utilized for special problems situations. Upon completion, students should be able to recognize and manage trauma situations based upon patient impressions and should meet requirements of BTLS or PHTLS courses. Pre-requisites: **EMS 120, EMS 130, EMS 131, and EMS 121 or EMS 122**, and EMS 221.

EMS 270 Life Span Emergencies 2 2 0 3

This course, required for paramedic certification, covers medical/ethical/legal issues and the spectrum of age-specific emergencies from conception through death. Topics include gynecological, obstetrical, neonatal, pediatric, and geriatric emergencies and pharmacological therapeutics. Upon completion, students should be able to recognize and treat age-specific emergencies and certify at the Pediatric Advanced Life Support Provider level. Pre-requisites: EMS 120, EMS 130, and EMS 131.

EMS 285 EMS Capstone 1 3 0 2

This course provides an opportunity to demonstrate problem-solving skills as a team leader in simulated patient scenarios and is required for paramedic certification. Emphasis is placed on critical thinking, integration of didactic and psychomotor skills, and effective performance in simulated emergency situations. Upon completion, students should be able to recognize and appropriately respond to a variety of EMS-related events. Pre-requisites: **EMS 220, EMS 250 and EMS 260**.

English (ENG)

Initial student placement in developmental courses is based on individual college placement testing policies and procedures. Students should begin developmental course work at the appropriate level indicated by the college's placement test.

ENG 070 Basic Language Skills 2 2 0 3

This course introduces the fundamentals of standard written English. Emphasis is placed on effective word choice, recognition of sentences and sentence parts, and basic usage. Upon completion, students should be able to generate sentences that clearly express ideas. This course does not satisfy the development reading and writing pre-requisite for ENG 111 or ENG 111A.

ENG 080 Writing Foundations 3 2 0 4

This course introduces the writing process and stresses effective sentences. Emphasis is placed on applying the conventions of written English, reflecting standard usage and mechanics in structuring a variety of sentences. Upon completion, students should be able to write correct sentences and a unified, coherent paragraph. This course does not satisfy the developmental writing Pre-requisite for ENG 111 or ENG 111A. Pre-requisite: C or better in **ENG 070 or ENG 075**.

ENG 085 Reading & Writing Found 5 0 0 5

This course uses whole language to develop proficiency in reading and writing for college. Emphasis is placed on applying analytical and critical reading skills to a variety of texts and on introducing the writing process. Upon completion, students should be able to recognize and use various patterns of text organization and compose effective paragraphs. This course does not satisfy the developmental writing Pre-requisite for ENG 111 or ENG 111A. Pre-requisite: C or better in **ENG 070 or ENG 075**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

ENG 085A Reading & Writing Fnd Lab 0 2 0 1

This laboratory provides the opportunity to practice the skills introduced in ENG 085. Emphasis is placed on practical skills for applying analytical and critical reading skills to a variety of texts and on the writing process. Upon completion, students should be able to apply those skills in the production of effective paragraphs. Pre-requisite: C or better in **ENG 070 or ENG 075**. Co-requisite: **ENG 085**.

ENG 090 Composition Strategies 3 0 0 3

This course provides practice in the writing process and stresses effective paragraphs. Emphasis is placed on learning and applying the conventions of standard written English in developing paragraphs within the essay. Upon completion, students should be able to compose a variety of paragraphs and a unified, coherent essay. This course satisfies the developmental writing requirement for ENG 111 and ENG 111A. Pre-requisite: C or better in **ENG 080 or ENG 085**. Co-requisite: ENG 090A.

ENG 090A Composition Strategies Lab 0 2 0 1

This writing lab is designed to practice the skills introduced in ENG 090. Emphasis is placed on learning and applying the conventions of standard written English in developing paragraphs within the essay. Upon completion, students should be able to compose a variety of paragraphs and a unified, coherent essay. Pre-requisite: **ENG 080 or ENG 085**. Co-requisite: **ENG 090**.

ENG 095 Reading & Comp Strategies 5 0 0 5

This course uses whole language to strengthen proficiency in reading and writing for college. Emphasis is placed on applying critical reading skills to narrative and expository texts and on using the writing process. Upon completion, students should be able to comprehend, analyze, and evaluate college texts and to compose essays in preparation for college writing. Pre-requisite: C or better in **ENG 080 or ENG 085**.

ENG 095A Reading & Comp Strat Lab 0 2 0 1

This laboratory provides the opportunity to practice the skills introduced in ENG 095. Emphasis is placed on practical skills for applying critical reading skills to narrative and expository texts and on the writing process. Upon completion, students should be able to apply those skills in the production of effective essays in preparation for college writing. Pre-requisite: C or better in **ENG 080 or ENG 085**. Co-requisite: **ENG 095**.

ENG 102 Applied Communications II 3 0 0 3

This course is designed to enhance writing and speaking skills for the workplace. Emphasis is placed on generating short writings such as job application documents, memoranda, and reports and developing Intro to Interpersonal Communication skills with employees and the public. Upon completion, students should be able to prepare effective, short, and job-related written and oral communications. This is a diploma-level course.

ENG 111 Expository Writing 3 0 0 3

This course is the required first course in a series of two designed to develop the ability to produce clear expository prose. Emphasis is placed on the writing process including audience analysis, topic selection, thesis support and development, editing and revision. Upon completion, students should be able to produce unified, coherent, well-developed essays using standard written English. Assignments will require use of word processing presentation and software application. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English composition.* Pre-requisites: **ENG 090 and RED 090; or ENG 095**.

ENG 111A Expository Writing Lab 0 2 0 1

This writing laboratory is designed to apply the skills introduced in ENG 111. Emphasis is placed on the editing and revision components of the writing process. Upon completion, students should be able to apply those skills in the production of final drafts in ENG 111. Pre-requisites: **ENG 090 and RED 090; or ENG 095**. Co-requisite: **ENG 111**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

ENG 112 Argument-Based Research 3 0 0 3

This course, the second in a series of two, introduces research techniques, documentation styles, and argumentative strategies. Emphasis is placed on analyzing data and incorporating research findings into documented argumentative essays and research projects. Upon completion, students should be able to summarize, paraphrase, interpret, and synthesize information from primary and secondary sources using standard research format and style. Assignments will require use of word processing, presentation and software application. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English composition.* Pre-requisite: C or better in **ENG 111**.

ENG 114 Professional Research and Reporting 3 0 0 3

This course, the second in a series of two, is designed to teach professional communication skills. Emphasis is placed on research, listening, critical reading and thinking, analysis, interpretation, and design used in oral and written presentations. Upon completion, students should be able to work individually and collaboratively to produce well-designed business and professional written and oral presentations. Assignments will require use of word processing and presentation software. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English composition.* Pre-requisite: C or better in **ENG 111**.

ENG 125 Creative Writing I 3 0 0 3

This course is designed to provide students with the opportunity to practice the art of creative writing. Emphasis is placed on writing fiction, poetry, and sketches. Upon completion, students should be able to craft and critique their own writing and critique the writing of others. Assignments will require use of word processing presentation software application. *This course has been approved to satisfy the comprehensive articulation agreement for transferability as a pre-major or elective course requirement.* Pre-requisite: C or better in **ENG 111**.

ENG 126 Creative Writing II 3 0 0 3

This course is designed as a workshop approach for advancing imaginative and literary skills. Emphasis is placed on the discussion of style, techniques, and challenges for first publications. Upon completion, students should be able to submit a piece of their writing for publication. *This course has been approved to satisfy the comprehensive articulation agreement for transferability as a pre-major or elective course requirement.* Pre-requisite: **ENG 125**.

ENG 131 Introduction to Literature 3 0 0 3

This course introduces the principal genres of literature. Emphasis is placed on literary terminology, devices, structure, and interpretation. Upon completion, students should be able to analyze and respond to literature. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Assignments will require use of word processing presentation software application. Pre-requisite: C or better in **ENG 111**. Co-requisite: **ENG 112, ENG 113 or ENG 114**.

ENG 231 American Literature I 3 0 0 3

This course covers selected works in American literature from its beginnings to 1865. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: C or better in **ENG 112, ENG 113 or ENG 114**.

ENG 232 American Literature II 3 0 0 3

This course covers selected works in American literature from 1865 to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: C or better in **ENG 112, ENG 113 or ENG 114**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

ENG 241 British Literature I 3 0 0 3

This course covers selected works in British literature from its beginnings to the Romantic Period. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: C or better in **ENG 112, ENG 113 or ENG 114.**

ENG 242 British Literature II 3 0 0 3

This course covers selected works in British literature from the Romantic Period to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: C or better in **ENG 112, ENG 113 or ENG 114.**

ENG 251 Western World Literature I 3 0 0 3

This course provides a survey of selected European works from the Classical period through the Renaissance. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to selected works. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: **ENG 112, ENG 113 or ENG 114.**

ENG 252 Western World Literature II 3 0 0 3

This course provides a survey of selected European works from the Neoclassical period to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to selected works. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: C or better in **ENG 112, ENG 113 or ENG 114.**

ENG 261 World Literature I 3 0 0 3

This course introduces selected works from the Pacific, Asia, Africa, Europe, and the Americas from their literary beginnings through the seventeenth century. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to selected works. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: C or better in **ENG 112, ENG 113, or ENG 114.**

ENG 262 World Literature II 3 0 0 3

This course introduces selected works from the Pacific, Asia, Africa, Europe, and the Americas from the eighteenth century to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to selected works. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: C or better in **ENG 112, ENG 113, or ENG 114.**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

ENG	273	African-American Literature	3	0	0	3
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This course provides a survey of the development of African-American literature from its beginnings to the present. Emphasis is placed on historical and cultural context, themes, literary traditions, and backgrounds of the authors. Upon completion, students should be able to interpret, analyze, and respond to selected texts. *This course has been approved to satisfy the comprehensive articulation agreement for transferability as a pre-major or elective course requirement.* Pre-requisite: C or better in **ENG 112, ENG 113 or ENG 114.**

Entertainment Technologies (ENT)

ENT	111	Introduction to Entertainment	2	2	0	3
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This course introduces concepts of the various technology systems involved with live entertainment events. Topics include the components and the basic operation of these systems, technical requirements for events and venues and a survey of industry job descriptions and employment opportunities. Upon completion, students should be able to describe the equipment required for live events, the technical requirements of touring performance events, and employment in the industry.

ENT	114	Entertainment Law	3	0	0	3
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This course provides an introduction to legal aspects of the entertainment industry. Topics include performance rights, songwriting and personal appearance contracts, copyright law, trademarks, and the like. Upon completion students should be able to explain the basic elements of a contract, recognizing, explaining, and evaluating elements of law that pertain to entertainment.

ENT	131	Live Sound Production I	1	4	0	3
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This course introduces the concepts and technical skills required for live event sound reinforcement. Topics include the operation and inter-connection of components of a basic sound system, including consoles, amplifiers, speakers, processors and microphones. Upon completion, students should apply the concepts of live sound reinforcement and set up and operate a small to medium-scale sound system for a live event.

ENT	134	Acoustics	2	2	0	3
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This course covers the principles and basic concepts of acoustics in sound recording and reinforcement. Topics will include various acoustical properties, waveforms, resonances, frequencies, and responses and real-life applications in recording studios and live performance facilities. Upon completion, students should be able to describe basic acoustical properties and concepts and apply them in sound productions in studios and live performance facilities.

ENT	135	Recording Engineering I	2	2	0	3
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This course covers basic topics in the operation of an audio recording studio. Topics include audio theory, console, tape machine, and processor operation, proper microphone placement, multi-track mixing techniques, and session procedures. At the completion of the course, students should be able record, mix, and edit in recording sessions.

ENT	151	Concert Lighting I	2	2	0	3
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This course is an introduction to the technical aspects of concert lighting. Topics include basic design, color theory, types of instruments, power distribution, control, and safety, proper hanging, connection, focus, and control of instruments. Upon completion, students should be able to explain basic concert lighting, color theory, and instrumentation, and to properly set up a variety of instruments.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
ENT	211	Entertainment Promotion	3	0	0	3
<p>This course examines the elements of marketing and promotion as specifically applicable to the entertainment business. Topics include the creation of publicity materials, understanding the process of developing media relations, developing a press kit, and creating a publicity campaign. Upon completion, students should be able to create a marketing and promotion campaign.</p>						
ENT	231	Live Sound Production II	1	4	0	3
<p>This course continues instruction in concepts and technical skills required for live event sound reinforcement. Topics include advanced sound system setup and operation, in-depth operation of Program and Monitor Consoles, System E.Q., and flown speaker arrays. Upon completion, students will be able to design, set up, and operate large-scale sound systems in various venues. Pre-requisite: ENT 131.</p>						
ENT	235	Recording Engineering II	2	2	0	3
<p>This course continues the study of recording studio procedures learned in Sound Recording Engineering I. Topics include advanced digital recording, special effects, production techniques, engineer's record keeping, studio maintenance, and analysis of current commercial products for engineering techniques. Upon completion, students should be able to set up and run complex recording sessions and mix down commercially viable recordings. Pre-requisite: ENT 135.</p>						
ENT	237	Recording Engineering III	2	2	0	3
<p>This course continues the study of recording studio procedures learned in ENT 235. Topics include computer-assisted mixing, time code synchronization of various machines, album sequencing and editing, and commercial production. Upon completion, students should be able to conduct any type of recording session and demonstrate working procedures in a professional studio. Pre-requisites: ENT 235 and MUS 214.</p>						
ENT	241	Equipment Maintenance	2	2	0	3
<p>This course is designed to introduce basic concepts and techniques for maintaining and repairing sound and lighting equipment. Topics include basic maintenance, troubleshooting, soldering, wiring standards, calibration, and testing. Upon completion, students should be able to perform preventative maintenance and minor repairs on a wide variety of sound, lighting, and performance-related equipment.</p>						
ENT	251	Concert Lighting II	2	2	0	3
<p>This course is a continuation of Stage Lighting I and introduces more advanced concert lighting operations. Topics include advanced lighting concepts, lighting plot reading, followspot theory and operation, computerized control consoles, and large-scale mobile lighting systems. Upon completion, students should be able to construct complex lighting rigs from plots, operate followspots, and program/operate computerized control consoles. Pre-requisite: ENT 151.</p>						
ENT	252	Concert Lighting III	2	2	0	3
<p>This course is a continuation of Stage Lighting II and introduces the student to moving-light and large-scale concert lighting operations. Topics include an overview of moving-light instruments, their operation, and their programming, offering hands-on training on large-scale lighting rigs. Upon completion, students should be able to identify different moving-light instruments, operate and program moving-lights, and construct and operate large-scale lighting rigs. Pre-requisite: ENT 251.</p>						
ENT	260	Songwriting/Publishing	3	0	0	3
<p>This course provides instruction in writing commercial songs and in fundamentals of intellectual property and its value. Topics include song structures, lyric writing, melody writing, co-writing, demoing songs, performance rights organizations, and publishing. Upon completion, students should be able to write a song, identify the traits of good commercial songs, and describe different performing licenses. Pre-requisite: MUS 121.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

ENT 272	Live Performance	1	4	0	3
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This course provides the student with knowledge and experience in professional stage presence. Topics include general stage presence concepts, emcee skills, microphone usage, showmanship, and audience involvement, these skills being developed in actual performance settings. Upon completion, students should be able to perform on-stage to an audience in a professional and entertaining manner.

ENT 278	Artist Management	3	0	0	3
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This course covers the responsibilities and relationships with performers and managers, as well as third party business associates. Topics include managing independent and contracted artists, the manager's role in touring, personal appearances, concert performance/recording, arranging bookings, maintaining contacts, setting up and monitoring budgets. Upon completion, students should be able to locate, initiate, and then manage performer(s).

ENT 285	Capstone Project	2	2	0	3
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This course provides a capstone experience for the entertainment professional. Topics include planning, preparing, and developing a specific entertainment project, including selecting materials, setting up and monitoring budget, and overseeing a complete project. Upon completion, students should be able to create an entertainment project such as a compact disk, project portfolio, or a full concert performance. Pre-requisites: **ENT 131, ENT 135, and ENT 151**

Entrepreneurship (ETR)

ETR 270	Entrepreneurship Issues	3	0	0	3
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This course introduces current and emerging entrepreneurship issues and opportunities. Topics include franchising, import/export, small business taxes, legal structures, negotiations, contract management, and time management. Upon completion, students should be able to apply a variety of analytical and decision-making requirements to start a new business.

Emergency Preparedness (EPT)

EPT 120	Sociology of Disaster	3	0	0	3
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This course is designed to overview sociological disaster research, disaster systems, and alternative research approaches. Topics include human and organizational behaviors, long term disaster impact on communities, disaster warning, and evacuation considerations. Upon completion, students should be able to assess and predict the impact of disaster-related human behavior. Pre-requisites: (ENG 090 and RED 090) or ENG 095.

EPT 124	EM Services Law & Ethics	3	0	0	3
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This course covers federal and state laws that affect emergency service personnel in the event of a natural disaster or terrorist incident. Topics include initial response and long-term management strategies, with an emphasis on legal and ethical considerations and coordination between local, state, and federal agencies. Upon completion, students should have an understanding of the role of private industry, government agencies, public policies, and federal/state declarations of disasters in emergency situations. Pre-requisites: (ENG 090 and RED 090) or ENG 095.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

EPT 130 Mitigation & Preparedness 3 0 0 3

This course introduces the mitigation and preparation techniques and methods necessary to minimize the impact of natural, technological, and man-made disasters. Topics include hazard identification and mapping, design and construction applications, financial incentives, insurance, structural controls, preparation, planning, assessment, implementation, and exercises. Upon completion students should be able to develop a mitigation and preparedness plan. Pre-requisites: (ENG 090 and RED 090) or ENG 095.

EPT 150 EMS Incident Management 3 0 0 3

This course introduces the National Incident Management System (NIMS). Topics include integrating command and control systems, maintaining communication within command and control systems, and using NIMS procedures. Upon completion, students should be able to demonstrate knowledge of key concepts necessary for operating within the National Incident Management System. Pre-requisites: (ENG 090 and RED 090) or ENG 095.

EPT 210 Response & Recovery 3 0 0 3

This course introduces the basic concepts, operational procedures, and authorities involved in response and recovery efforts to major disasters. Topics include federal, state, and local roles and responsibilities in major disaster response and recovery work, with an emphasis on governmental coordination. Upon completion, students should be able to implement a disaster response plan and assess the needs of those involved in a major disaster. Pre-requisites: (ENG 090 and RED 090) or ENG 095.

EPT 220 Terrorism & Emergency Management 3 0 0 3

This course covers preparing for, responding to, and safely mitigating terrorism incidents. Topic include the history of terrorism, scene hazards, evidence preservation, risk assessment, roles and responsibilities, explosive recognition, and terrorism planning. Upon completion, students should be able to recognize the threat of terrorism and operate within the emergency management framework at a terrorism incident. Pre-requisites: (ENG 090 and RED 090) or ENG 095.

EPT 225 Haz Analysis/Risk Assessment 3 0 0 3

This course covers the probability and frequency of hazards, level of hazard exposure, and the effect or cost, both direct and indirect, of this exposure. Topics include identifying and characterizing hazards, evaluating hazard severity and frequency, estimating risks, and determining potential societal and economic effects. Upon completion, students should be able to identify the potential hazards and risks within a community. Pre-requisites: (ENG 090 and RED 090) or ENG 095.

EPT 230 Emergency Planning 3 0 0 3

This course covers the rationale for and methods related to a comprehensive approach to emergency planning. Topics include the emergency planning process, command arrangement, coordination, budgetary issues, environmental contamination issues, and public policy concerns. Upon completion, students should be able to develop an emergency plan for a community. Pre-requisites: (ENG 090 and RED 090) or ENG 095.

EPT 260 Business Continuity 3 0 0 3

This course covers emergency preparedness techniques necessary to maintain business continuity. Topics include critical processes, planning, risk assessment, impact analysis, mitigation strategies, response, recovery and resumption activities. Upon completion, students should be able to demonstrate a working knowledge of the partnership between business and emergency response. Pre-requisites: (ENG 090 and RED 090) or ENG 095.

EPT 275 Emergency OPS Center Management 3 0 0 3

This course provides students with the knowledge and skills to effectively manage and operate an EOC during crisis situations. Topics include properly locating and designing an EOC, staffing, training and briefing EOC personnel, and how to operate an EOC. Upon completion, students should be able to demonstrate how to set up and operate an effective emergency operations center. Pre-requisites: (ENG 090 and RED 090) or ENG 095.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

EPT 280 Building Resilient Communities 3 0 0 3

This course covers concepts needed to design and implement strategies in protecting communities from disasters, including decreasing community vulnerability and increasing community resiliency. Topics include disclosure of hazards, lifeline systems, evacuation planning, infrastructure location, analysis of building codes, public policy, natural environmental proactive systems, and educational programs. Upon completion, students should be able to develop a basic disaster-resilient community plan. Pre-requisites: (ENG 090 and RED 090) or ENG 095.

Fire Protection (FIP)

FIP 120 Introduction to Fire Protection 3 0 0 3

This course provides an overview of the history, development, methods, systems, and regulations as they apply to the fire protection field. Topics include history, evolution, statistics, suppression, organizations, careers, curriculum, and other related topics. Upon completion, students should be able to demonstrate a broad understanding of the fire protection field. Pre-requisites: (RED 090 and ENG 090) or ENG 095.

FIP 124 Fire Prevention and Public Education 3 0 0 3

This course introduces fire prevention concepts as they relate to community and industrial operations. Topics include the development and maintenance of fire prevention programs, educational programs, and inspection programs. Upon completion, students should be able to research, develop, and present a fire safety program to a citizens or industrial group, meeting NFPA 1021. Pre-requisite: FIP 120.

FIP 128 Detection and Investigation 3 0 0 3

This course covers procedures for determining the origin and cause of accidental and incendiary fires. Topics include collection and preservation of evidence, detection and determination of accelerants, courtroom procedure and testimony, and documentation of the fire scene. Upon completion, students should be able to conduct a competent fire investigation and present those findings to appropriate officials or equivalent, meeting NFPA 1021. Pre-requisite: FIP 120.

FIP 132 Building Construction 3 0 0 3

This course covers the principles and practices related to various types of building construction, including residential and commercial, as impacted by fire conditions. Topics include types of construction and related elements, fire resistive aspects of construction materials, building codes, collapse, and other related topics. Upon completion, students should be able to understand and recognize various types of construction as related to fire conditions MEETING NFPA 1021. Co-requisite: FIP 120.

FIP 136 Inspections and Codes 3 0 0 3

This course covers the fundamentals of fire and building codes and procedures to conduct an inspection. Topics include review of fire and building codes, writing inspection reports, identifying hazards, plan reviews, site sketches, and other related topics. Upon completion, students should be able to conduct a fire code compliance inspection and produce a written report, meeting NFPA 1021. Pre-requisite: FIP 120.

FIP 140 Industrial Fire Protection 3 0 0 3

This course covers fire protection systems in industrial facilities. Topics include applicable health and safety standards, insurance carrier regulations, other regulatory agencies, hazards of local industries, fire brigade operation, and loss prevention programs. Upon completion, students should be able to plan, organize, and evaluate an industrial facility's fire protection, which meet elements of NFPA 1021 for Fire Officer I and II. Pre-requisite: FIP 120.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
FIP	144	Sprinklers and Automatic Alarms	2	2	0	3
<p>This course introduces various types of automatic sprinklers, standpipes, and fire alarm systems. Topics include wet or dry systems, testing and maintenance, water supply requirements, fire detection and alarm systems, and other related topics. Upon completion, students should be able to demonstrate a working knowledge of various sprinkler and alarm systems and required inspection and maintenance. Pre-requisite: FIP 120.</p>						
FIP	148	Fixed and Portable Extinguishing Systems	2	2	0	3
<p>This course provides a study of various types of fixed and portable extinguishing systems, their operation, installation, and maintenance. Topics include applications, testing, and maintenance of Halon, carbon dioxide, dry chemical and special extinguishing agents in fixed and portable systems. Upon completion, students should be able to identify various types of fixed and portable systems, including their proper application and maintenance. Pre-requisite: FIP 120.</p>						
FIP	152	Fire Protection Law	3	0	0	3
<p>This course covers fire protection law. Topics include torts, legal terms, contracts, liability, review of case histories and other related topics. Upon completion, students should be able to discuss laws, codes and ordinances as they relate to fire protection. Pre-requisite: FIP 120.</p>						
FIP	156	Computers in Fire Service	1	2	0	2
<p>This course covers the use of computers by fire protection organizations. Topics include operating systems, networking concepts, fire incident reporting systems, and other software applications in fire protection. Upon completion, students should be able to demonstrate knowledge of computers and their applications to fire protection. Pre-requisite: (ENG 090 and RED 090) or ENG 095.</p>						
FIP	160	Fire Protection/Electrical	2	0	0	2
<p>This course covers the methods and means of electrical installations and uses as related to fire. Topics include basic electrical theories, wiring methods, electrical components and circuitry, and an introduction to the National Electrical Code. Upon completion, students should be able to demonstrate a basic knowledge of electricity, including its uses, characteristics, and hazards. Pre-requisite: FIP 120.</p>						
FIP	160A	Fire Protection/Electrical Lab	0	2	0	1
<p>This course provides practical applications to support FIP 160. Topics include switching devices, basic circuits, electrical distribution, and other related topics. Upon completion, students should be able to demonstrate knowledge of basic electrical equipment and hazards as related to fire protection. Co-requisite: FIP 160.</p>						
FIP	164	OSHA Standards	3	0	0	3
<p>This course covers public and private sector OSHA work site requirements. Emphasis is placed on accident prevention and reporting, personal safety, machine operation, and hazardous material handling. Upon completion, students should be able to analyze and interpret specific OSHA regulations and write workplace policies designed to achieve compliance. Pre-requisite: FIP 120.</p>						
FIP	176	HazMat: Operations	4	0	0	4
<p>This course is designed to increase first responder awareness of the type, nature, physiological effects of, and defensive techniques for mitigation of HazMat incidents. Topics include recognition, identification, regulations and standards, zoning, resource usage, defensive operations, and other related topics. Upon completion, students should be able to recognize and identify the presence of hazardous materials and use proper defensive techniques for incident mitigation. Pre-requisite: FIP 120.</p>						
FIP	180	Wildland Fire Behavior	3	0	0	3
<p>This course covers the principles of wildland fire behavior and meteorology. Emphasis is placed on fire calculations, fuels, and related weather effects. Upon completion, students should be able to demonstrate and apply fire behavior theories through written and performance evaluations. Pre-requisite: FIP 120.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

FIP 220 Fire Fighting Strategies 3 0 0 3

This course provides preparation for command of initial incident operations involving emergencies within both the public and private sector. Topics include incident management, fire-ground tactics and strategies, incident safety, and command/control of emergency operations. Upon completion, students should be able to describe the initial incident system related to operations involving various emergencies in fire/non-fire situations, meeting NFPA 1021. Pre-requisite: FIP 120.

FIP 221 Advanced Fire Fighting Strategies 3 0 0 3

This course covers command-level operations for multi-company/agency operations involving fire and non-fire emergencies. Topics include advanced ICS, advanced incident analysis, command-level fire operations, and control of both man made and natural major disasters. Upon completion, students should be able to describe proper and accepted systems for the mitigation of emergencies at the level of overall scene command. Pre-requisite: **FIP 220**.

FIP 224 Instructional Methodology 4 0 0 4

This course covers the knowledge, skills, and abilities needed to train others in fire service operations. Topics include planning, presenting, and evaluating lesson plans, learning styles, use of media, communication, and other related topics. Upon completion, students should be able to meet all requirements of NFPA 1041 and NFPA 1021. Pre-requisite: FIP 120.

