

**WINTER 2009**  
**DIRECTORY FOR INFORMATION**  
**AUGUSTA TECHNICAL COLLEGE**

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FAX: (706) 595-3011

**AUGUSTA CAMPUS**  
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**THOMSON CAMPUS SECURITY**  
(706) 595-0166

**AUGUSTA CAMPUS SECURITY**  
(706) 771-4009  
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**WAYNESBORO CAMPUS SECURITY**  
(706) 437-6801

(706) 595-0166

**ADMISSIONS**  
(706) 771-4028  
Admissions  
Evening School  
Registration  
Testing Services

(706) 437-6801

**CAREER SERVICES**  
(706) 771-4146

**COUNSELING SERVICES**  
(706) 771-4068  
Academic Counseling  
Career Counseling

(706) 595-0166

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**SPECIAL NEEDS SERVICES**  
(706) 771-4067 (V/TTY)

(706) 595-0166

**FINANCIAL AID**  
(706) 771-4149  
Financial Aid  
Veterans Affairs

(706) 437-6801

(706) 595-0166

**STUDENT RECORDS**  
(706) 771-5708  
Registrar  
Transcripts  
Transfer Credit Evaluation

(706) 437-6801

**STUDENT ACCOUNTS**  
(706) 771-4030

**WEBSITE**

[www.augustatech.edu](http://www.augustatech.edu)

**CATALOG EFFECTIVE DATE**

**Winter Quarter 2009**

# AUGUSTA TECHNICAL COLLEGE

Augusta Technical College operates under the supervision of the State Board of the Technical College System of Georgia, serving the needs of business, industry, and the public in a five-county area in east central Georgia. Augusta Technical College is a unit of the Technical College System of Georgia.

Augusta Technical College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award Associate of Applied Science Degrees, Diplomas, and Technical Certificates of Credit. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of Augusta Technical College.

**THE TECHNICAL COLLEGE SYSTEM OF GEORGIA AND ITS CONSTITUENT TECHNICAL COLLEGES DO NOT DISCRIMINATE ON THE BASIS OF RACE, COLOR, CREED, NATIONAL OR ETHNIC ORIGIN, GENDER, RELIGION, DISABILITY, AGE, POLITICAL AFFILIATION OR BELIEF, DISABLED VETERAN, VETERAN OF THE VIETNAM ERA, OR CITIZENSHIP STATUS (EXCEPT IN THOSE SPECIAL CIRCUMSTANCES PERMITTED OR MANDATED BY LAW). THIS NONDISCRIMINATION POLICY ENCOMPASSES THE OPERATION OF ALL EDUCATIONAL PROGRAMS AND ACTIVITIES, INCLUDING ADMISSIONS POLICIES, SCHOLARSHIP AND LOAN PROGRAMS, ATHLETIC AND OTHER TECHNICAL COLLEGE SYSTEM AND TECHNICAL COLLEGE-ADMINISTERED PROGRAMS, INCLUDING ANY WORKFORCE INVESTMENT ACT OF 1998 (WIA) TITLE I FINANCED PROGRAMS. IT ALSO ENCOMPASSES THE EMPLOYMENT OF PERSONNEL AND CONTRACTING FOR GOODS AND SERVICES. THE TECHNICAL COLLEGE SYSTEM AND TECHNICAL COLLEGES SHALL PROMOTE THE REALIZATION OF EQUAL OPPORTUNITY THROUGH A POSITIVE CONTINUING PROGRAM OF SPECIFIC PRACTICES DESIGNED TO ENSURE THE FULL REALIZATION OF EQUAL OPPORTUNITY.**

For information on Title IX, contact the Title IX Coordinator, Randall L. Davis at (706) 771-4081 or in Building 100. For information on ADA/504, contact the ADA/504 Coordinator, Karissa Davis, at (706) 771-4067 or go to the Counseling Center in Building 1300.

## THE COLLEGE CATALOG

The statements set forth in this catalog are for informational purposes only and should not be construed as the basis of a contract between a student and the College.

While this catalog's provision will ordinarily be applied, Augusta Technical College reserves the right to change any of this catalog's provisions, including entrance requirements and admissions procedures, courses, programs of study, academic requirements for graduation, fees and charges, financial aid, rules and regulations, and the college calendar without notice to individual students. Every effort will be made to keep students advised of changes and to minimize the inconvenience such changes might create for students. Information on changes will be available in the Admissions Office and/or the Student Records Office.

It is especially important that students know that it is their responsibility to keep informed of all changes, including academic requirements for graduation.

\*\*\*For Catalog updates, refer to the Augusta Technical College Catalog located on the website at [www.augustatech.edu](http://www.augustatech.edu).

# COLLEGE CALENDAR

## SUMMER QUARTER—JULY 2008

July 4	Holiday (College closed)
July 3 and 7	Drop/Add
July 7	Final Day for Schedule Changes
July 8	Quarter Begins
August 11	Midterm
September 1	Holiday—Labor Day
September 16	Quarter Ends – Last Day to Drop Classes
September 17, 18, 19	Final Exams

## FALL QUARTER—SEPTEMBER 2008

September 29 and 30	Drop/Add
September 30	Final Day for Schedule Changes
October 1	Quarter Begins
November 4	Midterm
November 11	Holiday—Veterans Day Observed (College closed)
November 26	Student Holiday
November 27 - 28	Thanksgiving Break (College closed)
December 15	Quarter Ends – Last Day to Drop Classes
December 16, 17, 18	Final Exams
December 18	Graduation
December 24, 25, 26	College closed

## WINTER QUARTER—JANUARY 2009

December 21	Drop/Add
January 1	Holiday—New Year's Day (College closed)
January 2	Drop/Add
January 2	Final Day for Schedule Changes
January 5	Quarter Begins
January 19	Holiday—M.L. King, Jr., Birthday Observed (College closed)
February 6	Consortium
February 11	Midterm
March 16	Quarter Ends – Last Day to Drop Classes
March 17, 18, 19	Final Exams

## SPRING QUARTER—MARCH 2009

March 25 and 26	Drop/Add
March 26	Final Day for Schedule Changes
March 27	Quarter Begins
April 6,7,8,9,10	Spring Break (Student Holidays)
May 7	Midterm
May 14	Augusta Tech Games
May 15	Consortium
May 25	Holiday—Memorial Day Observed (College closed)
June 12	Quarter Ends – Last Day to Drop Classes
June 15, 16, 17	Final Exams
June 19	Graduation



*A Unit of the Technical College  
System of Georgia*

3200 Augusta Tech Drive  
Augusta, GA 30906  
(706) 771-4000 Telephone  
(706) 771-4016 Fax  
[www.augustatech.edu](http://www.augustatech.edu)

A Message from the President:

Welcome to Augusta Technical College. The College has been the community leader in providing quality technical education programs for more than 40 years. Augusta Technical College makes positive contributions to the lives of area citizens and to the economic growth and development of the Central Savannah River Area.

The College is proud of its role in developing choices for individuals to use in career planning and development. Whether you are a high school student, recent graduate, returning student, or degree holder seeking new skills or advanced training, I believe that one of the more than 90 programs leading to an associate degree, diploma, or technical certificate of credit will meet your needs.

You will find dedicated faculty members with expertise in their fields to help you have a meaningful educational experience. The College provides a caring environment and a student services staff committed