FIP 228 Local Government Finance 3 0 0 3

This course introduces local governmental financial principles and practices. Topics include budget preparation and justification, revenue policies, statutory requirements, taxation, audits, and the economic climate. Upon completion, students should be able to comprehend the importance of finance as it applies to the operation of a department. Pre-requisite: FIP 120.

FIP 229 Fire Dynamics and Combustion 3 0 0 3

This course covers the theories and fundamentals of how and why fires start and spread, and how they are safely controlled. Topics include components of fire, fire sources, fire behavior, properties of combustible solids, classification of hazards, and the use of fire extinguishing agents. Upon completion, students should be able to describe the properties of matter and dynamics of fire, identify fuel sources, and compare suppressants and extinguishment techniques. Pre-requisite: FIP 120.

FIP 230 Chemistry of Hazardous Materials I 5 0 0 5

This course covers the evaluation of hazardous materials. Topics include use of the periodic table, hydrocarbon derivatives, placards and labels, parameters of combustion, and spill and leak mitigation. Upon completion, students should be able to demonstrate knowledge of the chemical behavior of hazardous materials. Pre-requisite: FIP 120.

FIP 231 Chem of Hazardous Mat II 4 2 0 5

This course covers hazardous materials characterization, properties, location, handling and response guidelines, hazard survey principles, and other related topics. Topics include radiation hazards, instruments, inspections, and detection of the presence of hazardous materials in industrial/commercial occupancies. Upon completion, students should be able to inspect chemical/radioactive sites and use on-site visits to gasoline and/or LPG storage facilities/chemical plants to develop a pre-plan. Pre-requisite: **FIP 230**.

FIP 232 Hydraulics and Water Distribution 2 2 0 3

This course covers the flow of fluids through fire hoses, nozzles, appliances, pumps, standpipes, water mains, and other devices. Emphasis is placed on supply and delivery systems, fire flow testing, hydraulic calculations, and other related topics. Upon completion, students should be able to perform hydraulic calculations, conduct water availability tests, and demonstrate knowledge of water distribution systems. Pre-requisites: FIP 120 **and** MAT 115, MAT 120, MAT 121, MAT 140, MAT 151, MAT 161, MAT 171, or MAT 175.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
FIP	236	Emergency Management	3	0	0	3
<p>This course covers the four phases of emergency management: mitigation, preparedness, response, and recovery. Topics include organizing for emergency management, coordinating for community resources, public sector liability, and the roles of government agencies at all levels. Upon completion, students should be able to demonstrate an understanding of comprehensive emergency management and the integrated emergency management system. Pre-requisite: ENG 090 and RED 090) or ENG 095.</p>						
FIP	240	Fire Service Supervision	3	0	0	3
<p>This course covers supervisory skills and practices in the fire protection field. Topics include the supervisor's job, supervision skills, the changing work environment, managing change, organizing for results, discipline and grievances and loss control. Upon completion, students should be able to demonstrate an understanding of the roles and responsibilities of the effective fire service supervisor, and meet elements of NFPA 1021 for Fire Officer I and II. Pre-requisite: FIP 120.</p>						
FIP	244	Fire Protection Project	3	0	0	3
<p>This course provides an opportunity to apply knowledge covered in previous courses to employment situations that the fire protection professional will encounter. Emphasis is placed on the development of comprehensive and professional practices. Upon completion, students should be able to demonstrate knowledge of the fire protection service through written and performance evaluations. Pre-requisite: FIP 120.</p>						
FIP	248	Fire Svc Personnel Adm	3	0	0	3
<p>This course covers the basics of setting up and administering the personnel functions of fire protection organizations. Emphasis is placed on human resource planning, classification and job analysis, equal opportunity employment, affirmative action, recruitment, retention, development, performance evaluation, and assessment centers. Upon completion, students should be able to demonstrate knowledge of the personnel function as it relates to managing fire protection. Pre-requisite: FIP 120.</p>						
FIP	252	Apparatus Spec & Purch	3	0	0	3
<p>This course covers the specification and purchase of fire apparatus. Emphasis is placed on NFPA standards for apparatus, recommended types of fire apparatus, purchase and bidding procedures, and the importance of specifications. Upon completion, students should be able to make internal decisions, write specifications, and make recommendations for the purchase of major capital equipment. Pre-requisite: FIP 120.</p>						
FIP	256	Municipal Public Relations	3	0	0	3
<p>This course is a general survey of municipal public relations and their effect on the governmental process. Topics include principles of public relations, press releases, press conferences, public information officers, image surveys, and the effects of perceived service on fire protection delivery. Upon completion, students should be able to manage the public relations functions of a fire service organization, meeting NFPA 1021. Pre-requisite: FIP 120.</p>						
FIP	276	Managing Fire Services	3	0	0	3
<p>This course provides an overview of fire department operative services. Topics include finance, staffing, equipment, code enforcement, management information, specialized services, legal issues, planning, and other related topics. Upon completion, students should be able to understand concepts and apply fire department management and operations principles, meeting NFPA 1021. Pre-requisite: FIP 120.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

French (FRE)

FRE 111	Elementary French I	3	0	0	3
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This course introduces the fundamental elements of the French language within a cultural context. Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written French and demonstrate cultural awareness. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: RED 090 or ENG 095.

FRE 112	Elementary French II	3	0	0	3
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This course is a continuation of FRE 111 focusing on the fundamental elements of the French language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written French and demonstrate further cultural awareness. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: **C or better in FRE 111.**

FRE 161	Cultural Immersion	2	3	0	3
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This course explores Francophone culture through intensive study on campus and field experience in a host country or area. Topics include an overview of linguistic, historical, geographical, sociopolitical, economic, and/or artistic concerns of the area visited. Upon completion, students should be able to exhibit first-hand knowledge of issues pertinent to the host area and demonstrate an understanding of cultural differences. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: **C or better in FRE 111.**

FRE 211	Intermediate French I	3	0	0	3
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This course provides a review and expansion of the essential skills of the French language. Emphasis is placed on the study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate effectively, accurately, and creatively about the past, present, and future. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: **C or better in FRE 112.**

FRE 212	Intermediate French II	3	0	0	3
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This course is a continuation of FRE 211. Emphasis is placed on the continuing study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: **C or better in FRE 211.**

Geology (GEL)

GEL 111	Introductory Geology	3	2	0	4
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This course introduces basic landforms and geological processes. Topics include rocks, minerals, volcanoes, fluvial processes, geological history, plate tectonics, glaciers, and coastal dynamics. Upon completion, students should be able to describe basic geological processes that shape the earth. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Geography (GEO)

GEO 111 World Regional Geography 3 0 0 3

This course introduces the regional concept which emphasizes the spatial association of people and their environment. Emphasis is placed on the physical, cultural, and economic systems that interact to produce the distinct regions of the earth. Upon completion, students should be able to describe variations in physical and cultural features of a region and demonstrate an understanding of their functional relationships. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: RED 090 or ENG 095.

GEO 112 Cultural Geography 3 0 0 3

This course is designed to explore the diversity of human cultures and to describe their shared characteristics. Emphasis is placed on the characteristics, distribution, and complexity of earth's cultural patterns. Upon completion, students should be able to demonstrate an understanding of the differences and similarities in human cultural groups. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: RED 090 or ENG 095.

Geographic Information Systems (GIS)

GIS 110 Survey of GIS/GPS 1 0 0 1

This course introduces the methods and techniques used in the Geographic Information System (GIS) and Global Positioning Systems (GPS) profession. Emphasis is placed on problem solution sequences and advisement, counseling, and technical methodology, including technical computer usage and technical graphics. Upon completion, students should be able to identify major fields using GIS/GPS technologies and apply their methodologies toward problem resolution.

Graphic Arts (GRA)

GRA 151 Computer Graphics I 1 3 0 2

This course introduces the use of hardware and software for production and design in graphic arts. Topics include graphical user interface and current industry uses such as design, layout, typography, illustration, and imaging for production. Upon completion, students should be able to understand and use the computer as a fundamental design and production tool.

GRA 152 Computer Graphics II 1 3 0 2

This course covers advanced design and layout concepts utilizing illustration, page layout, and imaging software in graphic arts. Emphasis is placed on enhancing and developing the skills that were introduced in GRA 151. Upon completion, students should be able to select and utilize appropriate software for design and layout solutions. Pre-requisite: C or better in **GRA 151**.

GRA 153 Computer Graphics III 1 3 0 2

This course is a continuation of GRA 152. Emphasis is placed on advanced computer graphics hardware and software applications. Upon completion, students should be able to demonstrate competence in selection and utilization of appropriate software for specialized applications. Pre-requisite: C or better in **GRA 152**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

GRA 154	Computer Graphics IV	1	3	0	2
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This course is a continuation of GRA 153. Emphasis is placed on advanced techniques using a variety of hardware and software applications to produce complex projects. Upon completion, students should be able to use electronic document production tools. Pre-requisite: C or better in **GRA 153**.

GRA 161	Computer Graphics Applications I	0	3	0	1
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This course is designed to provide additional hands-on training using computer software and hardware for production and design in graphic arts. Emphasis is placed on utilizing various computer software and hardware to produce simple graphic arts projects. Upon completion, students should be able to use the computer as a graphic arts production tool. Pre-requisite: C or better in **GRA 151**.

GRA 162	Computer Graphics Applications II	0	3	0	1
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This course is designed to provide additional hands-on training using computer software and hardware for production and design in graphic arts. Emphasis is placed on utilizing various computer software and hardware to produce intermediate graphic arts projects. Upon completion, students should be able to effectively use the computer as a graphic arts production tool. Co-requisite: GRA 152.

GRA 163	Computer Graphics Applications III	0	3	0	1
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This course is designed to provide additional hands-on training using computer software and hardware for production and design in graphic arts. Emphasis is placed on utilizing various computer software and hardware to produce advanced graphic arts projects. Upon completion, students should be able to effectively use the computer as a graphic arts production tool. Co-requisite: GRA 153.

Graphic Design (GRD)

GRD 110	Typography I	2	2	0	3
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This course introduces the history and mechanics of type and its application to layout and design. Topics include typographic fundamentals, anatomy, measurements, composition, identification, and terminology. Upon completion, students should be able to demonstrate proficiency in design application, analysis, specification, and creation of typographic elements.

GRD 111	Typography II	2	2	0	3
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This course is a continuation of GRD 110. Emphasis is placed on solving challenging typographic problems. Upon completion, students should be able to understand and demonstrate advanced typographic applications.

Pre-requisites: C or better in **GRD 110**.

GRD 131	Illustration I	1	3	0	2
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This course introduces the application of rendering techniques to create illustrations. Emphasis is placed on controlling various media, methods, surfaces, design problems, and the appropriate media selection process. Upon completion, students should be able to produce quality illustrations from conception through finished artwork. Pre-requisites: C or better in **ART 131, DES 125 or GRD 121**.

GRD 141	Graphic Design I	2	4	0	4
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This course introduces the conceptualization process used in visual problem solving. Emphasis is placed on learning the principles of design and on the manipulation and organization of elements. Upon completion, students should be able to apply design principles and visual elements to projects. Co-requisites: GRA 151 and GRA 161.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
GRD	142	Graphic Design II	2	4	0	4
<p>This course covers the application of visual elements and design principles in advertising and graphic design. Topics include creation of various designs, such as logos, advertisements, posters, outdoor advertising, and publication design. Upon completion, students should be able to effectively apply design principles and visual elements to projects. Pre-requisite: C or better in ART 121, DES 135 or GRD 141. Co-requisites: GRD 146 and GRD 152.</p>						
GRD	146	Design Applications II	0	3	0	1
<p>This course is designed to provide additional hands-on training in graphic design. Emphasis is placed on producing comprehensive projects utilizing concepts and technologies covered in GRD 141. Upon completion, students should be able to provide solutions to design problems. Pre-requisite: C or better in GRD 141. Co-requisite: GRD 142</p>						
GRD	160	Photo Fundamentals I	1	4	0	3
<p>This course introduces basic camera operations, roll film processing, and photographic print production. Topics include contrast, depth-of-field, subject composition, enlarger operation, and density control. Upon completion, students should be able to produce photographic prints with acceptable density values and quality. This course is limited to digital camera operations.</p>						
GRD	161	Photo Fundamentals II	1	4	0	3
<p>This course is a continuation of GRD 160. Topics include conversions, toning, color, specialized equipment, lighting, processing, and other methods and materials. Upon completion, students should be able to demonstrate proficiency in producing photographic prints. This course is limited to digital camera operations.</p>						
GRD	162	Photography Portfolio	1	4	0	3
<p>This course provides an opportunity to develop a portfolio through research and review of previous photographic works. Topics include visual communication skills and presentation of works. Upon completion, students should be able to prepare and present a portfolio of their photographic works. Pre-requisite: C or better in GRD 161.</p>						
GRD	233	Product Illustration	1	3	0	2
<p>This course covers the rendering and illustration of products for commercial purposes. Topics include viewpoint, styles, media, and subjects such as household, industrial, hardware, and sporting goods. Upon completion, students should be able to illustrate products using traditional line, continuous-tone, and digital media. Pre-requisites: C or better in GRD 131 or GRD 230 and GRD 152 or GRA 152.</p>						
GRD	241	Graphic Design III	2	4	0	4
<p>This course is an advanced exploration of various techniques and media for advertising and graphic design. Emphasis is placed on advanced concepts and solutions to complex and challenging graphic design problems. Upon completion, students should be able to demonstrate competence and professionalism in visual problem solving. Pre-requisite: C or better in DES 136 or GRD 142.</p>						
GRD	242	Graphic Design IV	2	4	0	4
<p>This course is a continuation of GRD 241. Emphasis is placed on using advanced media techniques, concepts, strategies, and professionalism in all aspects of design. Upon completion, students should be able to conceptualize, create, and produce designs for reproduction. Pre-requisite: C or better in GRD 241.</p>						
GRD	243	Graphic Design V	2	4	0	4
<p>This course covers artist/client relationships in advanced design processes. Emphasis is placed on analyzing the limitations and potential of communication media and strategies. Upon completion, students should be able to show mastery of media in producing designs to client specifications. Pre-requisite: C or better in GRD 242.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

GRD 246 Design Applications III 0 3 0 1

This course is designed to provide additional hands-on training in graphic design. Emphasis is placed on producing complex design projects utilizing concepts and technologies taught in GRD 241. Upon completion, students should be able to produce complex design projects for reproduction. Co- requisite: GRD 241.

GRD 247 Design Applications IV 0 3 0 1

This course is designed to provide additional hands-on training in graphic design. Emphasis is placed on producing sophisticated design projects utilizing concepts and techniques covered in GRD 242. Upon completion, students should be able to solve complex design problems by producing projects to meet client specifications for reproduction. Co-requisite: **GRD 242**.

GRD 271 Multimedia Design I 1 3 0 2

This course introduces the fundamentals of multimedia design and production for computer-related presentations. Topics include interface design, typography, storyboarding, scripting, simple animation, graphics, digital audio/video, and copyright issues. Upon completion, students should be able to design and produce multimedia presentations. Pre-requisite: C or better in **GRD 151 or GRA 151**. Co-requisites: GRA 153 and GRA 163.

GRD 272 Multimedia Design II 1 3 0 2

This course is a continuation of GRD 271. Emphasis is placed on advanced animation, specialized software, quality control, and cross-platform delivery, as well as problems associated with delivery media and interactivity. Upon completion, students should be able to produce multimedia presentations and determine and adapt to technical specifications for delivery. Pre-requisite: C or better in **GRD 271**.

GRD 280 Portfolio Design 2 4 0 4

This course covers the organization and presentation of a design/advertising or graphic art portfolio and appropriate related materials. Emphasis is placed on development and evaluation of the portfolio, design and production of a resume and self-promotional materials, and interview techniques. Upon completion, students should be able to prepare and professionally present an effective portfolio and related self-promotional materials. Pre-requisites: C or better in **GRD 142 and GRD 152 or GRA 152**.

GRD 285 Client/Media Relations 1 2 0 2

This course introduces media pricing, scheduling, and business ethics. Emphasis is placed on communication with clients and determination of clients' advertising needs. Upon completion, students should be able to use professional communication skills to effectively orchestrate client/media relationships. Pre-requisites: **GRD 142 and GRA 121 or GRA 152 or GRD 152**.

Gerontology (GRO)

GRO 120 Gerontology 3 0 0 3

This course covers the psychological, social, and physical aspects of aging. Emphasis is placed on the factors that promote mental and physical well-being. Upon completion, students should be able to recognize the aging process and its psychological, social, and physical aspects. Pre-requisite: HSE 110 and PSY 150.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Health (HEA)

HEA 110 Personal Health/Wellness 3 0 0 3

This course provides an introduction to basic personal health and wellness. Emphasis is placed on current health issues such as nutrition, mental health, and fitness. Upon completion, students should be able to demonstrate an understanding of the factors necessary to the maintenance of health and wellness. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: RED 090 or ENG 095.

HEA 112 First Aid & CPR 1 2 0 2

This course introduces the basics of emergency first aid treatment. Topics include rescue breathing, CPR, first aid for choking and bleeding, and other first aid procedures. Upon completion, students should be able to demonstrate skills in providing emergency care for the sick and injured until medical help can be obtained. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

HEA 120 Community Health 3 0 0 3

This course provides information about contemporary community health and school hygiene issues. Topics include health education and current information about health trends. Upon completion, students should be able to recognize and devise strategies to prevent today's community health problems. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: RED 090 or ENG 095.

Heavy Equipment

HET 110 Diesel Engines 3 9 0 6

This course introduces theory, design, terminology, and operating adjustments for diesel engines. Emphasis is placed on safety, theory of operation, inspection, measuring, and rebuilding diesel engines according to factory specifications. Upon completion, students should be able to measure, diagnose problems, and repair diesel engines.

HET 112 Diesel Electrical Systems 3 6 0 5

This course introduces electrical theory and applications as they relate to diesel powered equipment. Topics include lighting, accessories, safety, starting, charging, instrumentation, and gauges. Upon completion, students should be able to follow schematics to identify, repair, and test electrical circuits and components.

HET 115 Electronic Engines 2 3 0 3

This course introduces the principles of electronically controlled diesel engines. Emphasis is placed on testing and adjusting diesel engines in accordance with manufacturer specifications. Upon completion, students should be able to diagnose, test, and calibrate electronically controlled diesel engines.

HET 116 Air Conduit/Diesel Equipment 1 2 0 2

This course provides a study of the design, theory, and operation of heating and air conditioning systems in newer models of medium and heavy duty vehicles. Topics include component function, refrigerant recovery, and environmental regulations. Upon completion, students should be able to use proper techniques and equipment to diagnose and repair heating/air-conditioning systems according to industry standards.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
HET	119	Mechanical Transmissions	2	2	0	3
<p>This course introduces the operating principles of mechanical medium and heavy duty truck transmissions. Topics include multiple counter shafts, power takeoffs, sliding idler clutches, and friction clutches. Upon completion, students should be able to diagnose, inspect, and repair mechanical transmissions.</p>						
HET	125	Preventive Maintenance	1	3	0	2
<p>This course introduces preventive maintenance practices used on medium and heavy duty vehicles and rolling assemblies. Topics include preventive maintenance schedules, services, DOT rules and regulations, and road ability. Upon completion, students should be able to set up and follow a preventive maintenance schedule as directed by manufacturers.</p>						
HET	126	Prevent Maintenance Lab	0	3	0	1
<p>This course provides a laboratory setting to enhance preventive maintenance practices used on medium and heavy duty vehicles and rolling assemblies. Emphasis is placed on practical experiences that enhance the topics presented in HET 125. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in HET 125. Co-requisite: HET 125.</p>						
HET	127	Shop Rules and Regulations	1	0	0	1
<p>This course introduces safety, OSHA, and EPA general requirements used in the mobile equipment industry. Topics include fire extinguisher use, MSDS sheets, oil contamination, protective gear, and other related topics. Upon completion, students should be able to properly use fire extinguishers and demonstrate knowledge of applicable general safety, OSHA, and EPA regulations.</p>						
HET	128	Medium/Heavy Duty Tune Up	1	2	0	2
<p>This course introduces tune-up and troubleshooting according to manufacturers' specifications. Topics include troubleshooting engine systems, tune-up procedures, and use and care of special test tools and equipment. Upon completion, students should be able to troubleshoot, diagnose, and repair engines and components using appropriate diagnostic equipment.</p>						
HET	134	Mechanical Fuel Injection	2	2	0	3
<p>This course introduces the principles of mechanical fuel injection. Emphasis is placed on test equipment, component functions, and theory. Upon completion, students should be able to diagnose, service, and repair fuel systems and governors.</p>						
HET	231	Med/Heavy Duty Brake System	1	3	0	2
<p>This course covers the theory and repair of braking systems used in medium and heavy duty vehicles. Topics include air, hydraulic, and ABS system diagnosis and repair. Upon completion, students should be able to troubleshoot, adjust, and repair braking systems on medium and heavy duty vehicles.</p>						
HET	232	Med/Heavy Duty Brake System Lab	0	3	0	1
<p>This course provides a laboratory setting to enhance the skills for troubleshooting, adjusting, and repairing brake systems on medium and heavy duty vehicles. Emphasis is placed on practical experiences that enhance the topics presented in HET 231. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in HET 231. Co-requisite: HET 231.</p>						
HET	233	Suspension and Steering	2	4	0	4
<p>This course introduces the theory and principles of medium and heavy duty steering and suspension systems. Topics include wheel and tire problems, frame members, fifth wheel, bearings, and coupling systems. Upon completion, students should be able to troubleshoot, adjust, and repair suspension and steering components on medium and heavy duty vehicles.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

History (HIS)

HIS	111	World Civilizations I	3	0	0	3
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This course introduces world history from the dawn of civilization to the early modern era. Topics include Eurasia, African, American, and Greco-Roman civilizations and Christian, Islamic, and Byzantine cultures. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in pre-modern world civilizations. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: RED 090 or ENG 095.

HIS	112	World Civilization II	3	0	0	3
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This course introduces world history from the early modern era to the present. Topics include the cultures of Africa, Europe, India, China, Japan, and the Americas. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in modern world civilizations. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: RED 090 or ENG 095.

HIS	121	Western Civilization I	3	0	0	3
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This course introduces western civilization from pre-history to the early modern era. Topics include ancient Greece, Rome, and Christian institutions of the Middle Ages and the emergence of national monarchies in western Europe. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in early western civilization. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: RED 090 or ENG 095.

HIS	122	Western Civilization II	3	0	0	3
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This course introduces western civilization from the early modern era to the present. Topics include the religious wars, the Industrial Revolution, World Wars I and II, and the Cold War. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in modern western civilization. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: RED 090 or ENG 095.

HIS	131	American History I	3	0	0	3
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This course is a survey of American history from pre-history through the Civil War era. Topics include the migrations to the Americas, the colonial and revolutionary periods, the development of the Republic, and the Civil War. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in early American history. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: RED 090 or ENG 095.

HIS	132	American History II	3	0	0	3
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This course is a survey of American history from the Civil War era to the present. Topics include industrialization, immigration, the Great Depression, the major American wars, the Cold War, and social conflict. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in American history since the Civil War. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: RED 090 or ENG 095.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

HIS 227 Native American History 3 0 0 3

This course surveys the history and cultures of Native Americans from pre-history to the present. Topics include Native American civilizations, relations with Europeans, and the continuing evolution of Native American cultures. Upon completion, students should be able to analyze significant political, socioeconomic and cultural developments among Native Americans. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.* Pre-requisite: RED 090 or ENG 095.

HIS 236 North Carolina History 3 0 0 3

This course is a study of geographical, political, economic, and social conditions existing in North Carolina from America's discovery to the present. Topics include native and immigrant backgrounds; colonial, antebellum, and Reconstruction periods; party politics; race relations; and the transition from an agrarian to an industrial economy. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in North Carolina. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.* Pre-requisite: RED 090 or ENG 095.

Healthcare Management (HMT)

HMT 110 Intro to Healthcare Management 3 0 0 3

This course introduces the functions, practices, organizational structures, and professional issues in healthcare management. Emphasis is placed on planning, controlling, directing, and communicating within health and human services organizations. Upon completion, students should be able to apply the concepts of management within a healthcare service environment.

HMT 210 Medical Insurance 3 0 0 3

This course introduces the concepts of medical insurance. Topics include types and characteristics of third-party payers, coding concepts, payment systems, and manual/electronic claims form preparation. Upon completion, students should be able to process third-party claims forms. Pre-requisites: **MED 122 or OST 142.**

HMT 211 Long-Term Care Administration 3 0 0 3

This course introduces the administration of long-term care facilities and services. Emphasis is placed on nursing home care, home health care, hospice, skilled nursing facilities, and other long-term care services. Upon completion, students should be able to administer state and national standards and regulations as they apply to long-term care. Pre-requisite: **HMT 110.**

HMT 212 Mgmt of Healthcare Organizations 3 0 0 3

This course examines current issues affecting the management of healthcare delivery systems. Topics include current problems, changes, and challenges in the healthcare environment. Upon completion, students should be able to identify current health care issues and their impact on healthcare management. Pre-requisite: **HMT 110.**

HMT 220 Healthcare Financial Management 4 0 0 4

This course covers the methods and techniques utilized in the financial management of healthcare programs. Topics include cost determination, pricing of services, financial statement analysis, forecasting/projections, third-party billing, reimbursement, Medicare, Medicaid, and budgeting. Upon completion, students should be able to interpret and apply the principles of financial management in a healthcare environment. Pre-requisites: **ACC 121, HMT 110.**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

HMT 225 Practice Management Simulation 2 2 0 3

This course introduces medical systems used to process and analyze information in the automated office. Emphasis is placed on daily processing of patient services, management reporting used to monitor productivity and interactive database reporting and analysis. Upon completion, students should be able to process daily services, generate and interpret management reports and utilize key indicators for monitoring practice productivity. Pre-requisites: **HMT 210**. Co-requisite: **HMT 220**.

Horticulture (HOR)

HOR 114 Landscape Construction 2 2 0 3

This course introduces the design and fabrication of landscape structures/features. Emphasis is placed on safety, tool identification and use, material selection, construction techniques, and fabrication. Upon completion, students should be able to design and construct common landscape structures/features.

HOR 118 Equipment Op & Maintenance 1 3 0 2

This course covers the proper operation and maintenance of selected equipment used in horticulture. Emphasis is placed on the maintenance, minor repairs, safety devices, and actual operation of selected equipment. Upon completion, students should be able to design a maintenance schedule, service equipment, and demonstrate safe operation of selected equipment.

HOR 160 Plant Materials I 2 2 0 3

This course covers identification, culture, characteristics, and use of plants. Emphasis is placed on nomenclature, identification, growth requirements, cultural requirements, soil preferences, and landscape applications. Upon completion, students should be able to demonstrate knowledge of the proper selection and utilization of plant materials.

HOR 166 Soils & Fertilizers 2 2 0 3

This course covers the physical and chemical properties of soils and soil fertility and management. Topics include soil formation, classification, physical and chemical properties, testing, fertilizer application, and other amendments. Upon completion, students should be able to analyze, evaluate, and properly amend soils/media.

HOR 257 Arboriculture Practices 1 3 0 2

This course covers the culture and maintenance of trees and shrubs. Topics include fertilization, pruning, approved climbing techniques, pest control, and equipment use and safety. Upon completion, students should be able to properly prune trees and shrubs and perform arboricultural practices. Pre-requisites: **HOR 160 or LSG 111**.

HOR 260 Plant Materials II 2 2 0 3

This course covers important landscape plants. Emphasis is placed on identification, plant nomenclature, growth characteristics, culture requirements, and landscape uses. Upon completion, students should be able to demonstrate knowledge of the proper selection and utilization of plant materials.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Hotel and Restaurant Management (HRM)

HRM 110 Introduction to Hospitality 2 0 0 2

This course covers the growth and progress of the hospitality industry. Topics include financing, hotels, restaurants, and clubs. Upon completion, students should be able to demonstrate an understanding of the background, context, and career opportunities that exist in the hospitality industry. Pre-requisites: (RED 090 and ENG 090) or ENG 095.

HRM 120 Front Office Procedures 3 0 0 3

This course provides a systematic approach to hotel front office procedures. Topics include reservations, registration, guest satisfaction, occupancy and rate management, security, interdepartmental communications, and related guest services. Upon completion, students should be able to demonstrate a basic understanding of current front office operating systems, including efficient and courteous guest services. Co-requisite: HRM 120A.

HRM 120A Front Office Procedures Lab 0 2 0 1

This course is laboratory to accompany HRM 120. Emphasis is placed on practical computer applications of theory covered in HRM 120. Upon completion, students should be able to demonstrate a basic proficiency in computer-based, front office applications. Co-requisite: **HRM 120**.

HRM 135 Facilities Management 2 0 0 2

This course introduces the basic elements of planning and designing hospitality facilities, including their maintenance and upkeep. Topics include equipment and plant preventive maintenance, engineering, interior design, space utilization, remodeling and expansion, and traffic and work flow patterns. Upon completion, students should be able to demonstrate an understanding of the planning, design, and maintenance of hospitality physical plants and equipment.

HRM 140 Hospitality Tourism Law 3 0 0 3

This course covers the rights and responsibilities that the law grants to or imposes upon the hospitality industry. Topics include federal and state regulations, historical and current practices, safety and security, risk management, loss prevention, torts, and contracts. Upon completion, students should be able to demonstrate an understanding of the legal system to prevent or minimize organizational liability.

HRM 145 Hospitality Supervision 3 0 0 3

This course covers principles of supervision as they apply to the hospitality industry. Topics include recruitment, selection, orientation, training, evaluation, and leadership skills. Upon completion, students should be able to understand and apply basic supervisory skills unique to the hospitality and service industry.

HRM 210 Meetings and Conventions 3 0 0 3

This course introduces organization, arrangement, and operation of conventions, trade shows, professional meetings, and food functions. Emphasis is placed on the methods of marketing, selling, and servicing conventions and trade shows and the division of administrative responsibilities in their operation. Upon completion, students should be able to describe and apply the principles of management to multi-function, multi-day conferences and events.

HRM 215 Restaurant Management 3 0 0 3

This course provides an overview of the various challenges and responsibilities encountered in managing a food and beverage operation. Topics include planning, administration, organization, accounting, marketing, and human resources from an integrated managerial viewpoint. Upon completion, students should be able to demonstrate an understanding of the operation of a restaurant. Pre-requisites: CUL 135 and CUL 135A. Co-requisite: HRM 215A.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

HRM 215A Restaurant Management Lab 0 2 0 1

This course is a laboratory to accompany HRM 215. Emphasis is placed on practical applications of restaurant management principles. Upon completion, students should be able to demonstrate a basic proficiency in restaurant management applications. Pre-requisites: CUL 135 and CUL 135A. Co-requisite: **HRM 215**.

HRM 220 Food and Beverage Controls 3 0 0 3

This course introduces controls and accounting procedures as applied to costs in the hospitality industry. Topics include analysis of financial statements, reports and costs. Upon completion, students should be able to understand and apply food, beverage, and labor cost control systems for operational troubleshooting and problem solving. Pre-requisite: MAT 110 or MAT 115. Co-requisite: HRM 220A.

HRM 220A Food and Beverage Control Lab 0 2 0 1

This course is a laboratory to accompany HRM 220. Emphasis is placed on practical computer applications of food and beverage control procedures. Upon completion, students should be able to demonstrate proficiency in computer-based control applications. Pre-requisite: MAT 110 or MAT 115. Co-requisite: **HRM 220**.

HRM 225 Beverage Management 2 0 0 2

This course introduces the management of beverage operations in a hospitality operation. Topics include history, service, procurement, storage, and control of wines, fermented and distilled beverages, sparkling waters, coffees, and teas. Upon completion, students should be able to demonstrate knowledge of the beverages consumed in a hospitality operation.

HRM 230 Club and Resort Management 2 0 0 2

This course introduces specific principles of managing a hospitality operation in a resort or club setting. Topics include resort and club marketing, recreational and sport activity management, and retail management. Upon completion, students should be able to demonstrate an understanding of the specialized skills involved in resort and club management.

HRM 240 Hospitality Marketing 3 0 0 3

This course covers planning, organizing, directing, and analyzing the results of marketing programs in the hospitality industry. Emphasis is placed on market segmentation and analysis, product and image development, sales planning, advertising, public relations, and collateral materials. Upon completion, students should be able to prepare a marketing plan applicable to the hospitality industry.

HRM 280 Hospitality Management Problems 3 0 0 3

This course addresses timely issues in the hospitality industry and is intended to move students into managerial thinking. Emphasis is placed on problem-solving skills using currently available resources. Upon completion, students should be able to apply hospitality management principles to real challenges facing industry managers. Pre-requisite: **HRM 110**.

Human Services (HSE)

HSE 110 Introduction to Human Services 2 2 0 3

This course introduces the human services field, including the history, agencies, roles, and careers. Topics include personal/professional characteristics, diverse populations, community resources, disciplines in the field, systems, ethical standards, and major theoretical and treatment approaches. Upon completion, students should be able to identify the knowledge, skills, and roles of the human services worker. Pre-requisites: (ENG 090 and RED 090) or ENG 095.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

HSE 112	Group Process I	1	2	0	2
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This course introduces interpersonal concepts and group dynamics. Emphasis is placed on self-awareness facilitated by experiential learning in small groups with analysis of personal experiences and the behavior of others. Upon completion, students should be able to show competence in identifying and explaining how people are influenced by their interactions in group settings. Pre-requisites: HSE 110 and PSY 150.

HSE 123	Interviewing Techniques	2	2	0	3
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This course covers the purpose, structure, focus, and techniques employed in effective interviewing. Emphasis is placed on observing, attending, listening, responding, recording, and summarizing of personal histories with instructor supervision. Upon completion, students should be able to perform the basic interviewing skills needed to function in the helping relationship. Pre-requisites: HSE 110 and PSY 150.

HSE 125	Counseling	2	2	0	3
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This course covers the major approaches to psychotherapy and counseling, including theory, characteristics, and techniques. Emphasis is placed on facilitation of self-exploration, problem solving, decision making, and personal growth. Upon completion, students should be able to understand various theories of counseling and demonstrate counseling techniques. Pre-requisites: HSE 110 and PSY 150.

HSE 210	Human Services Issues	2	0	0	2
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This course covers current issues and trends in the field of human services. Emphasis is placed on contemporary topics with relevance to special issues in a multi-faceted field. Upon completion, students should be able to integrate the knowledge, skills, and experiences gained in classroom and clinical experiences with emerging trends in the field. Pre-requisite: HSE 110.

HSE 220	Case Management	2	2	0	3
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This course covers the variety of tasks associated with professional case management. Topics include treatment planning, needs assessment, referral procedures, and follow-up and integration of services. Upon completion, students should be able to effectively manage the care of the whole person from initial contact through termination of services. Pre-requisite: **HSE 110**.

HSE 225	Crisis Intervention	3	0	0	3
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This course introduces the basic theories and principles of crisis intervention. Emphasis is placed on identifying and demonstrating appropriate and differential techniques for intervening in various crisis situations. Upon completion, students should be able to assess crisis situations and respond appropriately. Pre-requisite: HSE 125.

HSE 226	Mental Retardation	3	0	0	3
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This course covers mental retardation and related issues. Emphasis is placed on the theoretical perspectives, causes, prevention, and treatment of mental developmental disabilities. Upon completion, students should be able to demonstrate a general knowledge of the mentally challenged individual. This course also provides an overview of a broad range of other developmental disabilities. Pre-requisite: HSE 110 and **PSY 150**.

HSE 245	Stress Management	2	2	0	3
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This course covers stressors and techniques for stress management. Topics include anger, assertiveness, breathing, change, coping skills, family, time management, meditation, guided imagery, and journaling. Upon completion, students should be able to identify areas of stress and the skills and management techniques for dealing with stressors. Pre-requisite HSE 110.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Humanities (HUM)

HUM 110 Technology and Society 3 0 0 3

This course considers technological change from historical, artistic, and philosophical perspectives and its effect on human needs and concerns. Emphasis is placed on the causes and consequences of technological change. Upon completion, students should be able to critically evaluate the implications of technology. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisites: (RED 090 and ENG 090) or ENG 095.

HUM 115 Critical Thinking 3 0 0 3

This course introduces the use of critical thinking skills in the context of human conflict. Emphasis is placed on evaluating information, problem solving, approaching cross-cultural perspectives, and resolving controversies and dilemmas. Upon completion, students should be able to demonstrate orally and in writing the use of critical thinking skills in the analysis of appropriate texts. Assignments will require use of word processing presentation software application. This course may meet the SACS humanities requirement for AAS degree programs. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: C or better ENG 111.

HUM 120 Cultural Studies 3 0 0 3

This course introduces the distinctive features of a particular culture. Topics include art, history, music, literature, politics, philosophy, and religion. Upon completion, students should be able to appreciate the unique character of the study culture. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisites: (RED 090 and ENG 090) or ENG 095.

HUM 121 The Nature of America 3 0 0 3

This course provides an interdisciplinary survey of the American cultural, social, and political experience. Emphasis is placed on the multicultural character of American society, distinctive qualities of various regions, and the American political system. Upon completion, students should be able to analyze significant cultural, social, and political aspects of American life. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisites: (RED 090 and ENG 090) or ENG 095.

HUM 122 Southern Culture 3 0 0 3

This course explores the major qualities that make the South a distinctive region. Topics include music, politics, literature, art, religion, race relations, and the role of social class in historical and contemporary contexts. Upon completion, students should be able to identify the characteristics that distinguish Southern culture. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: C or better in ENG 111.

HUM 130 Myth in Human Culture 3 0 0 3

This course provides an in-depth study of myths and legends. Topics include the varied sources of myths and their influence on the individual and society within diverse cultural contexts. Upon completion, students should be able to demonstrate a general familiarity with myths and a broad-based understanding of the influence of myths and legends on modern culture. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisites: (RED 090 and ENG 090) or ENG 095.

HUM 150 American Women's Studies 3 0 0 3

This course provides an inter-disciplinary study of the history, literature, and social roles of American women from Colonial times to the present. Emphasis is placed on women's roles as reflected in American language usage, education, law, the workplace, and mainstream culture. Upon completion, students should be able to identify and analyze the roles of women as reflected in various cultural forms. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisites: (RED 090 and ENG 090) or ENG 095.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

HUM 160 Introduction to Film 2 2 0 3

This course introduces the fundamental elements of film artistry and production. Topics include film styles, history, and production techniques, as well as the social values reflected in film art. Upon completion, students should be able to critically analyze the elements covered in relation to selected films. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisites: (RED 090 and ENG 090) or ENG 095.

HUM 161 Advanced Film Studies 2 2 0 3

This course provides an advanced study of film art and production, building on skills learned in HUM 160. Topics include advanced film production techniques, film genres, examination of master directors' styles, and the relation of film to culture. Upon completion, students should be able to recognize and critically analyze advanced elements of film production. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisites: **HUM 160**

HUM 211 Humanities I 3 0 0 3

This course introduces the humanities as a record in literature, music, art, history, religion, and philosophy of humankind's answers to the fundamental questions of existence. Emphasis is placed on the interconnections of various aspects of cultures from ancient through early modern times. Upon completion, students should be able to identify significant figures and cultural contributions of the periods studied. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: C or better in **ENG 111**.

HUM 212 Humanities II 3 0 0 3

This course introduces the humanities as a record in literature, music, art, history, religion, and philosophy of humankind's answers to the fundamental questions of existence. Emphasis is placed on the interconnections of various aspects of cultures from early modern times to the present. Upon completion, students should be able to identify significant figures and cultural contributions of the periods studied. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: C or better in **ENG 111**.

Hydraulics (HYD)

HYD 110 Hydraulics/Pneumatics I 2 3 0 3

This course introduces the basic components and functions of hydraulic and pneumatic systems. Topics include standard symbols, pumps, control valves, control assemblies, actuators, FRL, maintenance procedures, and switching and control devices. Upon completion, students should be able to understand the operation of a fluid power system, including design, application and troubleshooting.

HYD 111 Mobile Hydraulic Systems 1 4 0 3

This course covers hydraulic components on mobile equipment including construction equipment, transportation, and farm equipment. Topics include servicing of pumps, testing and adjusting components, test points, and proper use and care of test equipment. Upon completion, students should be able to use proper test equipment to locate and repair problems on equipment.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Import Export Compliance (IEC)

IEC 168	Global Operations	3	0	0	3
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This course introduces intra-country trade elements, and rules and regulations for document completion and compliance. Topics include the practical application of intra-country trade elements for proper governmental approval for foreign and domestic market entry and exit of shipments. Upon completion, students should be able to understand and explain intra-country shipments and to demonstrate an awareness of home/host country trade regulations impacting import/export management.

IEC 225	International Shipping	3	0	0	3
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This course includes a study of the international supply chain with emphasis on the requirements for importing and exporting. Emphasis is placed on in-depth studies surrounding shipping modalities as related to specific product/commodity requirements for markets both domestic and abroad. Upon completion, students should be able to understand shipping modality selection based on product/commodity characteristics and the appropriate documentation flow for import/export shipping compliance.

IEC 226	Intro to Export Admin Reg	3	0	0	3
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This course includes an in-depth study of US Export Administration Regulations to which compliance is required for product/commodity export. Topics include Export Management System, export licensing, foreign product classification, and distribution methods. Upon completion, students should be able to understand the document flow of import/export shipments and compliance requirements. Pre-requisite: **IEC 225**

IEC 227	Elec Import/Export Doc	3	0	0	3
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This course is designed to give students practical training for electronic preparation of import/export documentation used in intra-country shipments. Topics include electronic preparation of import/export documentation by nongovernment organizations, regulatory agencies' requirements for submission and licensing. Pre-requisite: **IEC 225**

International Business (INT)

INT 110	International Business	3	0	0	3
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This course provides an overview of the environment, concepts, and basic differences involved in international business. Topics include forms of foreign involvement, international trade theory, government influences on trade and strategies, international organizations, multinational corporations, personnel management, and international marketing. Upon completion, students should be able to describe the foundation of international business.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Industrial Science (ISC)

ISC	112	Industrial Safety	2	0	0	2
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This course introduces the principles of industrial safety. Emphasis is placed on industrial safety and OSHA and environmental regulations. Upon completion, students should be able to demonstrate knowledge of a safe working environment.

ISC	115	Construction Safety	2	0	0	2
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This course introduces the basic concepts of construction site safety. Topics include ladders, lifting, lock-out/tag-out, personal protective devices, scaffolds, and above/below ground work based on OSHA regulations. Upon completion, students should be able to demonstrate knowledge of applicable safety regulations and safely participate in construction projects.

ISC	121	Environmental Health and Safety	3	0	0	3
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This course covers workplace environmental, health, and safety issues. Emphasis is placed on managing the implementation and enforcement of environmental health and safety regulations and on preventing accidents, injuries, and illnesses. Upon completion, students should be able to demonstrate an understanding of basic concepts of environmental, health, and safety issues.

ISC	132	Manufacturing Quality Control	2	3	0	3
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This course introduces quality concepts and techniques used in industry. Topics include elementary statistics and probability, process control, process capability, and quality improvement tools. Upon completion, students should be able to demonstrate an understanding of the concepts and principles of quality and apply them to the work environment.

Journalism (JOU)

JOU	110	Introduction to Journalism	3	0	0	3
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This course presents a study of journalistic news, feature, and sports writing. Emphasis is placed on basic news writing techniques and on related legal and ethical issues. Upon completion, students should be able to gather, write, and edit news, feature, and sports articles. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.* Pre-requisite: RED 090 or ENG 095.

Legal Education (LEX)

LEX	110	Introduction to Paralegal Study	2	0	0	2
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This course introduces the paralegal profession and the legal system. Topics include regulations and concepts, ethics, case analysis, legal reasoning, career opportunities, certification, professional organizations, and other related topics. Upon completion, students should be able to explain the role of the paralegal and identify the skills, knowledge, and ethics required of legal assistants. Pre-requisites: (RED 090 and ENG 090) or ENG 095. Co-requisites: ACA 111.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
LEX	120	Legal Research/Writing I	2	2	0	3
<p>This course introduces the techniques of legal research and writing. Emphasis is placed on locating, analyzing, applying, and updating sources of law; effective legal writing, including proper citation; and the use of electronic research methods. Upon completion, students should be able to perform legal research and writing assignments using techniques covered in the course. Co-requisite: LEX 110.</p>						
LEX	121	Legal Research/Writing II	2	2	0	3
<p>This course covers advanced topics in legal research and writing. Topics include more complex legal issues and assignments involving preparation of legal memos, briefs, and other documents and the advanced use of electronic research methods. Upon completion, students should be able to perform legal research and writing assignments using techniques covered in the course. Pre-requisite: LEX 120.</p>						
LEX	130	Civil Injuries	3	0	0	3
<p>This course covers traditional tort concepts and the evolving body of individual rights created by statute. Topics include intentional and non-intentional torts with emphasis on negligence, strict liability, civil rights, workplace and environmental liability, remedies, and damages. Upon completion, students should be able to recognize, explain, and evaluate elements of civil injuries and related defenses. Pre-requisite: LEX 120.</p>						
LEX	140	Civil Litigation I	3	0	0	3
<p>This course introduces the structure of the legal system and the rules governing civil litigation. Topics include jurisdiction state and federal rules of civil procedure and evidence. Upon completion, students should be able to assist an attorney in pre-litigation matters and preparation of pleadings and motions. Pre-requisite: LEX 120.</p>						
LEX	141	Civil Litigation II	2	2	0	3
<p>This course covers advanced topics in the civil litigation process. Topics include motions, discovery, and trial and appellate procedures. Upon completion, students should be able to assist an attorney in preparing and organizing documents for trial, settlement and post-trial practice. Pre-requisite: LEX 140.</p>						
LEX	150	Commercial Law I	2	2	0	3
<p>This course covers legally enforceable agreements, forms of organization, and selected portions of the Uniform Commercial Code. Topics include drafting and enforcement of contracts, leases, and related documents and selection and implementation of business organization forms, sales, and commercial papers. Upon completion, students should be able to apply the elements of a contract, prepare various business documents, and understand the role of commercial paper. Pre-requisite: LEX 120.</p>						
LEX	151	Commercial Law II	3	0	0	3
<p>This course is a continuation of LEX 150 and covers advanced topics in Business and Commercial Law. Topics include agency and employment, insurance, computer law, intellectual property, personal property and bailment, corporate organizations and bankruptcy. Upon completion, students will understand and be able to apply legal principles governing these topics and be able to draft a variety of financial instruments. Pre-requisites: LEX 150.</p>						
LEX	160	Criminal Law and Procedure	2	2	0	3
<p>This course introduces substantive criminal law and procedural rights of the accused. Topics include elements of state/federal crimes, defenses, constitutional issues, pre-trial and trial process, and other related topics. Upon completion, students should be able to explain elements of specific crimes and assist an attorney in preparing a criminal case. Pre-requisite: LEX 120.</p>						
LEX	170	Administrative Law	2	0	0	2
<p>This course covers the scope, authority, and regulatory operations of various federal, state, and local administrative agencies. Topics include social security, worker's compensation, unemployment, zoning, and other related topics. Upon completion, students should be able to research sources of administrative law, investigate, and assist in representation of clients before administrative agencies. Pre-requisite: LEX 120.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

LEX 180	Case Analysis & Reasoning	1	2	0	2
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This course covers the techniques of reading and applying legal opinions and the skills of case analysis. Emphasis is placed on the components of opinions and on types of legal writing. Upon completion, students should be able to read, analyze, and brief opinions and prepare legal memoranda, briefs, and other legal documents. Co-requisite: **LEX 120**.

LEX 210	Real Property I	3	0	0	3
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This course introduces the study of real property law. Topics include the distinction between real and personal property, various estates, mechanics of conveyance and encumbrance, recordation, special proceedings, and other related topics. Upon completion, students should be able to identify estates, forms of deeds, requirements for recording, and procedures to enforce rights to real property. Pre-requisite: **LEX 120**.

LEX 211	Real Property II	1	4	0	3
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This course continues the study of real property law relating to title examination and preparation of closing documents. Topics include use of courthouse and other public records in title examination and preparation of documents required in real estate transactions and closings. Upon completion, students should be able to plot/draft a description, perform complete title examination, draft closing documents including title insurance forms, and prepare disbursement reconciliation. Pre-requisite: **LEX 210**.

LEX 214	Investigate & Trial Prep	1	4	0	3
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This course introduces the fundamentals of investigation. Topics include compiling/assembling data for cases; investigative planning/information gathering techniques; locating/interviewing witnesses; collection/preserving/evaluating sufficiency/admissibility of evidence; preparation of reports; and evidence presentation at depositions/court proceeding. Upon completion, students should be able to plan/use investigative checklists, understand/demonstrate investigative techniques, prepare reports, and enhance verbal and Intro to Interpersonal Communications skills and interviewing techniques. Pre-requisite: **LEX 120**.

LEX 220	Corporate Law	2	0	0	2
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This course covers the legal aspects of forming, operating, and maintaining a business. Emphasis is placed on the business corporation with additional coverage of sole proprietorships and partnerships. Upon completion, students should be able to draft basic partnership and corporate documents and file these documents as required. Pre-requisite: **LEX 120**.

LEX 240	Family Law	3	0	0	3
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This course covers laws governing domestic relations. Topics include marriage, separation, divorce, child custody, support, property division, adoption, domestic violence, and other related topics. Upon completion, students should be able to interview clients, gather information, and draft documents related to family law. Pre-requisite: **LEX 120**.

LEX 250	Wills, Estates and Trusts	2	2	0	3
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This course covers various types of wills, trusts, probate, estate administration, and intestacy. Topics include types of wills and execution requirements, caveats and dissents, intestate succession, inventories and accountings, distribution and settlement, and other related topics. Upon completion, students should be able to draft simple wills, prepare estate forms, understand administration of estates including taxation, and explain terms regarding trusts. Pre-requisite: **LEX 120**.

LEX 260	Bankruptcy and Collections	3	0	0	3
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This course provides an overview of the laws of bankruptcy and the rights of creditors and debtors. Topics include bankruptcy procedures and estate management, attachment, claim and delivery, repossession, foreclosure, collection, garnishment, and post-judgment collection procedure. Upon completion, students should be able to prepare and file bankruptcy forms, collection letters, statutory liens, and collection of judgments. Pre-requisite: **LEX 120**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Logistics (LOG)

LOG 110	Introduction to Logistics	3	0	0	3
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This course provides an overview of logistics. Topics include traffic management, warehousing, inventory control, material handling, global logistics, and the movement and storage of goods from raw materials sources to end consumers. Upon completion, students should be able to identify the different segments of logistics and use the terminology of the industry.

LOG 125	Transportation Logistics	3	0	0	3
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This course covers the role and importance of the transportation industry. This is an overview of transportation emphasizing its environmental and sociological aspects, economic impact, services, regulatory guidelines, policies, and its future. Upon completion, students should be able to identify modes of transportation, interpret governing regulations, and describe the principles and terminology used in the transportation industry.

LOG 211	Distribution Management	2	2	0	3
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This course covers the functions, techniques, and tools utilized in warehousing and distribution centers and their role in business and logistics. Emphasis is placed on warehouse and distribution center management, operations, productivity, software systems, picking, automation, cross docking, safety, security, material handling, benchmarking, and cost. Upon completion, students should be able to describe the role of warehouses and distribution centers, apply industry principles and terminology, and understand distribution productivity measures. Pre-requisites: **LOG 110**

LOG 215	Supply Chain Management	3	0	0	3
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This course covers all activities involved in the flow of products and information between the suppliers, customers, producers, and service providers. Topics include acquiring, purchasing, manufacturing, assembling, and distributing goods and services throughout the supply chain organizations. Upon completion, students should be able to identify the supply chain units, describe the materials management processes, and prepare for the APICS CPIM examination. Pre-requisite: **LOG 110**.

LOG 235	Import/Export Management	3	0	0	3
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This course introduces the elements of import and export operations, from transportation to documentation, finance, and security and the effects on the global supply chain. Emphasis is placed on existing import/export regulations, customs documentation, intermodal transportation, foreign freight forwarders, global technology, and homeland security initiatives. Upon completion, students should be able to perform import/export operations, channels of distribution, implemented technologies, and associate with operating a secure supply chain. Pre-requisite: **LOG 125**.

LOG 240	Purchasing Logistics	3	0	0	3
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This course introduces the various aspects of purchasing, and their impact on materials management, supply chain, transportation, and global logistics processes. Emphasis is placed on the different methods of electronic sourcing, negotiating and pricing principles, and on the internal and external considerations associated with international logistics. Upon completion, students should be able to describe and apply the principles and terminology used in procurement including electronic data interchange services, purchasing and logistics systems. Pre-requisite: **LOG 110**.

LOG 250	Advanced Global Logistics	3	2	0	4
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This course covers the advanced application of global operations and logistics strategies, planning, technology, risk, and management necessary to cope with the global business environment. Emphasis is placed on an in-depth understanding of global sourcing, shipping, tracking, and e-logistics systems necessary to operate inbound/outbound logistics in a global market. Upon completion, students should be able to identify the different global markets and logistics. Pre-requisite: **LOG 125**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Landscape Gardening (LSG)

LSG 123 Summer Gardening Lab 0 6 0 2

This course provides basic hands-on experience in summer gardening techniques. Emphasis is placed on pruning, irrigation, planting, fertilizing, pest control, equipment operation, turf maintenance, landscape construction, and maintaining fruits and vegetables. Upon completion, students should be able to perform various techniques essential to maintaining the summer landscape.

LSG 231 Landscape Supervision 2 6 0 4

This course provides experience in planning, implementing, and supervising various landscape management projects. Emphasis is placed on supervisory skills, organizing, and scheduling. Upon completion, students should be able to supervise employees in various landscape management jobs. Pre-requisites: **LSG 123 and HOR 260**.

Machining (MAC)

MAC 111 Machining Technology I 2 12 0 6

This course introduces machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, drilling machines, saws, milling machines, bench grinders, and layout instruments. Upon completion, students should be able to safely perform the basic operations of measuring, layout, drilling, sawing, turning, and milling. Co-requisites: **MAC 114 and BPR 111**.

MAC 112 Machining Technology II 2 12 0 6

This course provides additional instruction and practice in the use of precision measuring tools, lathes, milling machines, and grinders. Emphasis is placed on setup and operation of machine tools including the selection and use of work holding devices, speeds, feeds, cutting tools, and coolants. Upon completion, students should be able to perform basic procedures on precision grinders and advanced operations of measuring, layout, drilling, sawing, turning, and milling. Pre-requisite: **MAC 111**.

MAC 113 Machining Technology III 2 12 0 6

This course provides an introduction to advanced and special machining operations. Emphasis is placed on working to specified tolerances with special and advanced setups. Upon completion, students should be able to produce a part to specifications. Pre-requisite: **MAC 112**.

MAC 114 Introduction to Metrology 2 0 0 2

This course introduces the care and use of precision measuring instruments. Emphasis is placed on the inspection of machine parts and use of a wide variety of measuring instruments. Upon completion, students should be able to demonstrate the correct use of measuring instruments.

MAC 115 Grinding Operations 2 2 0 3

This course introduces surface and cylindrical grinding. Topics include safety and the basic setup and operation of surface and cylindrical grinding machines. Upon completion, students should be able to grind steps, slots, angles, radii, dress grinding wheels, and square blocks. Pre-requisite: **MAC 114**.

MAC 121 Introduction to CNC 2 0 0 2

This course introduces the concepts and capabilities of computer numerical control machine tools. Topics include setup, operation, and basic applications. Upon completion, students should be able to explain operator safety, machine protection, data input, program preparation, and program storage.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

MAC 122	CNC Turning	1	3	0	2
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This course introduces the programming, setup, and operation of CNC turning centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC turning centers. Pre-requisites: MAC 121 and either MAC 111 or MEC 111.

MAC 124	CNC Milling	1	3	0	2
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This course introduces the manual programming, setup, and operation of CNC machining centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC machining centers. Pre-requisites: MAC 121 and either MAC 111 or MEC 111.

MAC 151	Machining Calculations	1	2	0	2
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This course introduces basic calculations as they relate to machining occupations. Emphasis is placed on basic calculations and their applications in the machine shop. Upon completion, students should be able to perform basic shop calculations.

MAC 214	Machining Technology IV	2	12	0	6
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This course provides advanced applications and practical experience in the manufacturing of complex parts. Emphasis is placed on inspection, gaging, and the utilization of machine tools. Upon completion, students should be able to manufacture complex assemblies to specifications. Pre-requisite: **MAC 112**.

MAC 222	Advanced CNC Turning	1	3	0	2
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This course covers advanced methods in setup and operation of CNC turning centers. Emphasis is placed on programming and production of complex parts. Upon completion, students should be able to demonstrate skills in programming, operations, and setup of CNC turning centers. Pre-requisite: **MAC 122**.

MAC 224	Advanced CNC Milling	1	3	0	2
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This course covers advanced methods in setup and operation of CNC machining centers. Emphasis is placed on programming and production of complex parts. Upon completion, students should be able to demonstrate skills in programming, operations, and setup of CNC machining centers. Pre-requisite: **MAC 124**.

MAC 229	CNC Programming	2	0	0	2
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This course provides concentrated study in advanced programming techniques for working with modern CNC machine tools. Topics include custom macros and subroutines, canned cycles, and automatic machining cycles currently employed by the machine tool industry. Upon completion, students should be able to program advanced CNC functions while conserving machine memory. Pre-requisite: **MAC 121, MAC 122, MAC 124, or MAC 226**.

MAC 248	Production Procedures	1	2	0	2
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This course covers product planning and control and scheduling and routing of operations. Topics include cost-effective production methods, dimensional and statistical quality control, and the tooling and machines required for production. Upon completion, students should be able to plan, set up, and produce cost-effective quality machined parts. Pre-requisite: MAC 121.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Mathematics (MAT)

Initial student placement in developmental courses is based on individual college placement testing policies and procedures. Students should begin developmental course work at the appropriate level indicated by that college's placement test.

MAT 060 Essential Mathematics 3 2 0 4

This course is a comprehensive study of mathematical skills which should provide a strong mathematical foundation to pursue further study. Topics include principles and applications of decimals, fractions, percents, ratio and proportion, order of operations, geometry, measurement, and elements of algebra and statistics. Upon completion, students should be able to perform basic computations and solve relevant, multi-step mathematical problems using technology where appropriate. Pre-requisite: **MAT 050**.

MAT 070 Introductory Algebra 3 2 0 4

This course establishes a foundation in algebraic concepts and problem solving. Topics include signed numbers, exponents, order of operations, simplifying expressions, solving linear equations and inequalities, graphing, formulas, polynomials, factoring, and elements of geometry. Upon completion, students should be able to apply the above concepts in problem solving using appropriate technology. Pre-requisite: C or better in **MAT 060**. Co-requisite: **RED 080 or ENG 085**. Note: Students that are successful in MAT 060 must register for MAT 070 the next semester for which the student registers.

MAT 080 Intermediate Algebra 3 2 0 4

This course continues the study of algebraic concepts with emphasis on applications. Topics include factoring; rational expressions; rational exponents; rational, radical, and quadratic equations; systems of equations; inequalities; graphing; functions; variations; complex numbers; and elements of geometry. Upon completion, students should be able to apply the above concepts in problem solving using appropriate technology. Pre-requisite: C or better in **MAT 070**. Co-requisite: **RED 080 or ENG 085**.

MAT 101 Applied Mathematics I 2 2 0 3

This course is a comprehensive review of arithmetic with basic algebra designed to meet the needs of certificate and diploma programs. Topics include arithmetic and geometric skills used in measurement, ratio and proportion, exponents and roots, applications of percent, linear equations, formulas, and statistics. Upon completion, students should be able to solve practical problems in their specific areas of study. This course is intended for certificate and diploma programs. Pre-requisite: **MAT 060, MAT 070, MAT 080, MAT 090 or MAT 095**.

MAT 110 Mathematical Measurement 2 2 0 3

This course provides an activity-based approach to utilizing, interpreting, and communicating data in a variety of measurement systems. Topics include accuracy, precision, conversion, and estimation within metric, apothecary, and avoirdupois systems; ratio and proportion; measures of central tendency and dispersion; and charting of data. Upon completion, students should be able to apply proper techniques to gathering, recording, manipulating, analyzing, and communicating data. Pre-requisites: RED 090 or ENG 095 and a grade of C or better in one of the following courses: **MAT 070, MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171 or MAT 175**.

MAT 115 Mathematical Models 2 2 0 3

This course develops the ability to utilize mathematical skills and technology to solve problems at a level found in non-mathematics-intensive programs. Topics include applications to percent, ratio and proportion, formulas, statistics, functional notation, linear functions and their groups, probability, sampling techniques, scatter plots, and modeling. Upon completion, students should be able to solve practical problems, reason and communicate with mathematics, and work confidently, collaboratively, and independently. Pre-requisites: RED 090 and a grade of C or better in one of the following courses: **MAT 070, MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171 or MAT 175**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

MAT 120	Geometry and Trigonometry	2	2	0	3
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This course introduces the concepts of plane trigonometry and geometry with emphasis on applications to problem solving. Topics include the basic definitions and properties of plane and solid geometry, area and volume, right triangle trigonometry, and oblique triangles. Upon completion, students should be able to solve applied problems both independently and collaboratively using technology. Pre-requisite: RED 090 and a grade of C or better in one of the following courses: **MAT 070, MAT 080, MAT 090, MAT 095, MAT 121, MAT 161, MAT 171 or MAT 175.**

MAT 121	Algebra/Trigonometry I	2	2	0	3
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This course provides an integrated approach to technology and the skills required to manipulate, display, and interpret mathematical functions and formulas used in problem solving. Topics include simplification, evaluation, and solving of algebraic and radical functions; complex numbers; right triangle trigonometry; systems of equations; and the use of technology. Upon completion, students should be able to demonstrate an understanding of the use of mathematics and technology to solve problems and analyze and communicate results. Pre-requisites: RED 090 or ENG 095 and a grade of C or better in one of the following courses: **MAT 070, MAT 080, MAT 090 or MAT 095.**

MAT 122	Algebra/Trigonometry II	2	2	0	3
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This course extends the concepts covered in MAT 121 to include additional topics in algebra, function analysis, and trigonometry. Topics include exponential and logarithmic functions, translation and scaling of functions, Sine Law, Cosine Law, vectors, and statistics. Upon completion, students should be able to demonstrate an understanding of the use of technology to solve problems and to analyze and communicate results. Pre-requisite: RED 090 or ENG 095 and C or better in **MAT 121, MAT 161, MAT 171, or MAT 175.**

MAT 140	Survey of Mathematics	3	0	0	3
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This course provides an introduction in a non-technical setting to selected topics in mathematics. Topics include, but are not limited to, sets, logic, probability, statistics, matrices, mathematical systems, geometry, topology, mathematics of finance, and modeling. Upon completion, students should be able to understand a variety of mathematical applications, think logically, and be able to work collaboratively and independently. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Pre-requisites: RED 090 or ENG 095 and a grade of C or better in one of the following courses: **MAT 070, MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171 or MAT 175.**

MAT 140A	Survey of Mathematics Lab	0	2	0	1
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This course is a laboratory for MAT 140. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Pre-requisite: **MAT 070.** Co-requisite: **MAT 140.**

MAT 151	Statistics I	3	0	0	3
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This course provides a project-based approach to the study of basic probability, descriptive and inferential statistics, and decision making. Emphasis is placed on measures of central tendency and dispersion, correlation, regression, discrete and continuous probability distributions, quality control, population parameter estimation, and hypothesis testing. Upon completion, students should be able to describe important characteristics of a set of data and draw inferences about a population from sample data. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Pre-requisites: RED 090 or ENG 095 and a C or better in either **MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 140, MAT 161, MAT 171 or MAT 175.**

MAT 151A	Statistics I Lab	0	2	0	1
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This course is a laboratory for MAT 151. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Pre-requisite: **MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 140, MAT 161, MAT 171 or MAT 175.** Co-requisite: **MAT 151.**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

MAT 161	College Algebra	3	0	0	3
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This course provides an integrated technological approach to algebraic topics used in problem solving. Emphasis is placed on equations and inequalities; polynomial, rational, exponential and logarithmic functions; and graphing and data analysis/modeling. Upon completion, students should be able to choose an appropriate model to fit a data set and use the model for analysis and prediction. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Pre-requisites: RED 090 or ENG 095 and a grade of C or better in one of the following courses: **MAT 080, MAT 090, or MAT 095.**

MAT 161A	College Algebra Lab	0	2	0	1
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This course is a laboratory for MAT 161. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Pre-requisite: **MAT 080, MAT 090, or MAT 095.** Co-requisite: **MAT 161.**

MAT 171	Precalculus Algebra	3	0	0	3
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This is the first of two courses designed to emphasize topics which are fundamental to the study of calculus. Emphasis is placed on equations and inequalities, functions (linear, polynomial, rational), systems of equations and inequalities, and parametric equations. Upon completion, students should be able to solve practical problems and use appropriate models for analysis and prediction. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Pre-requisites: RED 090 or ENG 095 and a grade of C or better in one of the following courses: **MAT 080, MAT 090, MAT 095, or MAT 161.**

MAT 171A	Precalculus Algebra Lab	0	2	0	1
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This course is a laboratory for MAT 171. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Pre-requisite: **MAT 080 or MAT 090.** Co-requisite: **MAT 171.**

MAT 172	Precalculus Trigonometry	3	0	0	3
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This is the second of two courses designed to emphasize topics which are fundamental to the study of calculus. Emphasis is placed on properties and applications of transcendental functions and their graphs, right and oblique triangle trigonometry, conic sections, and vectors. Upon completion, students should be able to solve practical problems and use appropriate models for analysis and prediction. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Pre-requisite: RED 090 or ENG 095 and C or better in **MAT 171.**

MAT 172A	Precalculus Trigonometry Lab	0	2	0	1
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This course is a laboratory for MAT 172. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Pre-requisite: **MAT 171.** Co-requisite: **MAT 172.**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

MAT 175	Precalculus	4	0	0	4
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This course provides an intense study of the topics which are fundamental to the study of calculus. Emphasis is placed on functions and their graphs with special attention to polynomial, rational, exponential, logarithmic and trigonometric functions, and analytic trigonometry. Upon completion, students should be able to solve practical problems and use appropriate models for analysis and prediction. *This course has been approved to satisfy the Comprehensive Articulation Agreement* **general education core requirement in natural sciences/mathematics**. Pre-requisites: RED 090 or ENG 095 and either MAT 161 or MAT 171 or Score greater than or equal to 50 on the College Algebra Section of the Compass Test.

MAT 175A	Precalculus Lab	0	2	0	1
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This course is a laboratory for MAT 175. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. *This course has been approved to satisfy the Comprehensive Articulation Agreement* **general education core requirement in natural sciences/mathematics**. Co-requisite: **MAT 175**

MAT 223	Applied Calculus	2	2	0	3
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This course provides an introduction to the calculus concepts of differentiation and integration by way of application and is designed for engineering technology students. Topics include limits, slope, derivatives, related rates, areas, integrals, and applications. Upon completion, students should be able to demonstrate an understanding of the use of calculus and technology to solve problems and to analyze and communicate results. Pre-requisite: RED 090 or ENG 095 and C or better in **MAT 122**.

MAT 263	Brief Calculus	3	0	0	3
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This course introduces concepts of differentiation and integration and their applications to solving problems; the course is designed for students needing one semester of calculus. Topics include functions, graphing, differentiation, and integration with emphasis on applications drawn from business, economics, and biological and behavioral sciences. Upon completion, students should be able to demonstrate an understanding of the use of basic calculus and technology to solve problems and to analyze and communicate results. *This course has been approved to satisfy the Comprehensive Articulation Agreement* **general education core requirement in natural sciences/mathematics**. Pre-requisite: RED 090 or ENG 095 and C or better in **MAT 161, MAT 171, or MAT 175**.

MAT 271	Calculus I	3	2	0	4
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This course covers in depth the differential calculus portion of a three-course calculus sequence. Topics include limits, continuity, derivatives, and integrals of algebraic and transcendental functions of one variable, with applications. Upon completion, students should be able to apply differentiation and integration techniques to algebraic and transcendental functions. *This course has been approved to satisfy the Comprehensive Articulation Agreement* **general education core requirement in natural sciences/mathematics**. Pre-requisite: RED 090 or ENG 095 and C or better in **MAT 172 or MAT 175**.

MAT 272	Calculus II	3	2	0	4
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This course provides a rigorous treatment of integration and is the second calculus course in a three-course sequence. Topics include applications of definite integrals, techniques of integration, indeterminate forms, improper integrals, infinite series, conic sections, parametric equations, polar coordinates, and differential equations. Upon completion, students should be able to use integration and approximation techniques to solve application problems. *This course has been approved to satisfy the Comprehensive Articulation Agreement* **general education core requirement in natural sciences/mathematics**. Pre-requisite: RED 090 or ENG 095 and C or better in **MAT 271**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

MAT 273 Calculus III 3 2 0 4

This course covers the calculus of several variables and is the third calculus course in a three-course sequence. Topics include functions of several variables, partial derivatives, multiple integrals, solid analytical geometry, vector-valued functions, and line and surface integrals. Upon completion, students should be able to solve problems involving vectors and functions of several variables. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Pre-requisite: RED 090 or ENG 095 and C or better in **MAT 272**.

MAT 285 Differential Equations 3 0 0 3

This course provides an introduction to ordinary differential equations with an emphasis on applications. Topics include first-order, linear higher-order, and systems of differential equations; numerical methods; series solutions; eigenvalues and eigenvectors; Laplace transforms; and Fourier series. Upon completion, students should be able to use differential equations to model physical phenomena, solve the equations, and use the solutions to analyze the phenomena. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.* Pre-requisite: RED 090 or ENG 095 and C or better in **MAT 272**.

Mechanical (MEC)

MEC 110 Introduction to CAD/CAM 1 2 0 2

This course introduces CAD/CAM. Emphasis is placed on transferring part geometry from CAD to CAM for the development of a CNC-ready program. Upon completion, students should be able to use CAD/CAM software to produce a CNC program. Pre-requisite: DFT 151 or DFT 119 or MAC 121.

MEC 111 Machine Processes I 1 4 0 3

This course introduces shop safety, hand tools, machine processes, measuring instruments, and the operation of machine shop equipment. Topics include use and care of tools, safety, measuring tools, and the basic setup and operation of common machine tools. Upon completion, students should be able to safely machine simple parts to specified tolerances.

MEC 142 Physical Metallurgy 1 2 0 2

This course covers the heat treating of metals. Emphasis is placed on the effects of hardening, tempering, and annealing on the structure and physical properties of metals. Upon completion, students should be able to heat treat materials.

MEC 150 Intro Auto Mfg Controls Systems 1 3 0 2

This course prepares machine operators in various procedures, methods, tools and equipment necessary to analyze and troubleshoot automated manufacturing controls. Topics include electro-mechanical, optic, and photo optic sensors and control systems. Upon completion, students should be able to troubleshoot basic control problems on automated manufacturing equipment. This course is a unique concentration requirement in the Integrated Operations concentration in the Manufacturing Technology program.

MEC 151 Mechanical Mfg Systems 1 3 0 2

This course covers mechanical systems and sub-systems including timing cams, cam followers, timing belts, servo-motors, mechanical drive units, bearings, and mechanical linkage. Emphasis will be placed on the understanding of these components and their integration into operating systems. Upon completion, students should be able to diagnose mechanical problems using a structured approach to troubleshooting mechanical systems and sub-systems.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

MEC	180	Engineering Materials	2	3	0	3
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This course introduces the physical and mechanical properties of materials. Topics include materials testing, pre and post-manufacturing processes, and material selection of ferrous and non-ferrous metals, plastics, composites, and non-conventional materials. Upon completion, students should be able to utilize basic material property tests and select appropriate materials for applications.

MEC	231	Computer-Aided Manufacturing I	1	4	0	3
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This course introduces computer-aided design / manufacturing (CAD / CAM) applications and concepts. Topics include software, programming, data transfer and verification, and equipment setup. Upon completion, students should be able to produce parts using CAD / CAM applications. Pre-requisite: MAC 121 or MEC 110.

MEC	232	Computer-Aided Manufacturing II	1	4	0	3
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This course provides an in-depth study of CAM applications and concepts. Emphasis is placed on the manufacturing of complex parts using computer-aided manufacturing software. Upon completion, students should be able to manufacture complex parts using CAM software. Pre-requisite: **MEC 231**.

MEC	250	Statics and Strength of Materials	4	3	0	5
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This course covers the concepts and principles of statics and stress analysis. Topics include systems of forces on structures in equilibrium and analysis of stresses and strains on these components. Upon completion, students should be able to analyze forces and the results of stresses and strains on structural components. Pre-requisites: MAT 122 or MAT-172, and either PHY 131 or PHY 151.

MEC	265	Fluid Mechanics	2	2	0	3
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This course covers the physical behavior of fluids and fluid systems. Topics include fluid statics and dynamics, laminar and turbulent flow, Bernoulli's Equation, components, applications, and other related topics. Upon completion, students should be able to apply fluid power principles to practical applications. Pre-requisite: PHY 131.

MEC	267	Thermal Systems	2	2	0	3
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This course introduces the fundamental laws of thermodynamics. Topics include work and energy, open and closed systems, and heat engines. Upon completion, students should be able to demonstrate a knowledge of the laws and principles that apply to thermal power. Pre-requisite: **PHY 131 or PHY 151**.

MEC	287	Applied Mfg Operations	0	4	0	2
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This course covers techniques used for maintaining and improving integrated manufacturing processes. Emphasis is placed on process setup, troubleshooting, improving machine run time, operation and application of system components to reduce or eliminate product defects and protect vital machine systems. Upon completion, students should be able to recommend basic improvements to a manufacturing process. This course is a unique concentration requirement in the Integrated Operations concentration in the Manufacturing Technology program. Pre-requisites: **MEC 115, MEC 150 and MEC 151**.

Medical Assisting (MED)

MED	110	Orientation to Medical Assisting	1	0	0	1
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This course covers the history of medicine and the role of the medical assistant in the health care setting. Emphasis is placed on professionalism, communication, attitude, behaviors, and duties in the medical environment. Upon completion, students should be able to project a positive attitude and promote the profession of medical assisting.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

MED 114 Professional Interaction in Health Care 1 0 0 1

This course is designed to identify various patient behaviors encountered in the medical setting. Emphasis is placed on stressors related to illness, cultural influences, death and dying, and needs specific to patients. Upon completion, students should be able to utilize appropriate methods of verbal and nonverbal communication with empathy and impartiality. Pre-requisite: Enrollment in the Medical Assisting program.

MED 116 Introduction to Anatomy & Physiology 3 2 0 4

This course introduces basic anatomy and physiology. Emphasis is placed on the relationship between body structure and function and the procedures common to health care. Upon completion, students should be able to identify body system components and functions relating this knowledge to the delivery of health care.

MED 118 Medical Law and Ethics 2 0 0 2

This course covers legal relationships of physicians and patients, contractual agreements, professional liability, malpractice, medical practice acts, informed consent, and bioethical issues. Emphasis is placed on legal terms, professional attitudes, and the principles and basic concepts of ethics and laws involved in providing medical services. Upon completion, students should be able to meet the legal and ethical responsibilities of a multi-skilled health professional.

MED 121 Medical Terminology I 3 0 0 3

This course introduces prefixes, suffixes, and word roots used in the language of medicine. Topics include medical vocabulary and the terms that relate to the anatomy, physiology, pathological conditions, and treatment of selected systems. Upon completion, students should be able to pronounce, spell, and define medical terms as related to selected body systems and their pathological disorders.

MED 122 Medical Terminology II 3 0 0 3

This course is the second in a series of medical terminology courses. Topics include medical vocabulary and the terms that relate to the anatomy, physiology, pathological conditions, and treatment of selected systems. Upon completion, students should be able to pronounce, spell, and define medical terms as related to selected body systems and their pathological disorders. Pre-requisites: Enrollment in the Medical Assisting program and **MED 121**.

MED 130 Administrative Office Procedures I 1 2 0 2

This course introduces medical office administrative procedures. Topics include appointment processing, written and oral communications, medical records, patient orientation, and safety. Upon completion, students should be able to perform basic administrative skills within the medical environment.

MED 131 Administrative Office Procedures II 1 2 0 2

This course is the second in a series and provides medical office procedures in both economic and management skills. Topics include physical plant maintenance, equipment and supplies, liability coverage, medical economics, and introductory insurance procedures. Upon completion, students should be able to manage the economics of the medical office and supervise personnel. Pre-requisite: MED 130.

MED 140 Exam Room Procedures I 3 4 0 5

This course provides instruction in clinical examining room procedures. Topics include asepsis, infection control, assisting with exams and treatment, patient education, preparation and administration of medications, EKG, vital signs, and medical emergencies. Upon completion, students should be able to demonstrate competence in exam room procedures.

MED 150 Laboratory Procedures I 3 4 0 5

This course provides instruction in basic lab techniques used by the medical assistant. Topics include lab safety, quality control, collecting and processing specimens, performing selective tests, phlebotomy, screening and follow-up of test results, and OSHA/CLIA regulations. Upon completion, students should be able to perform basic lab tests/skills based on course topics.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
MED	232	Medical Insurance Coding	1	3	0	2
<p>This course is designed to develop coding skills. Emphasis is placed on advanced diagnostic and procedural coding in the outpatient facility. Upon completion, students should be able to demonstrate proficiency in coding for reimbursement. Students will demonstrate this proficiency in the inpatient facility as well. This course is intended to prepare students for coding for reimbursement in the medical office (inpatient facility, as well) environment and also prepare for the CPC exam. Pre-requisites: C or better in OST 247 and OST 248.</p>						
MED	240	Exam Room Procedures II	3	4	0	5
<p>This course is designed to expand and build upon skills presented in MED 140. Emphasis is placed on advanced exam room procedures. Upon completion, students should be able to demonstrate enhanced competence in selected exam room procedures. Pre-requisite: MED 140.</p>						
MED	260	MED Clinical Practicum	0	0	15	5
<p>This course provides the opportunity to apply clinical, laboratory, and administrative skills in a medical facility. Emphasis is placed on enhancing competence in clinical and administrative skills necessary for comprehensive patient care and strengthening professional communications and interactions. Upon completion, students should be able to function as an entry-level health care professional.</p>						
MED	262	Clinical Perspectives	1	0	0	1
<p>This course is designed to explore personal and occupational responsibilities of the practicing medical assistant. Emphasis is placed on problems encountered during externships and development of problem-solving skills. Upon completion, students should be able to demonstrate courteous and diplomatic behavior when solving problems in the medical facility.</p>						
MED	264	Medical Assisting Overview	2	0	0	2
<p>This course provides an overview of the complete medical assisting curriculum. Emphasis is placed on all facets of medical assisting pertinent to administrative, laboratory, and clinical procedures performed in the medical environment. Upon completion, students should be able to demonstrate competence in the areas covered on the national certification examination for medical assistants. Pre-requisite: Enrollment in the Medical Assisting program.</p>						
MED	270	Symptomatology	2	2	0	3
<p>This course covers the study of disease symptoms and the appropriate actions taken by medical assistants in a medical facility in relation to these symptoms. Emphasis is placed on interviewing skills and appropriate triage, preparing patients for procedures, and screening test results. Upon completion, students should be able to recognize how certain symptoms relate to specific diseases, recognize emergency situations, and take appropriate actions.</p>						
MED	272	Drug Therapy	3	0	0	3
<p>This course focuses on major drug groups, including their side effects, interactions, methods of administration, and proper documentation. Emphasis is placed on the theory of drug administration. Upon completion, students should be able to identify, spell, recognize side effects of, and document the most commonly used medications in a physician's office. Pre-requisite: MED 140.</p>						
MED	274	Diet Therapy/Nutrition	3	0	0	3
<p>This course introduces the basic principles of nutrition as they relate to health and disease. Topics include basic nutrients, physiology, dietary deficiencies, weight management, and therapeutic nutrition in wellness and disease. Upon completion, students should be able to interpret clinical and dietary data and provide patient counseling and education.</p>						
MED	276	Patient Education	1	2	0	2
<p>This course is designed to provide communication skills, basic education principles, and knowledge of available community resources and to apply this knowledge to the clinical setting. Emphasis is placed on identifying appropriate community resources, developing patient education materials, and perfecting written and oral communication skills. Upon completion, students should be able to instruct, communicate effectively, and act as a liaison between the patient and community agencies.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Mental Health (MHA)

MHA 150 Mental Health Systems 3 0 0 3

This course introduces the treatment and services available at both public and private mental health facilities. Topics include intake procedures, admission criteria, history, and the structure of mental health facilities. Upon completion, students should be able to demonstrate competence in articulating both the theory and practice of mental health services delivery. *This course is a unique concentration requirement of the Mental Health concentration in the Human Services Technology program.* Pre-requisite: **HSE 110**.

MHA 155 Psychological Assessment 3 0 0 3

This course covers psychological assessment. Emphasis is placed on different types of psychological tests. Upon completion, students should be able to recognize and understand the purpose of various psychological tests. *This course is a unique concentration requirement of the Mental Health concentration in the Human Services Technology program.* Pre-requisites: **PSY 150** and **HSE 125**.

MHA 240 Advocacy 2 0 0 2

This course covers the roles and duties of the client advocate. Topics include treatment planning, needs assessment, referral procedures, and follow-up and integration of services. Upon completion, students should be able to effectively manage the care of the whole person from contact initiation to termination. *This course is a unique concentration requirement of the Mental Health concentration in the Human Services Technology program.* Pre-requisites: **HSE 110**.

Marketing and Retailing (MKT)

MKT 120 Principles of Marketing 3 0 0 3

This course introduces principles and problems of marketing goods and services. Topics include promotion, placement, and pricing strategies for products. Upon completion, students should be able to apply marketing principles in organizational decision making.

MKT 121 Retailing 3 0 0 3

This course examines the role of retailing in the economy. Topics include the development of present retail structure, functions performed, effective operations, and managerial problems resulting from current economic and social trends. Upon completion, students should be able to demonstrate an understanding of the basic principles of retailing.

MKT 123 Fundamentals of Selling 3 0 0 3

This course is designed to emphasize the necessity of selling skills in a modern business environment. Emphasis is placed on sales techniques involved in various types of selling situations. Upon completion, students should be able to demonstrate an understanding of the techniques covered.

MKT 224 International Marketing 3 0 0 3

This course covers the basic concepts of international marketing activity and theory. Topics include product promotion, placement, and pricing strategies in the international marketing environment. Upon completion, students should be able to demonstrate a basic understanding of the concepts covered.

MKT 231 Healthcare Marketing 3 0 0 3

This is designed to help students gain an understanding of how the principles of marketing are used in a healthcare setting. Topics include market development, market segmentation, market research, advertising and promotion, and service development for healthcare marketing. Upon completion, students should be able to plan, develop, and implement a basic marketing plan for an institution within the healthcare industry. Pre-requisite: **MKT 120**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Maintenance (MNT)

MNT 110 Intro to Maintenance Procedures 1 3 0 2

This course covers basic maintenance fundamentals for power transmission equipment. Topics include equipment inspection, lubrication, alignment, and other scheduled maintenance procedures. Upon completion, students should be able to demonstrate knowledge of accepted maintenance procedures and practices according to current industry standards.

MNT 220 Rigging and Moving 1 3 0 2

This course covers the principles of safe rigging practices for handling, placing, installing, and moving heavy machinery and equipment. Topics include safety, weight and dimensional estimation, positioning of equipment slings, rollers, jacks, levers, dollies, ropes, chains, padding, and other related topics. Upon completion, students should be able to safely relocate and set up equipment using accepted rigging practices.

MNT 263 Electro-Pneu Components 2 4 0 4

This course introduces principles and practical applications of electrical/pneumatic control systems, and primary control devices incorporated in those systems. Emphasis is placed on reading and interpreting ladder diagrams, building control circuits, and troubleshooting valves, switches, and sensors. Upon completion, students should be able to design, build, and troubleshoot basic electro-pneumatic control systems. Pre-requisites: ELC 112 and HYD 110

Music (MUS)

MUS 110 Music Appreciation 3 0 0 3

This course is a basic survey of the music of the Western world. Emphasis is placed on the elements of music, terminology, composers, form, and style within a historical perspective. Upon completion, students should be able to demonstrate skills in basic listening and understanding of the art of music. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: RED 090 or ENG 095.

MUS 111 Fundamentals of Music 3 0 0 3

This course is an introductory course for students with little or no music background. Emphasis is placed on music notation, rhythmic patterns, scales, key signatures, intervals, and chords. Upon completion, students should be able to demonstrate an understanding of the rudiments of music. Pre-requisite: RED 090 or ENG 095.

MUS 112 Introduction to Jazz 3 0 0 3

This course introduces the origins and musical components of jazz and the contributions of its major artists. Emphasis is placed on the development of discriminating listening habits, as well as the investigation of the styles and structural forms of the jazz idiom. Upon completion, students should be able to demonstrate skills in listening and understanding this form of American music. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: RED 090 or ENG 095.

MUS 121 Music Theory I 3 2 0 4

This course provides an in-depth introduction to melody, rhythm, and harmony. Emphasis is placed on fundamental melodic, rhythmic, and harmonic analysis, introduction to part writing, ear-training, and sight-singing. Upon completion, students should be able to demonstrate proficiency in the recognition and application of the above. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

MUS 122	Music Theory II	3	2	0	4
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This course is a continuation of studies begun in MUS 121. Emphasis is placed on advanced melodic, rhythmic, and harmonic analysis and continued studies in part-writing, ear-training, and sight-singing. Upon completion, students should be able to demonstrate proficiency in the recognition and application of the above. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: **C or better in MUS 121.**

MUS 131	Chorus I	0	2	0	1
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This course provides an opportunity to gain experience singing in a chorus. Emphasis is placed on vocal techniques and the study and performance of a variety of styles and periods of choral literature. Upon completion, students should be able to demonstrate skills needed to participate in choral singing leading to performance. Pre-requisite: Audition.

MUS 132	Chorus II	0	2	0	1
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This course provides a continuation of studies begun in MUS 131. Emphasis is placed on vocal techniques and the study and performance of a variety of styles and periods of choral literature. Upon completion, students should be able to demonstrate skills needed to participate in choral singing leading to performance. Pre-requisite: **C or better in MUS 131.**

MUS 141	Ensemble I	0	2	0	1
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This course provides an opportunity to perform in any combination of instrumental, vocal, or keyboard groups of two or more. Emphasis is placed on the development of performance skills and the study of a variety of styles and periods of ensemble literature. Upon completion, students should be able to demonstrate skills needed to participate in ensemble playing leading to performance. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: Audition.

MUS 142	Ensemble II	0	2	0	1
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This course is a continuation of MUS 141. Emphasis is placed on the development of performance skills and the study of a variety of styles and periods of ensemble literature. Upon completion, students should be able to demonstrate skills needed to participate in ensemble playing leading to performance. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: **C or better in MUS 141.**

MUS 151	Class Music I	0	2	0	1
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This course provides group instruction in skills and techniques of the particular instrument or voice for those with little or no previous experience. Emphasis is placed on techniques and styles and the exploration and study of appropriate literature. Upon completion, students should be able to demonstrate proficiency in the studied skills and repertoire through performance. Colleges may use a letter suffix to designate a specific instrument or voice, for example MUS 151P for piano. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

MUS 152	Class Music II	0	2	0	1
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This course is a continuation of MUS 151. Emphasis is placed on techniques and styles and the exploration and study of appropriate literature. Upon completion, students should be able to demonstrate proficiency in the studied skills and repertoire through performance. Colleges may use a letter suffix to designate a specific instrument or voice, for example MUS 152P for piano. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as an elective course requirement. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: **C or better in MUS 151.**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

MUS 161 Applied Music I 1 2 0 2

This course provides individual instruction in the skills and techniques of the particular instrument or voice. Emphasis is placed on techniques and styles and the exploration and study of appropriate literature. Upon completion, students should be able to demonstrate proficiency in the studied skills and repertoire through performance. Colleges may use a letter suffix to designate a specific instrument or voice, for example MUS 161P for piano. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

MUS 162 Applied Music II 1 2 0 2

This course is a continuation of MUS 161. Emphasis is placed on techniques and styles and the exploration and study of appropriate literature. Upon completion, students should be able to demonstrate proficiency in the studied skills and repertoire through performance. Colleges may use a letter suffix to designate a specific instrument or voice, for example MUS 162P for piano. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: **C or better in MUS 161.**

MUS 181 Show Choir Music I 3 3 0 4

This course provides students the initial training in basic competencies of dance/voice-based performances and to the nuances of preparation for such pop/jazz/theatre performances. Emphasis is placed on the introduction to, and subsequent development of, basic performance skills necessary for choreographed performance. Upon completion, students should be able to demonstrate the foundation competencies necessary to perform the assigned literature in various venues and under various professional conditions. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

MUS 182 Show Choir Music II 3 3 0 4

This course provides intermediate training in dance/voice-based performances and in the nuances of preparation for such pop/jazz/theatre performances. Emphasis is placed on continued development of skills necessary for professional group choral preparation and performance, as well as effective social interaction with a performance troupe. Upon completion, students should be able to demonstrate the intermediate competencies necessary to perform the assigned literature in various venues and under various professional conditions. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: **MUS 181.**

MUS 281 Show Choir Music III 3 3 0 4

This course provides intermediate training in dance/voice-based performances and in the nuances of preparation for such pop/jazz/theatre performances. Emphasis is placed on continued development of skills necessary for professional group choral preparation and performance, as well as effective social interaction with a performance troupe. Upon completion, students should be able to demonstrate the intermediate competencies necessary to perform the assigned literature in various venues and under various professional conditions. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: **MUS 182.**

MUS 210 History of Rock Music 3 0 0 3

This course is a survey of Rock music from the early 1950's to the present. Emphasis is placed on musical groups, soloists, and styles related to the evolution of this idiom and on related historical and social events. Upon completion, students should be able to identify specific styles and to explain the influence of selected performers within their respective eras. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts for college transfer students only.*

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
MUS	214	Electronic Music I	1	2	0	2
<p>This course provides an opportunity to study and explore various electronic instruments and devices. Emphasis is placed on fundamental MIDI applications and implementation, features and application of sequences, sound modules, and digital keyboards. Upon completion, students should be able to demonstrate proficiency by creation of appropriate musical projects using the equipment and techniques covered. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.</i> Pre-requisite: C or better in MUS 111.</p>						
MUS	215	Electronic Music II	1	2	0	2
<p>This course is a continuation of MUS 214. Emphasis is placed on advanced MIDI applications and implementation and continued work with sequencers, sound modules, and digital keyboards. Upon completion, students should be able to demonstrate proficiency by creation of appropriate musical projects using the equipment and techniques covered. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.</i> Pre-requisite: C or better in MUS 214.</p>						
MUS	221	Music Theory III	3	2	0	4
<p>This course is a continuation of MUS 122. Emphasis is placed on altered and chromatic harmony, common practice era compositional techniques and forms, and continued studies in part-writing, ear-training, and sight-singing. Upon completion, students should be able to demonstrate proficiency in the recognition and application of the above. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.</i> Pre-requisite: C or better in MUS 122.</p>						
MUS	222	Music Theory IV	3	2	0	4
<p>This course is a continuation of studies begun in MUS 221. Emphasis is placed on continued study of common practice era compositional techniques and forms, 20th century practices, ear-training, and sight-singing. Upon completion, students should be able to demonstrate proficiency in the recognition and application of the above. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.</i> Pre-requisite: C or better in MUS 221.</p>						
MUS	231	Chorus III	0	2	0	1
<p>This course is a continuation of MUS 132. Emphasis is placed on vocal techniques and the study and performance of a variety of styles and periods of choral literature. Upon completion, students should be able to demonstrate skills needed to participate in choral singing leading to performance. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.</i> Pre-requisite: C or better in MUS 132.</p>						
MUS	232	Chorus IV	0	2	0	1
<p>This course is a continuation of MUS 231. Emphasis is placed on vocal techniques and the study of styles and periods of choral literature. Upon completion, students should be able to demonstrate skills needed to participate in choral singing leading to performance. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.</i> Pre-requisite: C or better in MUS 231.</p>						
MUS	241	Ensemble III	0	2	0	1
<p>This course is a continuation of MUS 142. Emphasis is placed on the development of performance skills and the study of a variety of styles and periods of ensemble literature. Upon completion, students should be able to demonstrate skills needed to participate in ensemble playing leading to performance. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.</i> Pre-requisite: C or better in MUS 142.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

MUS 242	Ensemble IV	0	2	0	1
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This course is a continuation of MUS 241. Emphasis is placed on the development of performance skills and the study of styles of ensemble literature. Upon completion, students should be able to demonstrate skills needed to participate in ensemble playing leading to performance. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement* Pre-requisite: **C or better in MUS 241.**

MUS 261	Applied Music III	1	2	0	2
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This course is a continuation of MUS 162. Emphasis is placed on techniques and styles and the exploration and study of appropriate literature. Upon completion, students should be able to demonstrate proficiency in the studied skills and repertoire through performance. Colleges may use a letter suffix to designate a specific instrument or voice, for example MUS 261P for piano. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisites **C or better in MUS 162.**

MUS 262	Applied Music IV	1	2	0	2
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This course is a continuation of MUS 261. Emphasis is placed on techniques and styles and the exploration and study of appropriate literature. Upon completion, students should be able to demonstrate proficiency in the studied skills and repertoire through performance. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: **C or better in MUS 261**

MUS 271	Music History I	3	0	0	3
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This course is the first of a two-semester, in-depth study of music history. Emphasis is placed on the history and literature of music from Antiquity through the Baroque Period. Upon completion, students should be able to trace important musical developments and demonstrate an understanding of the composers' styles. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: **C or better in MUS 122.**

MUS 272	Music History II	3	0	0	3
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This course is the second of a two-semester, in-depth study of music history. Emphasis is placed on the history and literature of music from the Classical Period to the present. Upon completion, students should be able to trace important musical developments and demonstrate an understanding of the composers' styles. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisite: **C or better in MUS 271.**

Nursing Assistant (NAS)

NAS 101	Nursing Assistant I	3	4	3	6
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This course introduces basic nursing skills required to provide personal care for patients, residents, or clients in a health care setting. Topics include communications, safety, patients' rights, personal care, vital signs, elimination, nutrition, emergencies, rehabilitation, and mental health. Upon completion, students should be able to demonstrate skills necessary to qualify as a Nursing Assistant I with the North Carolina Nurse Aide I Registry. This is a certificate-level course. Pre-requisite: Coded pre-nursing degree students or coded nursing assistant certificate students ; instructor permission required.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

NAS 102	Nursing Assistant II	3	2	6	6
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This course provides training in selected advanced nursing assistant procedures. Emphasis is placed on sterile techniques, respiratory procedures, catheterizations, wound and trach care, irrigations, and ostomy care. Upon completion, students should be able to demonstrate skills necessary to qualify as a Nursing Assistant II with the North Carolina Board of Nursing. This is a certificate-level course. Pre-requisite: NAS 101 or Completion of a state-approved Nursing Assistant I course and listing as a Nurse Aide I on the North Carolina Nurse Aide I Registry; instructor permission required.

NAS 103	Home Health Care	2	0	0	2
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This course covers basic health issues that affect clients in the home setting. Emphasis is placed on home safety, recognizing significant changes in the client's condition, family dynamics, and use of home health care equipment. Upon completion, students should be able to identify care for clients at home. This is a certificate-level course. Instructor permission required.

NAS 105	Life Span Changes	2	0	0	2
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This course covers growth and development in relation to the human body throughout the life span. Topics include restorative care, safety, nutrition, and the physical, mental, and social aspects of the aging process. Upon completion, students should be able to understand the changes that occur throughout the life span. This is a certificate-level course. Instructor permission required.

Networking Technology (NET)

NET 110	Data Communication/Networking	2	2	0	3
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This course introduces students to the networking field. Topics include network terminology and protocols, local-area networks, wide-area networks, OSI model, cabling, router programming, Ethernet, IP addressing, and network standards. Upon completion, students should be able to perform tasks related to networking mathematics, terminology, and models, media, Ethernet, subnetting, and TCP/IP Protocols. Pre-requisite: MAT 070; Co-requisites: CIS 110.

NET 125	Networking Basics	1	4	0	3
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This course introduces the networking field. Emphasis is placed on network terminology and protocols, local-area networks, wide-area networks, OSI model, cabling, router programming, Ethernet, IP addressing, and network standards. Upon completion, students should be able to perform tasks related to networking mathematics, terminology, and models, media, Ethernet, subnetting, and TCP/IP Protocols. Pre-requisites: RED 090 or ENG 095, MAT 070.

NET 126	Routing Basics	1	4	0	3
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This course focuses on initial router configuration, router software management, routing protocol configuration, TCP/IP, and access control lists (ACLs). Emphasis will be placed on the fundamentals of router configuration, managing router software, routing protocol, and access lists. Upon completion, students should have an understanding of routers and their role in WANs, router configuration, routing protocols, TCP/IP, troubleshooting, and ACLs. Pre-requisite: NET 125.

NET 175	Wireless Technology	2	2	0	3
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This course introduces the student to wireless technology and interoperability with different communication protocols. Topics include Wireless Application Protocol (WAP), Wireless Mark-up language (WML), link manager, service discovery protocol, transport layer and frequency band. Upon completion, students should be able to discuss in written and oral form protocols and procedures required for different wireless applications. Pre-requisite: NET 110 or NET 125.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

NET 225 Routing & Switching I 1 4 0 3

This course focuses on advanced IP addressing techniques, intermediate routing protocols, command-line interface configuration of switches, Ethernet switching, VLANs, STP, and VTP. Emphasis will be placed on application and demonstration of skills acquired in pre-requisite courses. Upon completion, students should be able to perform tasks related to VLSM, routing protocols, switching concepts and configuration, STP, VLANs, and VTP. Pre-requisite: **NET 126**.

NET 226 Routing and Switching II 1 4 0 3

This course introduces WAN theory and design, WAN technology, PPP, Frame Relay, ISDN, and additional case studies. Topics include network congestion problems, TCP/IP transport and network layer protocols, advanced routing and switching configuration, ISDN protocols, PPP encapsulation operations on a router. Upon completion, students should be able to provide solutions for network routing problems, identify ISDN protocols, and describe the Spanning Tree protocol. Pre-requisite: **NET 225**.

NET 289 Networking Project 1 4 0 3

This course provides an opportunity to complete a significant networking project from the design phase through implementation with minimal instructor support. Emphasis is placed on project definition, documentation, installation, testing, presentation, and training. Upon completion, students should be able to complete a project from the definition phase through implementation. Co-requisite: **NET 226**.

Network Operating Systems (NOS)

NOS 110 Operating System Concepts 2 3 0 3

This course introduces students to a broad range of operating system concepts, including installation and maintenance. Emphasis is placed on operating system concepts, management, maintenance, and resources required. Upon completion of this course, students will have an understanding of OS concepts, installation, management, maintenance, using a variety of operating systems. Co-requisites: **CIS 110**.

NOS 120 Linux/UNIX Single User 2 2 0 3

This course develops the necessary skills for students to develop both GUI and command line skills for using and customizing a Linux workstation. Topics include Linux file system and access permissions, GNOME Interface, VI editor, X Window System expression pattern matching, I/O redirection, network and printing utilities. Upon completion, students should be able to customize and use Linux systems for command line requirements and desktop productivity roles. Pre-requisite: **NOS 110**.

NOS 130 Windows Single User 2 2 0 3

This course introduces operating system concepts for single-user systems. Topics include hardware management, file and memory management, system configuration/optimization, and utilities. Upon completion, students should be able to perform operating systems functions at the support level in a single-user environment. Pre-requisite: **NOS 110**.

NOS 220 Linux/UNIX Admin I 2 2 0 3

This course introduces the Linux file system, group administration, and system hardware controls. Topics include installation, creation and maintaining file systems, NIS client and DHCP client configuration, NFS, SMB/Samba, Configure X, Gnome, KDE, basic memory, processes, and security. Upon completion, students should be able to perform system administration tasks including installation, configuring and attaching a new Linux workstation to an existing network. Pre-requisite: **NOS 120**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

NOS	230	Windows Admin I	2	2	0	3
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This course covers the installation and administration of a Windows Server network operating system. Topics include managing and maintaining physical and logical devices, access to resources, the server environment, managing users, computers, and groups, and Managing/Implementing Disaster Recovery. Upon completion, students should be able to manage and maintain a Windows Server environment. Pre-requisite: **NOS 130**.

NOS	231	Windows Admin II	2	2	0	3
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This course covers implementing, managing, and maintaining a Windows Server network infrastructure. Topics include implementing, managing, and maintaining IP addressing, name resolution, network security, routing and remote access, and managing a network infrastructure. Upon completion, students should be able to manage and maintain a Windows Server environment. Pre-requisite: **NOS 230**.

Nursing (NUR)

NUR	101	Practical Nursing I	7	6	6	11
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This course introduces concepts as related to the practical nurse's caregiver and discipline-specific roles. Emphasis is placed on the nursing process, legal/ethical/professional issues, wellness/illness patterns, and basic nursing skills. Upon completion, students should be able to demonstrate beginning understanding of nursing process to promote/maintain/restore optimum health for diverse clients throughout the life span. This is a diploma-level course. Pre-requisite: Admission to Practical Nursing Program. Co-requisite: **BIO 165**.

NUR	102	Practical Nursing II	8	0	12	12
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This course includes more advanced concepts as related to the practical nurse's caregiver and discipline-specific roles. Emphasis is placed on the nursing process, delegation, cost effectiveness, legal/ethical/professional issues, and wellness/illness patterns. Upon completion, students should be able to begin participating in the nursing process to promote/maintain/restore optimum health for diverse clients throughout the life span. This is a diploma-level course. Pre-requisite: **NUR 101**. Co-requisite: **BIO 166**.

NUR	103	Practical Nursing III	6	0	12	10
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This course focuses on use of nursing/related concepts by practical nurses as providers of care/members of discipline in collaboration with health team members. Emphasis is placed on the nursing process, wellness/illness patterns, entry-level issues, accountability, advocacy, professional development, evolving technology, and changing health care delivery systems. Upon completion, students should be able to use the nursing process to promote/maintain/restore optimum health for diverse clients throughout the life span. This is a diploma-level course. Pre-requisite: **NUR 102**.

NUR	111	Intro to Health Concepts	4	6	6	8
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This course introduces the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts within each domain including medication administration, assessment, nutrition, ethics, interdisciplinary teams, informatics, evidence-based practice, individual-centered care, and quality improvement. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course. Pre-requisite: Admission to Associate Degree Nursing. Co-requisite: **BIO 165**.

NUR	112	Health-Illness Concepts	3	0	6	5
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This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of acid-base, metabolism, cellular regulation, oxygenation, infection, stress/coping, health-wellness-illness, communication, caring interventions, managing care, safety, quality improvement, and informatics. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course. Pre-requisite: **NUR 111**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

NUR 113 Family Health Concepts 3 0 6 5

This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of oxygenation, sexuality, reproduction, grief/loss, mood/affect, behaviors, development, family, health-wellness-illness, communication, caring interventions, managing care, safety, and advocacy. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course. Pre-requisite: NUR 111. Co-requisite: PSY 241 and BIO 166.

NUR 114 Holistic Health Concepts 3 0 6 5

This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of cellular regulation, perfusion, inflammation, sensory perception, stress/coping, mood/affect, cognition, self, violence, health-wellness-illness, professional behaviors, caring interventions, and safety. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course. Pre-requisite: NUR 111.

NUR 211 Health Care Concepts 3 0 6 5

This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of cellular regulation, perfusion, infection, immunity, mobility, comfort, behaviors, health-wellness-illness, clinical decision-making, caring interventions, managing care, and safety. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course. Pre-requisite: NUR 111 or NUR 214.

NUR 212 Health System Concepts 3 0 6 5

This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of grief/loss, violence, health-wellness-illness, collaboration, managing care, safety, advocacy, legal issues, policy, healthcare systems, ethics, accountability, and evidence-based practice. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course. Pre-requisite: NUR 111 or NUR 214.

NUR 213 Complex Health Concepts 4 3 15 10

This course is designed to assimilate the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of fluid/electrolytes, metabolism, perfusion, mobility, stress/coping, violence, health-wellness-illness, professional behaviors, caring interventions, managing care, healthcare systems, and quality improvement. Upon completion, students should be able to demonstrate the knowledge, skills, and attitudes necessary to provide quality, individualized, entry level nursing care. Pre-requisite: (NUR 111, NUR 112, NUR 113, NUR 114, NUR 211, and NUR 212) or (NUR 214, NUR 211, and NUR 212).

NUR 214 Nsg Transition Concepts 3 3 0 4

This course is designed to introduce concepts within the three domains of the individual, healthcare, and nursing as the LPN transitions to the ADN role. Emphasis is placed on the concepts within each domain including evidenced-based practice, quality improvement, communication, safety, interdisciplinary team, clinical decision-making, informatics, assessment, caring, and health-wellness-illness. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course. Pre-requisite: Admission to Associate Degree Nursing for Returning LPNs.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Office Administration (OST)

OST 131	Keyboarding	1	2	0	2
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This course covers basic keyboarding skills. Emphasis is placed on the touch system, correct techniques, and development of speed and accuracy. Upon completion, students should be able to key at an acceptable speed and accuracy level using the touch system.

OST 132	Keyboard Skill Building	1	2	0	2
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This course is designed to increase speed and improve accuracy in keyboarding. Emphasis is placed on diagnostic tests to identify accuracy and speed deficiencies followed by corrective drills. Upon completion, students should be able to keyboard rhythmically with greater accuracy and speed. Pre-requisite: C or better in OST 131 or demonstrated proficiency.

OST 136	Word Processing	2	2	0	3
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This course is designed to introduce word processing concepts and applications. Topics include preparation of a variety of documents and mastery of specialized software functions. Upon completion, students should be able to work effectively in a computerized word processing environment.

OST 137	Office Software Applications	2	2	0	3
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This course introduces the concepts and functions of software that meets the changing needs of the community. Emphasis is placed on the terminology and use of software through a hands-on approach. Upon completion, students should be able to use software in a business environment.

OST 138	Advanced Software Applications	2	2	0	3
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This course is designed to improve the proficiency in the utilization of software applications used in business offices through a hands-on approach. Emphasis is placed on in-depth usage of software to create a variety of documents applicable to current business environments. Upon completion, students should be able to master the skills required to design documents that can be customized using the latest software applications. Pre-requisite: C or better in **OST 137** or **CIS 110** or **CIS 111**.

OST 140	Internet Comm/Research	1	2	0	2
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This course provides a working knowledge of Internet usage and research for the modern office. Emphasis is placed on using search engines, email, Web sites, Web servers, communication services, and e-business to obtain information vital to the current office environment. Upon completion, students should be able to use the Internet to research any office topics required for employment.

OST 141	Medical Terms I - Medical Office	3	0	0	3
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This course uses a language-structure approach to present the terminology and vocabulary that will be encountered in medical office settings. Topics include word parts that relate to systemic components, conditions, pathology, and disorder remediation in approximately one-half of the systems of the human body. Upon completion, students should be able to relate words to systems, pluralize, define, pronounce, and construct sentences with the included terms. Co-requisite: ENG 070 and RED 070.

OST 142	Medical Terms II - Medical Office	3	0	0	3
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This course is a continuation of OST 141 and continues the study, using a language-structure approach, of medical office terminology and vocabulary. Topics include word parts that relate to systemic components, conditions, pathology, and disorder remediation in the remaining systems of the human body. Upon completion, students should be able to relate words to systems, pluralize, define, pronounce, and construct sentences with the included terms. Pre-requisite: C or better in **OST 141**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
OST	148	Medical Coding, Billing, & Insurance	3	0	0	3
<p>This course introduces fundamentals of medical coding, billing, and insurance. Emphasis is placed on the medical billing cycle to include third party payers, coding concepts, and form preparation. Upon completion, students should be able to explain the life cycle of and accurately complete a medical insurance claim.</p>						
OST	149	Medical Legal Issues	3	0	0	3
<p>This course introduces the complex legal, moral, and ethical issues involved in providing health-care services. Emphasis is placed on the legal requirements of medical practices; the relationship of physician, patient, and office personnel; professional liabilities; and medical practice liability. Upon completion, students should be able to demonstrate a working knowledge of current medical law and accepted ethical behavior.</p>						
OST	153	Office Finance Solutions	1	2	0	2
<p>This course introduces basic bookkeeping concepts. Topics include entering data in accounts payable and receivable, keeping petty cash records, maintaining inventory, reconciling bank statements, running payroll, and generating simple financial reports. Upon completion, students should be able to demonstrate competence in the entry and manipulation of data to provide financial solutions for the office.</p>						
OST	164	Text Editing Applications	3	0	0	3
<p>This course provides a comprehensive study of editing skills needed in the workplace. Emphasis is placed on grammar, punctuation, sentence structure, proofreading, and editing. Upon completion, students should be able to use reference materials to compose and edit text. Pre-requisites: ENG 070 and RED 070.</p>						
OST	165	Adv. Text Editing Applications	2	2	0	3
<p>This course is designed to develop proficiency in advanced editing skills needed in the office environment. Emphasis is placed on the application of creating effective electronic office documents. Upon completion, students should be able to apply advanced editing skills to compose text. Pre-requisite: C or better in OST 164.</p>						
OST	181	Introduction to Office Systems	2	2	0	3
<p>This course introduces the skills and abilities needed in today's office. Topics include effectively interacting with co-workers and the public, processing simple financial and informational documents, and performing functions typical of today's offices. Upon completion, students should be able to display skills and decision-making abilities essential for functioning in the total office context. Pre-requisite: OST 153. Co-requisite: OST 138.</p>						
OST	184	Records Management	2	2	0	3
<p>This course includes the creation, maintenance, protection, security, and disposition of records stored in a variety of media forms. Topics include alphabetic, geographic, subject, and numeric filing methods. Upon completion, students should be able to set up and maintain a records management system.</p>						
OST	188	Issues in Office Technology	2	0	0	2
<p>This course is designed to develop critical thinking skills concerning roles in business and how these contribute to society. Topics include an examination of social, racial, and gender issues and how they affect self-identity. Upon completion, students should be able to demonstrate an understanding of social issues in written and oral assignments.</p>						
OST	201	Medical Transcription I	3	2	0	4
<p>This course introduces dictating equipment and typical medical dictation. Emphasis is placed on efficient use of equipment, dictionaries, PDRs, and other reference materials. Upon completion, students should be able to efficiently operate dictating equipment and to accurately transcribe a variety of medical documents in a specified time. <i>This course is intended for diploma programs.</i> Pre-requisites: C or better in OST 136, OST 203. Co-requisites: OST 132, OST 164 and either MED 122 or OST 142.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

OST 202 Medical Transcription II 3 2 0 4

This course provides additional practice in transcribing documents from various medical specialties. Emphasis is placed on increasing transcription speed and accuracy and understanding medical procedures and terminology. Upon completion, students should be able to accurately transcribe a variety of medical documents in a specified time. *This course is intended for diploma programs.* Pre-requisite: C or better in **OST 201**. Co-requisites: COE 111.

OST 203 Fund of Med Documentation 3 0 0 3

This course covers the information and procedures necessary for producing acceptable medical documentation. Topics include digital dictation systems; workplace security systems; the access, retrieval, and transport of medical documents; and other transcribing techniques necessary for acceptable medical documentation. Upon completion, students should be able to process medical documents in a home-based or medical facility. This course is intended for diploma programs. Co-requisites: OST 136, OST 164, OST 132, and either **MED 121 or OST 141**.

OST 233 Office Publications Design 2 2 0 3

This course provides entry-level skills in using software with desktop publishing capabilities. Topics include principles of page layout, desktop publishing terminology and applications, and legal and ethical considerations of software use. Upon completion, students should be able to design and produce professional business documents and publications. Pre-requisite: **OST 136**.

OST 236 Advanced Word/Information Processing 2 2 0 3

This course develops proficiency in the utilization of advanced word/information processing functions. Emphasis is placed on advanced word processing features. Upon completion, students should be able to produce a variety of complex business documents. Pre-requisite: C or better in **OST 136**.

OST 243 Medical Office Simulation 2 2 0 3

This course introduces medical systems used to process information in the automated office. Topics include traditional and electronic information resources, storing and retrieving information, and the billing cycle. Upon completion, students should be able to use the computer accurately to schedule, bill, update, and make corrections. Pre-requisite: **OST 148**.

OST 247 Procedure Coding 1 2 0 2

This course provides in-depth coverage of procedural coding. Emphasis is placed on CPT and HCPCS coding systems. Upon completion, students should be able to properly code procedures and services performed in a medical facility. Prerequisites: OST 148 and either **MED 121 or OST 141**.

OST 248 Diagnostic Coding 1 2 0 2

This course provides an in-depth study of diagnostic coding. Emphasis is placed on ICD coding system. Upon completion, students should be able to properly code diagnoses in a medical facility. Pre-requisite: OST 148 and either **MED 121 or OST 141**.

OST 281 Emerging Issues in Medical Office 3 0 0 3

This course provides a comprehensive discussion of topics familiar to the health care setting. Topics include emerging issues in the health care setting. Upon completion, students should be able to demonstrate an understanding of current medical office procedures and treatments. This course is also intended to prepare students for coding for reimbursement in a hospital or outpatient facilities setting and preparation for the CPC-H exam. Pre-requisite: C or better in OST 247 and OST 248.

OST 284 Emerging Technologies 1 2 0 2

This course provides opportunities to explore emerging technologies. Emphasis is placed on identifying, researching, and presenting current technological topics for class consideration and discussion. Upon completion, students should be able to understand the importance of keeping abreast of technological changes that affect the office professional. Pre-requisite: OST 137.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

OST 286 Professional Development 3 0 0 3

This course covers the personal competencies and qualities needed to project a professional image in the office. Topics include interpersonal skills, health lifestyles, appearance, attitude, personal and professional growth, multicultural awareness, and professional etiquette. Upon completion, students should be able to demonstrate these attributes in the classroom, office, and society.

OST 289 Administrative Office Management 2 2 0 3

This course provides a capstone course for the office professional. Topics include administrative office procedures, imaging, communication techniques, ergonomics, and equipment utilization. Upon completion, students should be able to function proficiently in a changing office environment. Pre-requisites: **OST 164** and **OST 181** and either **OST 134** or **OST 136**.

Process Control Instrumentation (PCI)

PCI 162 Instrumentation Controls 2 3 0 3

This course surveys industrial process control instrumentation concepts, devices, and systems. Topics include process control devices and process control applications associated with industrial instrumentation. Upon completion, students should be able to demonstrate a basic understanding of the various industrial process control and instrumentation systems. Pre-requisite: **ELC 111**, **ELC 112**, or **ELC 131**.

Physical Education (PED)

PED 110 Fit and Well for Life 1 2 0 2

This course is designed to investigate and apply the basic concepts and principles of lifetime physical fitness and other health-related factors. Emphasis is placed on wellness through the study of nutrition, weight control, stress management, and consumer facts on exercise and fitness. Upon completion, students should be able to plan a personal, lifelong fitness program based on individual needs, abilities, and interests. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.* Pre-requisite: **RED 090** or **ENG 095**.

PED 111 Physical Fitness I 0 3 0 1

This course provides an individualized approach to physical fitness utilizing the five major components. Emphasis is placed on the scientific basis for setting up and engaging in personalized physical fitness programs. Upon completion, students should be able to set up and implement an individualized physical fitness program. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*

PED 112 Physical Fitness II 0 3 0 1

This course is an intermediate-level fitness class. Topics include specific exercises contributing to fitness and the role exercise plays in developing body systems. Upon completion, students should be able to implement and evaluate an individualized physical fitness program. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.* Pre-requisite: **PED 111**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
PED	113	Aerobics I	0	3	0	1
<p>This course introduces a program of cardiovascular fitness involving continuous, rhythmic exercise. Emphasis is placed on developing cardiovascular efficiency, strength, and flexibility and on safety precautions. Upon completion, students should be able to select and implement a rhythmic aerobic exercise program. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i></p>						
PED	114	Aerobics II	0	3	0	1
<p>This course provides a continuation of a program of cardiovascular fitness involving rhythmic exercise. Emphasis is placed on a wide variety of aerobic activities which include cardiovascular efficiency, strength, and flexibility. Upon completion, students should be able to participate in and design a rhythmic aerobic exercise routine. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i> Pre-requisite: PED 113.</p>						
PED	117	Weight Training I	0	3	0	1
<p>This course introduces the basics of weight training. Emphasis is placed on developing muscular strength, muscular endurance, and muscle tone. Upon completion, students should be able to establish and implement a personal weight training program. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i></p>						
PED	118	Weight Training II	0	3	0	1
<p>This course covers advanced levels of weight training. Emphasis is placed on meeting individual training goals and addressing weight training needs and interests. Upon completion, students should be able to establish and implement an individualized advanced weight training program. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i> Pre-requisite: PED 117.</p>						
PED	119	Circuit Training	0	3	0	1
<p>This course covers the skills necessary to participate in a developmental fitness program. Emphasis is placed on the circuit training method which involves a series of conditioning timed stations arranged for maximum benefit and variety. Upon completion, students should be able to understand and appreciate the role of circuit training as a means to develop fitness. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i></p>						
PED	120	Walking for Fitness	0	3	0	1
<p>This course introduces fitness through walking. Emphasis is placed on stretching, conditioning exercises, proper clothing, fluid needs, and injury prevention. Upon completion, students should be able to participate in a recreational walking program. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i></p>						
PED	121	Walk, Jog, Run	0	3	0	1
<p>This course covers the basic concepts involved in safely and effectively improving cardiovascular fitness. Emphasis is placed on walking, jogging, or running as a means of achieving fitness. Upon completion, students should be able to understand and appreciate the benefits derived from these activities. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i></p>						
PED	122	Yoga I	0	2	0	1
<p>This course introduces the basic discipline of yoga. Topics include proper breathing, relaxation techniques, and correct body positions. Upon completion, students should be able to demonstrate the procedures of yoga. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i></p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

PED 123	Yoga II	0	2	0	1
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This course introduces more detailed aspects of the discipline of yoga. Topics include breathing and physical postures, relaxation, and mental concentration. Upon completion, students should be able to demonstrate advanced procedures of yoga. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement. Pre-requisite: **PED 122**.

PED 128	Golf - Beginning	0	2	0	1
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This course emphasizes the fundamentals of golf. Topics include the proper grips, stance, alignment, swings for the short and long game, putting, and the rules and etiquette of golf. Upon completion, students should be able to perform the basic golf shots and demonstrate a knowledge of the rules and etiquette of golf. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*

PED 129	Golf - Intermediate	0	2	0	1
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This course covers the more advanced phases of golf. Emphasis is placed on refining the fundamental skills and learning more advanced phases of the games such as club selection, trouble shots, and course management. Upon completion, students should be able demonstrate the knowledge and ability to play a recreational round of golf. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.* Pre-requisite: **PED 128**.

PED 139	Bowling - Beginning	0	2	0	1
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This course introduces the fundamentals of bowling. Emphasis is placed on ball selection, grips, stance, and delivery along with rules and etiquette. Upon completion, students should be able to participate in recreational bowling. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*

PED 140	Bowling - Intermediate	0	2	0	1
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This course covers more advanced bowling techniques. Emphasis is placed on refining basic skills and performing advanced shots, spins, pace, and strategy. Upon completion, students should be able to participate in competitive bowling. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.* Pre-requisite: **PED 139**.

PED 143	Volleyball - Beginning	0	2	0	1
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This course covers the fundamentals of volleyball. Emphasis is placed on the basics of serving, passing, setting, spiking, blocking, and the rules and etiquette of volleyball. Upon completion, students should be able to participate in recreational volleyball. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*

PED 144	Volleyball - Intermediate	0	2	0	1
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This course covers more advanced volleyball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to participate in competitive volleyball. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.* Pre-requisite: **PED 143**.

PED 145	Basketball-Beginning	0	2	0	1
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This course covers the fundamentals of basketball. Emphasis is placed on skill development, knowledge of the rules, and basic game strategy. Upon completion, students should be able to participate in recreational basketball. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

PED 146 Basketball-Intermediate 0 2 0 1

This course covers more advanced basketball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to play basketball at a competitive level. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.* Pre-requisites: **PED 145**.

PED 152 Swimming - Beginning 0 2 0 1

This course is designed for non-swimmers and beginners. Emphasis is placed on developing confidence in the water, learning water safety, acquiring skills in floating, and learning elementary strokes. Upon completion, students should be able to demonstrate safety skills and be able to tread water, back float, and use the crawl stroke for 20 yards. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*

PED 153 Swimming - Intermediate 0 2 0 1

This course is designed for those who have mastered basic swimming skills. Emphasis is placed on refining basic skills and learning new swim strokes. Upon completion, students should be able to demonstrate the four basic strokes, the scissors kick, the underwater swim, and other related skills. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.* Pre-requisite: **PED 152**.

PED 154 Swimming for Fitness 0 3 0 1

This course introduces lap swimming, aquacises, water activities, and games. Emphasis is placed on increasing cardiovascular efficiency through aquatic exercise. Upon completion, students should be able to develop an individualized aquatic fitness program. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

PED 155 Water Aerobics 0 3 0 1

This course introduces rhythmic aerobic activities performed in water. Emphasis is placed on increasing cardiovascular fitness levels, muscular strength, muscular endurance, and flexibility. Upon completion, students should be able to participate in an individually-paced exercise program. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

PED 240 Advanced PE Skills 0 2 0 1

This course provides those who have mastered skills in a particular physical education area the opportunity to assist with instruction. Emphasis is placed on methods of instruction, class organization, and progressive skill development. Upon completion, students should be able to design, develop, and implement a unit lesson plan for a skill they have mastered. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.* Pre-requisite: Demonstrated advanced skills in the specific area of physical education.

Philosophy (PHI)

PHI 210 History of Philosophy 3 0 0 3

This course introduces fundamental philosophical issues through an historical perspective. Emphasis is placed on such figures as Plato, Aristotle, Lao-Tzu, Confucius, Augustine, Aquinas, Descartes, Locke, Kant, Wollstonecraft, Nietzsche, and Sartre. Upon completion, students should be able to identify and distinguish among the key positions of the philosophers studied. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: **C or better in ENG 111**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

PHI	215	Philosophical Issues	3	0	0	3
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This course introduces fundamental issues in philosophy considering the views of classical and contemporary philosophers. Emphasis is placed on knowledge and belief, appearance and reality, determinism and free will, faith and reason, and justice and inequality. Upon completion, students should be able to identify, analyze, and critique the philosophical components of an issue. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: **C or better in ENG 111.**

PHI	240	Introduction to Ethics	3	0	0	3
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This course introduces theories about the nature and foundations of moral judgments and applications to contemporary moral issues. Emphasis is placed on utilitarianism, rule-based ethics, existentialism, relativism versus objectivism, and egoism. Upon completion, students should be able to apply various ethical theories to individual moral issues such as euthanasia, abortion, crime and punishment, and justice. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: **C or better in ENG 111.**

Pharmacy Technology (PHM)

PHM	110	Introduction to Pharmacy	3	0	0	3
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This course introduces pharmacy practice and the technician's role in a variety of pharmacy settings. Topics include medical terminology and abbreviations, drug delivery systems, law and ethics, prescription and medication orders, and the health care system. Upon completions, students should be able to explain the role of pharmacy technicians, read and interpret drug orders, describe quality assurance, and utilize pharmacy references. Pre-requisite: Enrollment in the Pharmacy Technology Program.

PHM	111	Pharmacy Practice I	3	3	0	4
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This course provides instruction in the technical procedures for preparing and dispensing drugs in the hospital and retail settings under supervision of a registered pharmacist. Topics include drug packaging and labeling, out-patient dispensing, hospital dispensing procedures, controlled substance procedures, inventory control, and non-sterile compounding. Upon completion, students should be able to perform basic supervised dispensing techniques in a variety of pharmacy settings. Pre-requisite: Enrollment in the Pharmacy Technology Program. Co-requisites: **PHM 110 and PHM 115.**

PHM	115	Pharmacy Calculations	3	0	0	3
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This course provides an introduction to the metric, avoirdupois, and apothecary systems of measurement and the calculations used in pharmacy practice. Topics include ratio and proportion, dosage determinations, percentage preparations, reducing and enlarging formulas, dilution and concentration, aliquots, specific gravity and density, and flow rates. Upon completion, students should be able to correctly perform calculations required to properly prepare a medication order. Pre-requisite: MAT 070 and enrollment in the Pharmacy Technology Program.

PHM	118	Sterile Products	3	3	0	4
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This course provides an introduction to intravenous admixture preparation and other sterile products, including total parenteral nutrition and chemotherapy. Topics include aseptic techniques; facilities, equipment, and supplies utilized in admixture preparation; incompatibility and stability; laminar flow hoods; immunizations and irrigation solutions; and quality assurance. Upon completion, students should be able to describe and demonstrate the steps involved in preparation of intermittent and continuous infusions, total parenteral nutrition, and chemotherapy. Pre-requisites: **PHM 110 and PHM 111.**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
PHM	120	Pharmacology I	3	0	0	3
<p>This course introduces the study of the properties, effects, and therapeutic value of the primary agents in the major drug categories. Topics include nutritional products, blood modifiers, hormones, diuretics, cardiovascular agents, respiratory drugs, and gastrointestinal agents. Upon completion, students should be able to place major drugs into correct therapeutic categories and identify indications, side effects, and trade and generic names. Pre-requisite: Enrollment in the Pharmacy Technology Program.</p>						
PHM	125	Pharmacology II	3	0	0	3
<p>This course provides a continuation of the study of the properties, effects, and therapeutic value of the primary agents in the major drug categories. Topics include autonomic and central nervous system agents, anti-inflammatory agents, and anti-infective drugs. Upon completion, students should be able to place major drugs into correct therapeutic categories and identify indications, side effects, and trade and generic names. Pre-requisite: PHM 120.</p>						
PHM	132	Pharmacy Clinical	0	0	6	2
<p>This course provides an opportunity to work in pharmacy settings under a pharmacist's supervision. Emphasis is placed on effective communication with personnel, developing proper employee attitude, and dispensing of medications. Upon completion, students should be able to demonstrate an understanding of pharmacy operations, utilize references, dispense medications, prepare patient charges, and efficiently operate computers. Pre-requisite: PHM 111.</p>						
PHM	134	Pharmacy Clinical	0	0	12	4
<p>This course provides an opportunity to work in pharmacy settings under a pharmacist's supervision. Emphasis is placed on effective communication with personnel, developing proper employee attitude, and dispensing of medications. Upon completion, students should be able to demonstrate an understanding of pharmacy operations, utilize references, dispense medications, prepare patient charges, and efficiently operate computers. Pre-requisite: PHM 111.</p>						
PHM	138	Pharmacy Clinical	0	0	24	8
<p>This course provides an opportunity to work in pharmacy settings under a pharmacist's supervision. Emphasis is placed on effective communication with personnel, developing proper employee attitude, and dispensing of medications. Upon completion, students should be able to demonstrate an understanding of pharmacy operations, utilize references, dispense medications, prepare patient charges, and efficiently operate computers.</p>						
PHM	140	Trends in Pharmacy	2	0	0	2
<p>This course covers the major issues, trends, and concepts in contemporary pharmacy practice. Topics include professional ethics, continuing education, job placements, and the latest developments in pharmacy technician practice. Upon completion, students should be able to demonstrate a basic knowledge of the topics discussed.</p>						
PHM	150	Hospital Pharmacy	3	3	0	4
<p>This course provides an in-depth study of hospital pharmacy practice. Topics include hospital organizational structure, committee functions, utilization of reference works, purchasing and inventory control, drug delivery systems, and intravenous admixture preparation. Upon completion, students should be able to explain hospital organization/committee functions, interpret and enter patient orders, fill unit-dose cassettes, and prepare intravenous admixtures. Co-requisite: PHM 118.</p>						
PHM	155	Community Pharmacy	2	2	0	3
<p>This course covers the operational procedures relating to retail pharmacy. Emphasis is placed on a general knowledge of over-the-counter products, prescription processing, business/inventory management, and specialty patient services. Upon completion, students should be able to provide technical assistance and support to the retail pharmacist.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

PHM 160 Pharmacy Dosage Forms 3 0 0 3

This course is a study of pharmaceutical dosage forms and considerations in their manufacture. Topics include bioavailability, routes of administration, tablets, capsules, solutions, syrups, suspensions, elixirs, aerosols, transdermals, topicals, ophthalmics, otics, and other dosage forms. Upon completion, students should be able to describe the characteristics of the major dosage forms and explain how these characteristics affect the action of the drug.

PHM 165 Pharmacy Professional Practice 2 0 0 2

This course provides a general overview of all aspects of pharmacy technician practice. Emphasis is placed on pharmacy law, calculations, compounding, pharmacology, and pharmacy operations. Upon completion, students should be able to demonstrate competence in the areas required for the Pharmacy Technician Certification.

PHM 265 Professional Issues 3 0 0 3

This course provides a comprehensive discussion of topics common to the practice of the pharmacy technician. Emphasis is placed on application of professional competencies including legal/ethical issues, leadership/management concepts and employability skills. Upon completion, students should be able to demonstrate competence in pharmacy workplace skills and leadership/management roles. Pre-requisite: **PHM 165**.

Physics (PHY)

PHY 110 Conceptual Physics 3 0 0 3

This course provides a conceptually-based exposure to the fundamental principles and processes of the physical world. Topics include basic concepts of motion, forces, energy, heat, electricity, magnetism, and the structure of matter and the universe. Upon completion, students should be able to describe examples and applications of the principles studied. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Co-requisite: PHY 110A.

PHY 110A Conceptual Physics Lab 0 2 0 1

This course is a laboratory for PHY 110. Emphasis is placed on laboratory experiences that enhance materials presented in PHY 110. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in PHY 110. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Co-requisite: **PHY 110**.

PHY 121 Applied Physics I 3 2 0 4

This algebra-based course introduces fundamental physical concepts as applied to industrial and service technology fields. Topics include systems of units, problem-solving methods, graphical analysis, vectors, motion, forces, Newton's laws of motion, work, energy, power, momentum, and properties of matter. Upon completion, students should be able to demonstrate an understanding of the principles studied as applied in industrial and service fields.

PHY 131 Physics - Mechanics 3 2 0 4

This algebra/trigonometry-based course introduces fundamental physical concepts as applied to engineering technology fields. Topics include systems of units, problem-solving methods, graphical analysis, vectors, motion, forces, Newton's laws of motion, work, energy, power, momentum, and properties of matter. Upon completion, students should be able to apply the principles studied to applications in engineering technology fields. Pre-requisite: C or better in **MAT 121, MAT 161, MAT 171, or MAT 175**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

PHY	151	College Physics I	3	2	0	4
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This course uses algebra- and trigonometry-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include units and measurement, vectors, linear kinematics and dynamics, energy, power, momentum, fluid mechanics, and heat. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Pre-requisite: C or better in **MAT 161, MAT 171, or MAT 175.**

PHY	152	College Physics II	3	2	0	4
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This course uses algebra- and trigonometry-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include electrostatic forces, electric fields, electric potentials, direct-current circuits, magnetostatic forces, magnetic fields, electromagnetic induction, alternating-current circuits, and light. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Pre-requisite: C or better in **PHY 151.**

PHY	251	General Physics I	3	3	0	4
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This course uses calculus-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include units and measurement, vector operations, linear kinematics and dynamics, energy, power, momentum, rotational mechanics, periodic motion, fluid mechanics, and heat. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Pre-requisite: C or better in **MAT 271.** Co-requisite: **MAT 272.**

PHY	252	General Physics II	3	3	0	4
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This course uses calculus-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include electrostatic forces, electric fields, electric potentials, direct-current circuits, magnetostatic forces, magnetic fields, electromagnetic induction, alternating-current circuits, and light. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Pre-requisites: C or better in **MAT 272 and PHY 251.**

Packaging (PKG)

PKG	110	Packaging Machinery I	1	4	0	3
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This course covers the PMM I self-study module for packaging machinery mechanics. Topics include an overview of electricity, fluid power, mechanics, and packaging machinery components. Upon completion, students should be able to demonstrate the knowledge necessary for successful completion of the PMM I self-study module.

PKG	130	Basic Electronics	1	3	0	2
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This course covers the basic electronic components of packaging machinery systems. Topics include safety, PC boards, diodes, power supplies, transducers, transistors, SCRs Triacs, amplifiers, FETs, ICs, fiber optics, and other related topics. Upon completion, students should be able to demonstrate a working knowledge of basic interfacing and controls associated with packaging machinery electronics.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

PKG 140	Packaging Materials	3	0	0	3
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This course covers different types of packaging materials. Topics include adhesives, foils, films, laminates, composites, papers, polymers, aerosols, bags, bottles, boxes, cans, cartons, tubes, and other related topics. Upon completion, students should be able to demonstrate understanding of the terms and concepts associated with packaging materials.

PKG 150	Machinery Troubleshooting	1	3	0	2
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This course covers logical approaches to electrical, electronic, and general troubleshooting of packaging machinery systems. Emphasis is placed on logical troubleshooting such as the 1-800 number system, the log system, the flow chart system, the detective system, and other troubleshooting systems. Upon completion, students should be able to troubleshoot and solve at least two-thirds of machinery system problems encountered.

Plastics (PLA)

PLA 120	Injection Molding	2	3	0	3
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This course provides theory and processing experience with the injection molding process. Topics include machine type, molds, controls, machine-polymer part relationship, molding factors, troubleshooting, and molding problems/solutions. Upon completion, students should be able to demonstrate an understanding of machine setup and operation and be able to optimize common injection molding machines.

PLA 230	Advanced Plastics Manufacturing	3	3	0	4
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This course covers advanced plastics manufacturing processes. Topics include hands-on experience, material selection, manufacturing cost, process optimization, troubleshooting, and project management. Upon completion, students should be able to understand, perform, and troubleshoot advanced processes in a manufacturing environment.

Plumbing (PLU)

PLU 111	Introduction to Basic Plumbing	1	3	0	2
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This course introduces basic plumbing tools, materials, and fixtures. Topics include standard tools, materials, and fixtures used in basic plumbing systems and other related topics. Upon completion, students should be able to demonstrate an understanding of a basic plumbing system.

PLU 130	Plumbing Systems	3	9	0	6
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This course covers the maintenance and repair of plumbing lines and fixtures. Emphasis is placed on identifying and diagnosing problems related to water, drain and vent lines, water heaters, and plumbing fixtures. Upon completion, students should be able to identify and diagnose needed repairs to the plumbing system.

PLU 140	Introduction to Plumbing Codes	1	2	0	2
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This course covers plumbing industry codes and regulations. Emphasis is placed on North Carolina regulations and the minimum requirements for plumbing materials and design. Upon completion, students should be able to research and interpret North Carolina plumbing codes.

PLU 150	Plumbing Diagrams	1	2	0	2
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This course introduces sketching diagrams and interpretation of blueprints applicable to the plumbing trades. Emphasis is placed on plumbing plans for domestic and/or commercial buildings. Upon completion, students should be able to sketch plumbing diagrams applicable to the plumbing trades.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

PLU	160	Plumbing Estimates	1	2	0	2
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This course covers techniques for estimating quantities of materials and cost of installation for various types of plumbing systems. Topics include design of systems, codes, material takeoffs, pricing, and public relations. Upon completion, students should be able to order materials needed for installation from a designed system.

Political Science (POL)

POL	120	American Government	3	0	0	3
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This course is a study of the origins, development, structure, and functions of American national government. Topics include the constitutional framework, federalism, the three branches of government including the bureaucracy, civil rights and liberties, political participation and behavior, and policy formation. Upon completion, students should be able to demonstrate an understanding of the basic concepts and participatory processes of the American political system. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: RED 090 or ENG 095.

POL	210	Comparative Government	3	0	0	3
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This course provides a cross-national perspective on the government and politics of contemporary nations such as Great Britain, France, Germany, and Russia. Topics include each country's historical uniqueness, key institutions, attitudes and ideologies, patterns of interaction, and current political problems. Upon completion, students should be able to identify and compare various nations' governmental structures, processes, ideologies, and capacity to resolve major problems. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: RED 090 or ENG 095.

POL	220	International Relations	3	0	0	3
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This course provides a study of the effects of ideologies, trade, armaments, and alliances on relations among nation-states. Emphasis is placed on regional and global cooperation and conflict, economic development, trade, non-governmental organizations, and international institutions such as the World Court, and UN. Upon completion, students should be able to identify and discuss major international relationships, institutions, and problems. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: RED 090 or ENG 095.

Psychology (PSY)

PSY	110	Life Span Development	3	0	0	3
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This course provides an introduction to the study of human growth and development. Emphasis is placed on the physical, cognitive, and psychosocial aspects of development from conception to death. Upon completion, students should be able to demonstrate knowledge of development across the life span and apply this knowledge to their specific field of study.

PSY	150	General Psychology	3	0	0	3
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This course provides an overview of the scientific study of human behavior. Topics include history, methodology, biopsychology, sensation, perception, learning, motivation, cognition, abnormal behavior, personality theory, social psychology, and other relevant topics. Upon completion, students should be able to demonstrate a basic knowledge of the science of psychology. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: RED 090 or ENG 095.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

PSY 239 Psychology of Personality 3 0 0 3

This course covers major personality theories and personality research methods. Topics include psycho-analytic, behavioristic, social learning, cognitive, humanistic, and trait theories including supporting research. Upon completion, students should be able to compare and contrast traditional and contemporary approaches to the understanding of individual differences in human behavior. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: **PSY 150**.

PSY 241 Developmental Psychology 3 0 0 3

This course is a study of human growth and development. Emphasis is placed on major theories and perspectives as they relate to the physical, cognitive, and psychosocial aspects of development from conception to death. Upon completion, students should be able to demonstrate knowledge of development across the life span. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: **PSY 150**.

PSY 265 Behavior Modification 3 0 0 3

This course is an applied study of factors influencing human behavior and strategies for behavioral change. Emphasis is placed on cognitive-behavioral theory, behavioral assessment, practical applications of conditioning techniques, and maintenance of adaptive behavior patterns. Upon completion, students should be able to implement basic learning principles to effect behavioral changes in self and others. Pre-requisite: **PSY 150**.

PSY 281 Abnormal Psychology 3 0 0 3

This course provides an examination of the various psychological disorders, as well as theoretical, clinical, and experimental perspectives of the study of psychopathology. Emphasis is placed on terminology, classification, etiology, assessment, and treatment of the major disorders. Upon completion, students should be able to distinguish between normal and abnormal behavior patterns as well as demonstrate knowledge of etiology, symptoms, and therapeutic techniques. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: **PSY 150**.

Physical Therapist Assistant (PTA)

PTA 110 Introduction to Physical Therapy 2 3 0 3

This course introduces the field of physical therapy including the history and standards of practice for the physical therapist assistant and basic treatment techniques. Emphasis is placed on ethical and legal considerations, universal precautions, vital signs, documentation, basic patient preparation and treatment skills, and architectural barrier screening. Upon completion, students should be able to explain the role of the physical therapist assistant and demonstrate competence in basic techniques of patient care. Pre-requisite: Enrollment in the Physical Therapist Assistant program.

PTA 125 Gross and Functional Anatomy 3 6 0 5

This course provides an in-depth, clinically oriented survey of gross and functional anatomy. Emphasis is placed on musculoskeletal and nervous systems and clinical biomechanics, including goniometry, basic manual muscle testing, and components of normal gait. Upon completion, students should be able to identify specific anatomical structures and describe, observe, and measure musculoskeletal posture and function. Pre-requisite: Enrollment in the Physical Therapist Assistant program.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

PTA 135 Pathology 4 0 0 4

This course introduces principles of pathology, processes of and normal responses to injury and disease, and changes related to aging. Emphasis is placed on conditions most commonly treated in physical therapy. Upon completion, students should be able to discuss basic pathological processes and identify etiology, signs, symptoms, complications, treatment options, and prognoses of specific orthopedic conditions. Pre-requisite: Enrollment in the Physical Therapist Assistant program.

PTA 145 Therapeutic Procedures 2 6 0 4

This course provides a detailed study of specific treatment procedures and the physiological principles and techniques involved. Emphasis is placed on the correct application of superficial heat and cold, massage and soft tissue mobilization, ultrasound, diathermy, traction, and electrical stimulation. Upon completion, students should be able to demonstrate competence in the application of these modalities and explain the indications, contraindications, effects, and precautions for each. Pre-requisite: Enrollment in the Physical Therapist Assistant program.

PTA 155 PTA Clinical I 0 0 6 2

This course provides the opportunity to gain clinical experience and apply academic skills and knowledge to patient care. Emphasis is placed on performing patient care skills, observation and measurement, and professional and patient interaction. Upon completion, students should be able to demonstrate safe and effective clinical practice as measured by a standardized performance evaluation. Pre-requisite: Enrollment in the Physical Therapist Assistant program.

PTA 185 PTA Clinical II 0 0 9 3

This course provides the opportunity to gain clinical experience and apply academic skills and knowledge to patient care. Emphasis is placed on performing patient care skills, observation and measurement, and professional and patient interaction. Upon completion, students should be able to demonstrate safe and effective clinical practice as measured by a standardized performance evaluation. Pre-requisite: Enrollment in the Physical Therapist Assistant program.

PTA 212 Health Care/Resources 2 0 0 2

This course provides an overview of various aspects of health care delivery systems and the interrelationships of health care team members. Topics include health agencies and their functions, health care team member roles, management, and other health care issues. Upon completion, students should be able to discuss the functions of health organizations and team members and aspects of health care affecting physical therapy delivery. Pre-requisite: Enrollment in the Physical Therapist Assistant program.

PTA 215 Therapeutic Exercise 2 3 0 3

This course introduces basic concepts of strengthening, endurance, and flexibility exercise and balance, gait, and posture training. Emphasis is placed on applying techniques to the treatment of orthopedic conditions. Upon completion, students should be able to safely and effectively execute basic exercise programs and balance, gait, and posture training. Pre-requisite: Enrollment in the Physical Therapist Assistant program.

PTA 222 Professional Interactions 2 0 0 2

This course is designed to assist in the development of effective interpersonal skills in the physical therapist assistant setting. Topics include reactions to disability, the grieving process, methods of communication, motivation, health promotion, disease prevention, and aging. Upon completion, students should be able to discuss and demonstrate methods for achieving effective interaction with patients, families, the public, and other health care providers. Pre-requisite: Enrollment in the Physical Therapist Assistant program.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

PTA 225 Introduction to Rehabilitation 3 3 0 4

This course covers cardiovascular, pulmonary, and integumentary conditions, as well as causes and treatment of amputations. Emphasis is placed upon pathological processes as well as comprehensive treatment of the various conditions studied. Upon completion, students should be able to discuss etiology, signs, symptoms, complications, and prognoses of various conditions and implement components of a comprehensive treatment program.

Pre-requisite: Enrollment in the Physical Therapist Assistant program.

PTA 235 Neurological Rehabilitation 3 6 0 5

This course covers neurological and neuromuscular conditions experienced throughout the life span. Topics include the pathology of selected conditions and the methods and rationales of various treatment approaches. Upon completion, students should be able to discuss etiology, signs, symptoms, complications, and prognoses of various conditions and implement components of a comprehensive treatment program. Pre-requisite: Enrollment in the Physical Therapist Assistant program.

PTA 245 PTA Clinical III 0 0 12 4

This course provides the opportunity to gain clinical experience and apply academic skills and knowledge to patient care. Emphasis is placed on performing patient care skills, observation and measurement, and professional and patient interaction. Upon completion, students should be able to demonstrate safe and effective clinical practice as measured by a standardized performance evaluation. Pre-requisite: Enrollment in the Physical Therapist Assistant program.

PTA 255 PTA Clinical IV 0 0 12 4

This course provides the opportunity to gain clinical experience and apply academic skills and knowledge to patient care. Emphasis is placed on performing patient care skills, observation and measurement, and professional and patient interaction. Upon completion, students should be able to demonstrate safe and effective clinical practice as measured by a standardized performance evaluation. Pre-requisite: Enrollment in the Physical Therapist Assistant program.

Radiography (RAD)

RAD 110 Rad Intro & Patient Care 2 3 0 3

This course provides an overview of the radiography profession and student responsibilities. Emphasis is placed on basic principles of patient care, radiation protection, technical factors, and medical terminology. Upon completion, students should be able to demonstrate basic skills in these areas. Co-requisite: **RAD 111 and 151**.

RAD 111 Rad Procedures I 3 3 0 4

This course provides the knowledge and skills necessary to perform standard radiographic procedures. Emphasis is placed on radiography of the chest, abdomen, extremities, spine, and pelvis. Upon completion, students should be able to demonstrate competence in these areas. Co-requisite: **RAD 110 and 151**.

RAD 112 Rad Procedures II 3 3 0 4

This course provides the knowledge and skills necessary to perform standard radiographic procedures. Emphasis is placed on radiography of the skull, bony thorax, and gastrointestinal, biliary, and urinary systems. Upon completion, students should be able to demonstrate competence in these areas. Pre-requisite: **RAD 110, 111 and 151**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
RAD	121	Radiographic Imaging I	2	3	0	3
<p>This course covers factors of image quality and methods of exposure control. Topics include density, contrast, recorded detail, distortion, technique charts, manual and automatic exposure control, and tube rating charts. Upon completion, students should be able to demonstrate an understanding of exposure control and the effects of exposure factors on image quality. Pre-requisite: RAD 110, 111 and 151.</p>						
RAD	122	Radiographic Imaging II	1	3	0	2
<p>This course provides advanced principles of imaging including digital radiography. Emphasis is placed on the factors that impact brightness, contrast, recorded detail, and distortion. Upon completion, students should be able to demonstrate an understanding of advanced principles of imaging. Co-requisite: RAD 131 and 171. Pre-requisite: RAD 112, 121 and 161.</p>						
RAD	131	Radiographic Physics I	1	3	0	2
<p>This course introduces the fundamental principles of physics that underlie diagnostic X-ray production and radiography. Topics include electromagnetic waves, electricity and magnetism, electrical energy, and power and circuits as they relate to radiography. Upon completion, students should be able to demonstrate an understanding of basic principles of physics as they relate to the operation of radiographic equipment.</p>						
RAD	151	RAD Clinical Ed I	0	0	6	2
<p>This course introduces patient management and basic radiographic procedures in the clinical setting. Emphasis is placed on mastering positioning of the chest and extremities, manipulating equipment, and applying principles of ALARA. Upon completion, students should be able to demonstrate successful completion of clinical objectives. Co-requisite: RAD 110 and 111.</p>						
RAD	161	RAD Clinical Ed II	0	0	15	5
<p>This course provides additional experience in patient management and in more complex radiographic procedures. Emphasis is placed on mastering positioning of the spine, pelvis, head and neck, and thorax and adapting procedures to meet patient variations. Upon completion, students should be able to demonstrate successful completion of clinical objectives. Co-requisite: RAD 112 and 121. Pre-requisite: RAD 110, 111 and 151.</p>						
RAD	171	RAD Clinical Ed III	0	0	12	4
<p>This course provides experience in patient management specific to fluoroscopic and advanced radiographic procedures. Emphasis is placed on applying appropriate technical factors to all studies and mastering positioning of gastrointestinal and urological studies. Upon completion, students should be able to demonstrate successful completion of clinical objectives. Co-requisite: RAD 122 and 131. Pre-requisite: RAD 112, 121 and 161.</p>						
RAD	183	RAD Clinical Elective	0	0	9	3
<p>This course provides experience in patient management specific to fluoroscopic and advanced radiographic procedures. Emphasis is placed on applying appropriate technical factors to all studies and mastering positioning of gastrointestinal and urological studies. Upon completion, students should be able to demonstrate successful completion of clinical objectives.</p>						
RAD	211	RAD Procedures III	2	3	0	3
<p>This course provides the knowledge and skills necessary to perform standard and specialty radiographic procedures. Emphasis is placed on radiographic specialty procedures, sectional anatomy, and advanced imaging. Upon completion, students should be able to demonstrate an understanding of these areas. Co-requisite: RAD 231, 241, and 251. Pre-requisite: RAD 122.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

RAD 231	Radiographic Physics II	1	3	0	2
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This course provides advanced principles of radiation characteristics and production including digital imaging and Computed Tomography (CT). Emphasis is placed on imaging equipment. Upon completion, students should be able to demonstrate an understanding of radiation characteristics and production. Pre-requisite: **RAD 131 and 171**.

RAD 241	Radiobiology/Protection	2	0	0	2
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This course covers the principles of radiation protection and radiobiology. Topics include the effects of ionizing radiation on body tissues, protective measures for limiting exposure to the patient and personnel, and radiation monitoring devices. Upon completion, students should be able to demonstrate an understanding of the effects and uses of radiation in diagnostic radiology. . Co-requisite: **RAD 211, 231, and 251**. Pre-requisite: **RAD 122, 131 and 171**.

RAD 245	Image Analysis	1	3	0	2
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This course provides an overview of image analysis and introduces methods of quality management. Topics include image evaluation, pathology, quality control, and quality assurance. Upon completion, students should be able to demonstrate a basic knowledge of image analysis and quality management. . Co-requisite: **RAD 261** Pre-requisite: **RAD 211, 231, 241, 251**.

RAD 251	RAD Clinical Ed IV	0	0	21	7
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This course provides the opportunity to continue mastering all basic radiographic procedures and to attain experience in advanced areas. Emphasis is placed on equipment operation, pathological recognition, pediatric and geriatric variations, and a further awareness of radiation protection requirements. Upon completion, students should be able to demonstrate successful completion of clinical objectives. . Co-requisite: **RAD 211, 231, and 241** Pre-requisite: **RAD 122, 131, and 171**.

RAD 261	RAD Clinical Ed V	0	0	21	7
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This course is designed to enhance expertise in all radiographic procedures, patient management, radiation protection, and image production and evaluation. Emphasis is placed on developing an autonomous approach to the diversity of clinical situations and successfully adapting to those procedures. Upon completion, students should be able to demonstrate successful completion of clinical objectives. . Co-requisite: **RAD 245**. Pre-requisite: **RAD 251**.

RAD 271	Radiography Capstone	0	3	0	1
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This course provides an opportunity to exhibit problem-solving skills required for certification. Emphasis is placed on critical thinking and integration of didactic and clinical components. Upon completion, students should be able to demonstrate the knowledge required of any entry-level radiographer. Co-requisite: **RAD 245 and RAD 261**. Pre-requisite: **RAD 211, 231, 241, and 251**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Reading (RED)

Initial student placement in developmental courses is based on individual college placement testing policies and procedures. Students should begin developmental course work at the appropriate level indicated by that college's placement test.

RED 070 Essential Reading Skills 3 2 0 4

This course is designed to strengthen reading skills. Emphasis is placed on basic word attack skills, vocabulary, transitional words, paragraph organization, basic comprehensive skills, and learning strategies. Upon completion, students should be able to demonstrate competence in the skills required for RED 080. This course does not satisfy the developmental reading and writing pre-requisite for ENG 111 or ENG 111A.

RED 080 Introduction to College Reading 3 2 0 4

This course introduces effective reading and inferential thinking skills in preparation for RED 090. Emphasis is placed on vocabulary, comprehension, and reading strategies. Upon completion, students should be able to determine main ideas and supporting details, recognize basic patterns of organization, draw conclusions, and understand vocabulary in context. Students should also be able to demonstrate an understanding of the attitudes and behaviors that enhance success in a college classroom. This course does not satisfy the developmental reading pre-requisite for ENG 111 or ENG 111A. Pre-requisite: C or better in **RED 070**.

RED 090 Improved College Reading 3 2 0 4

This course is designed to improve reading and critical thinking skills. Topics include vocabulary enhancement; extracting implied meaning; analyzing author's purpose, tone, and style; and drawing conclusions and responding to written material. Upon completion, students should be able to comprehend and analyze college-level reading material. Students should also be able to apply reading/study techniques that enhance reading flexibility and understanding of instructional material. This course satisfies the developmental reading pre-requisite for ENG 111 or ENG 111A. Pre-requisite: C or better in **RED 080**.

Religion (REL)

REL 110 World Religions 3 0 0 3

This course introduces the world's major religious traditions. Topics include Primal religions, Hinduism, Buddhism, Islam, Judaism, and Christianity. Upon completion, students should be able to identify the origins, history, beliefs, and practices of the religions studied. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: RED 090 or ENG 095.

REL 111 Eastern Religions 3 0 0 3

This course introduces the major Asian religious traditions. Topics include Hinduism, Buddhism, Taoism, Confucianism, and Shinto. Upon completion, students should be able to identify the origins, history, beliefs, and practices of the religions studied. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: RED 090 or ENG 095.

REL 112 Western Religions 3 0 0 3

This course introduces the major western religious traditions. Topics include Zoroastrianism, Islam, Judaism, and Christianity. Upon completion, students should be able to identify the origins, history, beliefs, and practices of the religions studied. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: RED 090 or ENG 095.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

REL 211 Introduction to Old Testament 3 0 0 3

This course is a survey of the literature of the Hebrews with readings from the law, prophets, and other writings. Emphasis is placed on the use of literary, historical, archeological, and cultural analysis. Upon completion, students should be able to use the tools of critical analysis to read and understand Old Testament literature. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: ENG 111.

REL 212 Introduction to New Testament 3 0 0 3

This course is a survey of the literature of first-century Christianity with readings from the gospels, Acts, and the Pauline and pastoral letters. Topics include the literary structure, audience, and religious perspective of the writings, as well as the historical and cultural context of the early Christian community. Upon completion, students should be able to use the tools of critical analysis to read and understand New Testament literature. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: ENG 111.

REL 221 Religion in America 3 0 0 3

This course is an examination of religious beliefs and practice in the United States. Emphasis is placed on mainstream religious traditions and non-traditional religious movements from the Colonial period to the present. Upon completion, students should be able to recognize and appreciate the diversity of religious traditions in America. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: RED 090 or ENG 095.

Substance Abuse (SAB)

SAB 110 Substance Abuse Overview 3 0 0 3

This course provides an overview of the core concepts in substance abuse and dependence. Topics include the history of drug use/abuse, effects on societal members, treatment of addiction, and preventive measures. Upon completion, students should be able to demonstrate knowledge of the etiology of drug abuse, addiction, prevention, and treatment. Pre-requisites: (ENG 090 and RED 090) or ENG 095.

SAB 120 Intake and Assessment 3 0 0 3

This course develops processes for establishment of client rapport, elicitation of client information on which therapeutic activities are based, and stimulation of client introspection. Topics include diagnostic criteria, functions of counseling, nonverbal behavior, collaterals and significant others, dual diagnosis, client strengths and weakness, uncooperative clients, and crisis interventions. Upon completion, students should be able to establish communication with clients, recognize disorders, obtain information for counseling, and terminate the counseling process. *This course is a unique concentration requirement of the Substance Abuse concentration in the Human Services Technology program.* Pre-requisite: SAB 110.

SAB 125 Substance Abuse Case Management 2 2 0 3

This course provides case management activities, including record keeping, recovery issues, community resources, and continuum of care. Emphasis is placed on establishing a systematic approach to monitor the treatment plan and maintain quality of life. Upon completion, students should be able to assist clients in the continuum of care as an ongoing recovery process and develop agency networking. *This course is a unique concentration requirement of the Substance Abuse concentration in the Human Services Technology program.* Pre-requisite: SAB 120.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

SAB 135 Addictive Process 3 0 0 3

This course explores the physical, emotional, psychological, and cultural aspects of the addictive process. Emphasis is placed on addictions to food, sex, alcohol, drugs, work, gambling, and relationships. Upon completion, students should be able to identify the effects, prevention strategies, and treatment methods associated with addictive disorders.

SAB 137 Co-Dependency 3 0 0 3

This course introduces the adult child concept and co-dependency as syndromes of the addictive process. Emphasis is placed on treatment and recovery within the context of a paradigm shift which allows the individual to choose a healthy model of life. Upon completion, students should be able to assess levels of co-dependency and associated levels of physical and mental health and develop strategies to enhance health. Pre-requisite: SAB 110.

SAB 210 Substance Abuse Counseling 2 2 0 3

This course provides theory and skills acquisition by utilizing intervention strategies designed to obtain therapeutic information, support recovery, and prevent relapse. Topics include counseling individuals and dysfunctional families, screening instruments, counseling techniques and approaches, recovery and relapse, and special populations. Upon completion, students should be able to discuss issues critical to recovery, identify intervention models, and initiate a procedure culminating in cognitive/behavioral change. Pre-requisites: HSE 125 and SAB 120.

SAB 230 Family Therapy 2 2 0 3

This course covers the theories and models of family systems therapy as designed for families affected by substance abuse and addiction. Emphasis is placed on structures and procedures necessary for successful family therapy, including the needs, types of resistance, and individual family dynamics. Upon completion, students should be able to understand and identify dynamics and patterns unique to families affected by substance abuse and the appropriate model of treatment. Pre-requisite: HSE 125.

SAB 240 Substance Abuse Issues in Client Services 3 0 0 3

This course introduces systems of professional standards, values, and issues in substance abuse counseling. Topics include confidentiality, assessment of personal values, professional responsibilities, competencies, and ethics relative to multicultural counseling and research. Upon completion, students should be able to understand and discuss multiple ethical issues applicable to counseling and apply various decision-making models to current issues. *This course is a unique concentration requirement of the Substance Abuse concentration in the Human Services Technology program.* Pre-requisite: Successful completion of 12 SAB credit hours in the SAB concentration.

Information Systems Security (SEC)

SEC 110 Security Concepts 3 0 0 3

This course introduces the concepts and issues related to securing information systems and the development of policies to implement information security controls. Topics include the historical view of networking and security, security issues, trends, security resources, and the role of policy, people, and processes in information security. Upon completion, students should be able to identify information security risks, create an information security policy, and identify processes to implement and enforce policy. Pre-requisite: NET 110 or NET 125

SEC 150 Secure Communications 2 2 0 3

This course provides an overview of current technologies used to provide secure transport of information across networks. Topics include data integrity through encryption, Virtual Private Networks, SSL, SSH, and IPSec. Upon completion, students should be able to implement secure data transmission technologies. Pre-requisites:

SEC 110 and NET 110 or NET 125.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

SEC 160	Secure Admin I	2	2	0	3
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This course provides an overview of security administration and fundamentals of designing security architectures. Topics include networking technologies, TCP/IP concepts, protocols, network traffic analysis, monitoring, and security best practices. Upon completion, students should be able to identify normal network traffic using network analysis tools and design basic security defenses. Pre-requisites: **SEC 110 and NET 110 or NET 125**.

SEC 170	SOHO Security	2	2	0	3
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This course introduces security principles and topics related to the small office/home office networking environment. Topics include network topologies, network protocols, security issues, and best practices for SOHO environments. Upon completion, students should be able to design, setup, secure, and manage a small office/home office network. This course is restricted to the Information Systems Security/Operating Systems curriculum. Pre-requisites: **SEC 110 and NET 125**.

SEC 210	Intrusion Detection	2	2	0	3
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This course introduces the student to intrusion detection methods in use today. Topics include the types of intrusion detection products, traffic analysis, and planning and placement of intrusion detection solutions. Upon completion, students should be able to plan and implement intrusion detection solution for networks and host based systems. Pre-requisites: **SEC 160**.

SEC 220	Defense-in-Depth	2	3	0	3
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This course introduces students to the concepts of defense in-depth, a security industry best practice. Topics include firewalls, backup systems, redundant systems, disaster recovery, and incident handling. Upon completion, students should be able to plan effective information security defenses, backup systems, and disaster recovery procedures. This course is restricted to the Information Systems Security, the Information Systems Security/Operating Systems, and the Information Systems Security/Security Hardware curriculums. Pre-requisites: **SEC 160**.

SEC 289	Security Capstone Project	1	4	0	3
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This course provides the student the opportunity to put into practice all the skills learned to this point. Emphasis is placed on security policy, process planning, procedure definition, business continuity, and systems security architecture. Upon completion, students should be able to design and implement comprehensive information security architecture from the planning and design phase through implementation. Pre-requisites: **SEC 220, SEC 150 and SEC 160**.

Simulation and Game Development (SGD)

SGD 111	Introduction to SGD	2	3	0	3
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This course provides students with an introduction to simulation and game development. Topics include setting, storytelling, narrative, character design, interface design, game play, internal economy, core mechanics, game genres, AI, the psychology of game design and professionalism. Upon completion, students should be able to demonstrate knowledge of the major aspects of simulation and game design and development. Pre-requisites: (RED 090 and ENG 090) or ENG 095.

SGD 112	SGD Design	2	3	0	3
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This course introduces the fundamentals of simulation and game design. Topics include industry standards and design elements for simulations and games. Upon completion, students should be able to design simple simulations and/or games. Pre-requisites: (RED 090 and ENG 090) and ENG 095.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
SGD	113	SGD Programming	2	3	0	3
<p>This course introduces the fundamentals of programming languages and tools employed in simulation and game development. Emphasis is placed on programming concepts used to create simulations and games. Upon completion, students should be able to program simple games and/or simulations. Pre-requisites: MAT 070, MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, or MAT 171; and either RED 090 and ENG 095.</p>						
SGD	114	3D Modeling	2	3	0	3
<p>This course introduces the tools required to create three dimensional (3D) models. Emphasis is placed on exploring tools used to create 3D models. Upon completion, students should be able to create and animate 3D models using 3D modeling tools. Pre-requisites: SGD 111 & SGD 112.</p>						
SGD	123	Windows/Console Prog	2	3	0	3
<p>This course introduces the concepts of Windows and Console Programming. Emphasis is placed on learning MS Windows, the operating systems of various consoles and programming techniques. Upon completion, students should be able to demonstrate an understanding of Windows and of various consoles' operating systems. Pre-requisite: SGD 113</p>						
SGD	124	MMO Programming	2	3	0	3
<p>This course introduces the concepts of Massive Multiplayer On-line Programming for simulations and games. Emphasis is on learning Massive Multiplayer On-line simulation and game programming techniques. Upon completion, students should be able to create a Massive Multiplayer On-line simulation or game. Pre-requisites: SGD 213.</p>						
SGD	125	SG Artificial Intellig	2	3	0	3
<p>This course introduces the artificial intelligence concepts related to simulation and game development. Emphasis is placed on expert systems. Upon completion, students should be able to describe the basic concepts and procedures related to the development of artificial intelligence systems used in simulations and games.</p>						
SGD	161	SG Animation	2	3	0	3
<p>This course introduces the fundamental principles of animation used in simulation and game development. Emphasis is placed on a historical survey of animation, aspects of the animation process and animation techniques. Upon completion, students should be able to produce character sketches, morph simple objects, create walk and run cycles and develop professional storyboards. Pre-requisites: SGD 114.</p>						
SGD	163	SG Documentation	2	3	0	3
<p>This course introduces the techniques and methods used to create simulation and game production and design documents. Emphasis is placed on the design document to include scheduling, production plans, marketing and budgeting. Upon completion, students should be able to create design and produce documents for any simulation or game. Pre-requisites: ENG 111.</p>						
SGD	164	SG Audio/Video	2	3	0	3
<p>This course introduces various aspects of audio and video and their application in simulations and games. Topics include techniques for producing and editing audio and video for multiple digital mediums. Upon completion, students should be able to produce and edit audio and video for simulations and games. Pre-requisites: SGD 111 & SGD 112.</p>						
SGD	165	SG Character Development	2	3	0	3
<p>This course introduces the concepts needed to create a fictional personality for use in digital videos, animations, simulations and games. Topics include aspects of character, developing backgrounds, mannerisms and voice. Upon completion, students should be able to develop characters and backgrounds for simulations and games. Pre-requisites: SGD 112 & ENG 111.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
SGD	171	Flash SG Programming	2	3	0	3
<p>This course introduces the Flash programming environment for use in simulation and game development. Topics include timeline effects, extensibility layers, alias text, globalization tools, ActionScript and lingo programming. Upon completion, students should be able to create a simple simulation or game using Flash.</p>						
SGD	173	Lighting/Shading Algori	2	3	0	3
<p>This course introduces the concepts of various lighting and shading algorithms for use in simulation and game development. Topics include various tools used to create light and shadows. Upon completion, students should be able to apply knowledge of various lighting and shading algorithms to the creation of simulations and games. Pre-requisite: SGD 214</p>						
SGD	174	SG Level Design	2	3	0	3
<p>This course introduces the tools used to create levels for real-time simulations and games. Topics include level design, architecture theory, modeling for 3D engines and texturing methods. Upon completion, students should be able to design simple levels using industry standard tools. Pre-requisites: SGD 114.</p>						
SGD	212	SGD Design II	2	3	0	3
<p>The course covers the advanced principles of simulation and game design. Topics include advanced design concepts in simulation and game development. Upon completion, students should be able to design an advanced simulation or game. Pre-requisite: SGD 112</p>						
SGD	213	SGD Programming II	2	3	0	3
<p>The course covers advanced programming concepts used to create simulations and games. Emphasis is placed on acquiring advanced programming skills for use in creating simulations and games. Upon completion, students should be able to program an advanced simulation or game. Pre-requisite: SGD 113</p>						
SGD	214	3D Modeling II	2	3	0	3
<p>This course introduces the tools used to create and animate advanced 3 dimensional models. Emphasis is placed on identifying and utilizing the tools required to create and animate advanced 3D models. Upon completion, students should be able to create and animate advanced 3D models using 3D modeling tools. Pre-requisite: SGD 114</p>						
SGD	274	SG Level Design II	2	3	0	3
<p>This course introduces the advanced tools used to create levels for real-time simulations and games. Topics include advanced level design and architecture theory, concepts related to "critical path" and "flow," game balancing, playtesting and storytelling. Upon completion, students should be able to design complex levels using industry standard tools. Pre-requisite: SGD 174</p>						
SGD	285	SG Software Engineering	2	3	0	3
<p>This course introduces object oriented software engineering concepts related to simulation and game development. Topics include systematic approaches to the development, operation and maintenance of simulations and games. Upon completion, students should be able to apply software engineering techniques to the development of simulations and games. Pre-requisites: SGD 212, SGD 213, and SGD 214</p>						
SGD	289	SGD Project	2	3	0	3
<p>This course provides students with the opportunity to create a functional simulation or game with minimal instructor support. Emphasis is placed upon verbal and written communication, skill documentation, professional presentation and user training. Upon completion, students should be able to create and professionally present a fully functional simulation or game. Pre-requisite: SGD 212, SGD 213, SGD 214, or SGD 285.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Sociology (SOC)

SOC 210 Introduction to Sociology 3 0 0 3

This course introduces the scientific study of human society, culture, and social interactions. Topics include socialization, research methods, diversity and inequality, cooperation and conflict, social change, social institutions, and organizations. Upon completion, students should be able to demonstrate knowledge of sociological concepts as they apply to the interplay among individuals, groups, and societies. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: RED 090 or ENG 095.

SOC 213 Sociology of the Family 3 0 0 3

This course covers the institution of the family and other intimate relationships. Emphasis is placed on mate selection, gender roles, sexuality, communication, power and conflict, parenthood, diverse lifestyles, divorce and remarriage, and economic issues. Upon completion, students should be able to analyze the family as a social institution and the social forces which influence its development and change. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: RED 090 or ENG 095.

SOC 220 Social Problems 3 0 0 3

This course provides an in-depth study of current social problems. Emphasis is placed on causes, consequences, and possible solutions to problems associated with families, schools, workplaces, communities, and the environment. Upon completion, students should be able to recognize, define, analyze, and propose solutions to these problems. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: RED 090 or ENG 095.

SOC 225 Social Diversity 3 0 0 3

This course provides a comparison of diverse roles, interests, opportunities, contributions, and experiences in social life. Topics include race, ethnicity, gender, sexual orientation, class, and religion. Upon completion, students should be able to analyze how cultural and ethnic differences evolve and how they affect personality development, values, and tolerance. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: RED 090 or ENG 095.

SOC 240 Social Psychology 3 0 0 3

This course examines the influence of culture and social groups on individual behavior and personality. Emphasis is placed on the process of socialization, communication, conformity, deviance, interpersonal attraction, intimacy, race and ethnicity, small group experiences, and social movements. Upon completion, students should be able to identify and analyze cultural and social forces that influence the individual in a society. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.* Pre-requisite: RED 090 or ENG 095.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Spanish (SPA)

SPA 111 Elementary Spanish I 3 0 0 3

This course introduces the fundamental elements of the Spanish language within a cultural context. Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written Spanish and demonstrate cultural awareness. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: RED 090 or ENG 095.

SPA 112 Elementary Spanish II 3 0 0 3

This course is a continuation of SPA 111 focusing on the fundamental elements of the Spanish language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written Spanish and demonstrate further cultural awareness. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: C or better in SPA 111.

SPA 120 Spanish for the Workplace 3 0 0 3

This course offers applied Spanish for the workplace to facilitate basic communication with people whose native language is Spanish. Emphasis is placed on oral communication and career-specific vocabulary that targets health, business, and/or public service professions. Upon completion, students should be able to communicate at a functional level with native speakers and demonstrate cultural sensitivity. Pre-requisite: RED 090 or ENG 095.

SPA 211 Intermediate Spanish I 3 0 0 3

This course provides a review and expansion of the essential skills of the Spanish language. Emphasis is placed on the study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate effectively, accurately, and creatively about the past, present, and future. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: C or better in SPA 112.

SPA 212 Intermediate Spanish II 3 0 0 3

This course provides a continuation of SPA 211. Emphasis is placed on the continuing study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.* Pre-requisite: C or better in SPA 211.

Sustainability Technologies (SST)

SST 110 Energy Analysis 3 0 0 3

This course introduces sustainability issues and individual contributions toward environmental sustainability. Topics include management processes needed to maximize renewable/non-renewable energy resources, economics of sustainability, and reduction of environmental impacts. Upon completion, students should be able to discuss sustainability practices and demonstrate an understanding of their effectiveness and impacts. Pre-requisite: ELC 118.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

Surveying (SRV)

SRV 110	Surveying I	2	6	0	4
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This course introduces the theory and practice of plane surveying. Topics include measuring distances and angles, differential and profile leveling, compass applications, topography, and mapping. Upon completion, students should be able to use/care for surveying instruments, demonstrate field note techniques, and apply the theory and practice of plane surveying. Co-requisite: **MAT 121, MAT 161, MAT 171, or MAT 175.**

SRV 111	Surveying II	2	6	0	4
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This course introduces route surveying and roadway planning and layout. Topics include simple, compound, reverse, spiral, and vertical curves; geometric design and layout; planning of cross-section and grade line; drainage; earthwork calculations; and mass diagrams. Upon completion, students should be able to calculate and lay out highway curves; prepare roadway plans, profiles, and sections; and perform slope staking. Pre-requisite: **SRV 110.**

SRV 210	Surveying III	2	6	0	4
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This course introduces boundary surveying, land partitioning, and calculations of areas. Topics include advanced traverses and adjustments, preparation of survey documents, and other related topics. Upon completion, students should be able to research, survey, and map a boundary. Pre-requisite: **SRV 110.**

SRV 220	Surveying Law	2	2	0	3
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This course introduces the law as related to the practice of surveying. Topics include surveyors' responsibilities, deed descriptions, title searches, eminent domain, easements, weight of evidence, riparian rights, and other related topics. Upon completion, students should be able to identify and apply the basic legal aspects associated with the practice of land surveying. Pre-requisite: **SRV 110.**

SRV 230	Subdivision Planning	1	6	0	3
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This course covers the planning aspects of residential subdivisions from analysis of owner and municipal requirements to plat layout and design. Topics include municipal codes, lot sizing, roads, incidental drainage, esthetic considerations, and other related topics. Upon completion, students should be able to prepare a set of subdivision plans. Pre-requisites: **SRV 111, SRV 210 and CIV 211.**

SRV 240	Topographical/Site Surveying	2	6	0	4
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This course covers topographic, site and construction surveying. Topics include topographic mapping, earthwork, site planning, construction staking, and other related topics. Upon completion, students should be able to prepare topographic maps and site plans and locate and stake out construction projects. Pre-requisite: **SRV 110.**

Surgical Technology (SUR)

SUR 110	Introduction to Surgical Technology	3	0	0	3
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This course provides a comprehensive study of the operative environment, professional roles, moral/legal/ethical responsibilities, and medical communications used in surgical technology. Topics include: professional behaviors, medical terminology, interdepartmental/peer/relationships, operating room environment/safety, pharmacology, anesthesia, incision sites, physiology of wound healing, and biomedical sciences. Upon completion, students should be able to apply theoretical knowledge of the course topics to the operative environment. Pre-requisites: **MAT 070 and either ENG 090 or ENG 095.** Co-requisite: **SUR 111.**

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

SUR 111	Perioperative Patient Care	5	6	0	7
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This course provides theoretical knowledge for the application of essential operative skills during the perioperative phase. Topics include surgical asepsis, sterilization/disinfection, and perioperative patient care. Upon completion, students should be able to demonstrate the principles and practices of aseptic technique, sterile attire, basic case preparation, and other relevant skills. Co-requisite: **SUR 110**.

SUR 122	Surgical Procedures I	5	3	0	6
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This course provides an introduction to selected basic and intermediate surgical specialties that students are exposed to the first clinical rotation. Emphasis is placed on related surgical anatomy, pathology, and procedures that enhance theoretical knowledge of patient care, instrumentation, supplies, and equipment. Upon completion, students should be able to correlate, integrate, and apply theoretical knowledge of the course topics to the clinical operative environment. Pre-requisites: **SUR 110 and SUR 111**. Co-requisite: **SUR 123 or STP 101**.

SUR 123	Surgical Technology Clinical Practice I	0	0	21	7
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This course provides clinical experience with a variety of perioperative assignments to build upon skills learned in SUR 111. Emphasis is placed on the scrub and circulating roles of the surgical technologist including aseptic technique and basic case preparation for selected surgical procedures. Upon completion, students should be able to prepare, assist with, and dismantle basic surgical cases in both the scrub and circulating roles. Pre-requisites: **SUR 110 and SUR 111**. Co-requisite: **SUR 122**.

SUR 134	Surgical Procedures II	5	0	0	5
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This course provides a comprehensive study of intermediate and advanced surgical specialties that students are exposed to in the second clinical rotation. Emphasis is placed on related surgical anatomy, pathology, and procedures that enhance theoretical knowledge of patient care, instrumentation, supplies, and equipment. Upon completion, students should be able to correlate, integrate, and apply theoretical knowledge of the course topics to the clinical operative environment. Pre-requisites: SUR 122 and either **SUR 123 or STP 101**. Co-requisites: SUR 135 and SUR 137.

SUR 135	Surgical Technology Clinical Practice II	0	0	12	4
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This course provides clinical experience with a variety of perioperative assignments to build skills required for complex perioperative patient care. Emphasis is placed on greater technical skills, critical thinking, speed, efficiency, and autonomy in the operative setting. Upon completion, students should be able to function in the role of an entry-level surgical technologist. Pre-requisites: SUR 122, **SUR 123**. Co-requisites: SUR 134 and SUR 137.

SUR 137	Professional Success Preparation	1	0	0	1
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This course provides job-seeking skills and an overview of theoretical knowledge in preparation for certification. Topics include test-taking strategies, resume preparation, and interviewing techniques. Upon completion, students should be able to prepare a resume, demonstrate appropriate interview techniques, and identify strengths and weaknesses in preparation for certification. Pre-requisites: SUR 122, **SUR 123**. Co-requisites: **SUR 134 and SUR 135**.

SUR 210	Advanced Surgical Technology Clinical Practice	0	0	6	2
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This course is designed to provide individualized experience in advanced practice, education, circulating, and managerial skills. Emphasis is placed on developing and demonstrating proficiency in skills necessary for advanced practice. Upon completion, students should be able to assume leadership roles in a chosen specialty area. Pre-requisites: SUR 134, SUR 135, **SUR 137**.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

SUR	211	Advanced Theoretical Concepts	2	0	0	2
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This course covers theoretical knowledge required for extension of the surgical technologist role. Emphasis is placed on advanced practice in complex surgical specialties, educational methodologies, and managerial skills. Upon completion, students should be able to assume leadership roles in a chosen specialty area. Pre-requisites: SUR 134, SUR 135, **SUR 137**.

Telecommunications & Network Engineering (TNE)

TNE	111	Campus Networks I	2	3	0	3
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This course is designed to introduce the fundamentals of data/computer networks. Topics include an overview of data communication standards, protocols, equipment, and how they are integrating into network topologies and systems. Upon completion, students should be able to demonstrate an understanding of telecommunication and networking.

TNE	121	Campus Networks II	2	3	0	3
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This course covers the operating systems and topologies associated with networking. Topics include the various operating systems used in networking and the topologies explained on a network to network level. Upon completion, students should be able to use and explain operating systems and topologies. Pre-requisite: TNE 111.

TNE	231	Data Comm over WAN	2	3	0	3
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This course is designed to introduce wide area networking. Topics include LAN connectivity, WAN connectivity including Frame Relay and Broadband, packet switching networks, and network topologies explained on a WAN basis. Upon completion, students should be able to demonstrate an understanding of wide area networking. Pre-requisite: TNE 111.

TNE	241	Network Management	2	3	0	3
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This course introduces theory and provides experience in analyzing and troubleshooting telecommunication network systems. Topics include physical issues, software debugging, viruses, e-mail, traffic management, server and router configuration, documentation, and equipment use. Upon completion, students should be able to identify and resolve telecommunication network problems. Pre-requisite: TNE 111.

TNE	242	Data Network Design	2	3	0	3
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This course covers the principles of the design of LAN and WAN hierarchy through the terminal. Topics include OSI model, static and dynamic addressing, network terminal management, bandwidth requirements, Internet requirements, redundancy, and broadband versus baseband systems. Upon completion, students should be able to design a hierarchical network system to board design.

TNE	250	Telecom Networks	2	3	0	3
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This course introduces the principal elements and theory (both analog and digital) of telecommunication networking systems. Topics include system network overview, subscriber loops, network testing and measurement, wiring, network transmission techniques synchronization and analysis, switching and signaling, and related applications. Upon completion, students should be able to demonstrate knowledge of the concepts associated with telecommunication network systems. Pre-requisites: ELC 131 and TNE 111.

TNE	251	Advanced Telecom Networks	2	3	0	3
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This course is a continuation of TNE 250 and introduces advanced concepts associated with telecommunication network systems. Topics include waveform coding, emerging transmission techniques and analysis, advanced switching system architectures, personal communication systems, and related topics and applications. Upon completion, students should be able to demonstrate knowledge of the concepts associated with advanced telecommunication network systems.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

TNE	255	Network Servers	2	3	0	3
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This course covers the activities and methods required to assure productive and reliable operation of network servers. Topics include planning, installing, configuring, and maintaining servers, including knowledge of server-level hardware implementations, operating systems, data storage subsystems, data recovery, and I/O subsystems. Upon completion, students should be able to configure and maintain a network server. Pre-requisites: CET 111 and TNE 111.

Turfgrass Management Technology (TRF)

TRF	110	Introduction Turfgrass Cult & ID	3	2	0	4
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This course provides an in-depth study of turfgrass. Topics include principles of reproduction, growth development, species characteristics, establishment and maintenance of golf courses and sports fields, and lawn applications. Upon completion, students should be able to identify turfgrass species through characteristics and reproductive stages and develop an establishment and maintenance plan for high quality turf areas.

TRF	120	Turfgrass Irrigation & Design	2	4	0	4
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This course covers the basic techniques involved in the design, layout, installation, and use of turfgrass irrigation systems. Topics include types of irrigation systems, components of the systems, materials available for use, and economic considerations. Upon completion, students should be able to complete a functional design for a turfgrass irrigation system.

TRF	125	Turfgrass Computer Applications	1	3	0	2
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This course introduces basic computer applications for the turfgrass industry. Emphasis is placed on computer software applications for irrigation design, management, and budget planning for turfgrass applications. Upon completion, students should be able to use appropriate software for various turfgrass management applications.

TRF	151	Intro to Landscape Design	2	2	0	3
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This course covers the principles and practices of landscape design with application to landscape problems associated with lawn areas. Topics include site analysis, drafting techniques, cost estimating, plant selection, and presentation of plans. Upon completion, students should be able to design and install a landscape plan.

TRF	152	Landscape Maintenance	2	2	0	3
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This course introduces the tasks of landscape maintenance. Emphasis is placed on lawns, shrubs, trees, flowers, and ground covers. Upon completion, students should be able to maintain a landscape area on a year-round schedule.

TRF	210	Turfgrass Equipment Management	1	4	0	3
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This course covers the operation and maintenance of specialized turfgrass management equipment. Topics include small engine use and repair; operation, maintenance, and repair of turfgrass management equipment; organization of shop areas; and safety considerations. Upon completion, students should be able to operate and maintain turfgrass management equipment.

TRF	220	Turfgrass Calculations	2	0	0	2
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This course introduces the specific math concepts and calculations necessary in the turfgrass industry. Emphasis is placed on calibration of equipment used in the application of fertilizers and pesticides and calculation of solid materials used in construction. Upon completion, students should be able to correctly perform basic calculations and calibrations and estimate materials needed in specific professional turfgrass management situations.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

TRF 230 Turfgrass Management Applications 1 2 0 2

This course introduces specific sports field design, installation, and maintenance. Topics include natural grass croquet courts and baseball, soccer, and football fields. Upon completion, students should be able to perform specific tasks in layout, field marking, and preparing for tournament play.

TRF 240 Turfgrass Pest Control 2 2 0 3

This course covers detection and identification of turfgrass pests with emphasis on methods of control or eradication. Topics include weeds, insects, diseases, and nematodes identification with an understanding of pesticides used, application procedures, and costs involved in control programs. Upon completion, students should be able to identify turfgrass pests, select the proper pesticide, develop pest control programs, and/or use integrated pest management.

TRF 260 Advanced Turfgrass Management 3 2 0 4

This course covers the principles and practices involved in turfgrass management. Topics include choosing the best management practice in mowing, pest control, fertilization, irrigation, traffic control, air control, budgeting, and materials procurement. Upon completion, students should be able to demonstrate knowledge of the principles covered and select and apply the best practices in turfgrass management. Pre-requisite: **TRF 110**.

Upholstery (UPH)

UPH 111 Cutting and Pattern Making I 1 4 0 3

This course introduces making, selecting, identifying, and placing patterns on fabric; fabric characteristics; and cutting simple fabrics. Emphasis is placed on frame measurements, fabric characteristics, pattern placement, cutting techniques, and proper use of cutting tools. Upon completion, students should be able to develop a set of patterns and demonstrate cutting techniques and placement of patterns on fabric to industry standards. Co-requisite: UPH 121, UPH 131, and UPH 141.

UPH 112 Cutting and Pattern Making II 1 4 0 3

This course covers advanced pattern making and cutting on a variety of fabrics and furniture styles. Emphasis is placed on making and cutting complex patterns for a variety of furniture styles and the use of patterned fabrics. Upon completion, students should be able to develop and cut patterns for a variety of complex furniture styles and fabric patterns. Pre-requisite: **UPH 111**.

UPH 121 Sewing I 1 4 0 3

This course introduces skills needed to sew upholstery covers using a standard sewing machine. Topics include machine maintenance, threading, and sewing straight lines, corners, curves, and welts. Upon completion, students should be able to operate and maintain a standard sewing machine for upholstery fabric. Co-requisite: UPH 111, UPH 131, and UPH 141

UPH 122 Sewing II 1 4 0 3

This course covers operation of more advanced equipment on complex fabric patterns and designs. Emphasis is placed on double needle, zipper, border, and computerized machines and on matching stripes and patterns. Upon completion, students should be able to operate advanced sewing equipment on complex fabrics. Pre-requisite: **UPH 121**.

UPH 131 Seat Construction I 1 4 0 3

This course introduces basic seat construction for simple furniture styles. Topics include webbing, light-weight springs, and basic eight-way tie construction. Upon completion, students should be able to develop basic seat construction for simple furniture. Co-requisite: UPH 121, UPH 111, and UPH 141

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

UPH 141 Inside Upholstery I 1 4 0 3

This course covers basic aspects of inside upholstering on simple chairs, including correct terminology. Topics include the introduction of padding and upholstering, seat decks, inside backs and arms of chairs, and fitting cushions. Upon completion, students should be able to peel and upholster seat decks, inside arms, inside backs, and arms of chairs and fit cushions for comfort. Co-requisite: UPH 121, UPH 131, and UPH 111

UPH 142 Inside Upholstery II 1 4 0 3

This course covers advanced inside upholstering tasks for chairs, love seats, and sofas. Emphasis is placed on channeling and tufting for all styles and types. Upon completion, students should be able to complete inside upholstering of complex styles of furniture. Pre-requisite: **UPH 141**.

UPH 151 Outside Upholstery I 1 4 0 3

This course introduces the application of an outside cover to a basic chair. Topics include double covering and proper use of padding on the outside of chairs, love seats, and sofas. Upon completion, students should be able to cover and pad the outside of a chair. Co-requisite: UPH 141

UPH 152 Outside Upholstery II 1 4 0 3

This course covers application of outside coverings to frames using more complex fabric and decoration. Emphasis is placed on applying skirts and decorative trim, including matching of stripes. Upon completion, students should be able to demonstrate proficiency in covering furniture outside and applying decorative trim and matching of stripes. Pre-requisite: UPH 151

Web Technologies (WEB)

WEB 110 Internet/Web Fundamentals 2 2 0 3

This course introduces World Wide Web Consortium (W3C) standard markup language and services of the Internet. Topics include creating web pages, search engines, FTP, and other related topics. Upon completion, students should be able to deploy a hand-coded website created with mark-up language, and effectively use and understand the function of search engines.

WEB 111 Intro to Web Graphics 2 2 0 3

This course is the first of two courses covering the creation of web graphics, addressing problems peculiar to www display using appropriate software. Topics include web graphics file types, type conversion, RGB color, the browser-safe palette, elementary special effects, image maps, and other related topics. Upon completion, students should be able to create graphics such as banners buttons, backgrounds, and other graphics for Web pages. Pre-requisite: ACA 111. Co-requisite: CIS 110.

WEB 115 Web Markup and Scripting 2 2 0 3

This course introduces Worldwide Web Consortium (W3C) standard client-side Internet programming using industry-established practices. Topics include JavaScript, markup elements, stylesheets, validation, accessibility, standards, and browsers. Upon completion, students should be able to develop hand-coded web pages using current markup standards. Co-requisite: CIS 110.

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	
WEB	120	Intro Internet Multimedia	2	2	0	3
<p>This is the first of two courses covering the creation of Internet Multimedia. Topics include Internet multimedia file types, file type conversion, acquisition of digital audio/video, streaming audio/video and graphics animation plug-in programs and other related topics. Upon completion, students should be able to create Internet multimedia presentations utilizing a variety of methods and applications. Co-requisite: CIS 110.</p>						
WEB	140	Web Development Tools	2	2	0	3
<p>This course provides an introduction to web development software suites. Topics include the creation of web sites and applets using web development software. Upon completion, students should be able to create entire web sites and supporting applets. Co-requisites: CIS 110, WEB 110.</p>						
WEB	180	Active Server Pages	2	2	0	3
<p>This course introduces active server programming. Topics include HTML forms processing and other issues related to developing active web applications. Upon completion, students should be able to create and maintain a dynamic website. Pre-requisites: CIS 115.</p>						
WEB	182	PHP Programming	2	2	0	3
<p>This course introduces students to the server-side, HTML-embedded scripting language PHP. Emphasis is placed on programming techniques required to create dynamic web pages using PHP scripting language features. Upon completion, students should be able to design, code, test, debug, and create a dynamic web site using the PHP scripting language. Pre-requisites: CIS 115.</p>						
WEB	186	XML Technology	2	2	0	3
<p>This course is designed to introduce students to XML and related internet technologies. Topics include extensible style language (XSL) document object model (DOM), extensible stylesheet language transformation (XSLT), and simple object access protocol (SOAP). Upon completion, students should be able to create a complex XML document. Pre-requisites: CIS 115.</p>						
WEB	210	Web Design	2	2	0	3
<p>This course introduces intermediate to advanced web design techniques. Topics include customer expectations, advanced markup language, multimedia technologies, usability and accessibility practices, and techniques for the evaluation of web design. Upon completion, students should be able to employ advanced design techniques to create high impact and highly functional web sites. Pre-requisite: WEB 140.</p>						
WEB	211	Advanced Web Graphics	2	2	0	3
<p>This course is the second of two courses covering web graphics. Topics include graphics acquisition using scanners and digital cameras, graphics optimization, use of masks, advanced special effects, GIF animation, and other related topics. Upon completion, students should be able to create graphics optimized for size, graphic file type, properly converted from digitized sources and create useful animated graphics. Pre-requisites: WEB 110, WEB 111.</p>						
WEB	230	Implementing Web Server	2	2	0	3
<p>This course covers website and web server architecture. Topics include installation, configuration, administration, and security of web servers, services and sites. Upon completion, students should be able to effectively manage the web services deployment lifecycle according to industry standards. Pre-requisite: NET 110 or NET 125.</p>						
WEB	240	Internet Security	2	2	0	3
<p>This course covers security issues related to Internet services. Topics include the operating system and the Internet service security mechanisms. Upon completion, students should be able to implement security procedures for operating system level and server level alerts. Pre-requisites: WEB 110, CIS 110 or CIS 111, SEC 110.</p>						
WEB	250	Database Driven Websites	2	2	0	3
<p>This course introduces dynamic (database-driven) website development. Topics include the use of basic database CRUD statements (create, read, update and delete) incorporated into web applications, as well as in software architecture principles. Upon completion, students should be able to design and develop database driven web applications according to industry standards. Pre-requisites: DBA 110, WEB 140.</p>						

Prefix	Course Number	Course Title	Hours per Week			Credit Hours
			Lecture	Lab / Shop	Clinic / Co-op	

WEB 289 Internet Technologies Project 1 4 0 3

This course provides an opportunity to complete a significant Web technologies project from the design phase through implementation with minimal instructor support. Emphasis is placed on project definition, documentation, installation, testing, presentation, and training. Upon completion, students should be able to complete an Internet project from the definition phase through implementation. Pre-requisites: **WEB 230, WEB 250**

Welding (WLD)

WLD 110 Cutting Processes 1 3 0 2

This course introduces oxy-fuel and plasma-arc cutting systems. Topics include safety, proper equipment setup, and operation of oxy-fuel and plasma-arc cutting equipment with emphasis on straight line, curve and bevel cutting. Upon completion, students should be able to oxy-fuel and plasma-arc cut metals of varying thickness.

Co-requisite: WLD 121 and WLD 115.

WLD 112 Basic Welding Processes 1 3 0 2

This course introduces basic welding and cutting. Emphasis is placed on beads applied with gases, mild steel fillers, and electrodes and the capillary action of solder. Upon completion, students should be able to set up welding and oxy-fuel equipment and perform welding, brazing and soldering processes.

WLD 115 SMAW (Stick) Plate 2 9 0 5

This course introduces the shielded metal arc (stick) welding process. Emphasis is placed on padding, fillet, and groove welds in various positions with SMAW electrodes. Upon completion, students should be able to perform SMAW fillet and groove welds on carbon plate with prescribed electrodes. Pre-requisite: ENG 080 or ENG 085. Co-requisite: WLD 121

WLD 121 GMAW (MIG) FCAW/Plate 2 6 0 4

This course introduces metal arc welding and flux core arc welding processes. Topics include equipment setup and fillet and groove welds with emphasis on application of GMAW and FCAW electrodes on carbon steel plate. Upon completion, students should be able to perform fillet welds on carbon steel with prescribed electrodes in the flat, horizontal, and overhead positions. Pre-requisite: ENG 080 or ENG 085. Co-requisite: WLD 115

WLD 131 GTAW (TIG) Plate 2 6 0 4

This course introduces the gas tungsten arc (TIG) welding process. Topics include correct selection of tungsten, polarity, gas, and proper filler rod with emphasis placed on safety, equipment setup, and welding techniques. Upon completion, students should be able to perform GTAW fillet and groove welds with various electrodes and filler materials. Pre-requisite: ENG 080 or ENG 085.

WLD 132 GTAW (TIG) Plate/Pipe 1 6 0 3

This course is designed to enhance skills with the gas tungsten arc (TIG) welding process. Topics include setup, joint preparation, and electrode selection with emphasis on manipulative skills in all welding positions on plate and pipe. Upon completion, students should be able to perform GTAW welds with prescribed electrodes and filler materials on various joint geometry. Pre-requisite: **WLD 131**.

WLD 141 Symbols and Specifications 2 2 0 3

This course introduces the basic symbols and specifications used in welding. Emphasis is placed on interpretation of lines, notes, welding symbols, and specifications. Upon completion, students should be able to read and interpret symbols and specifications commonly used in welding. Pre-requisite: ENG 080 or ENG 085 and WLD 115 and 121.

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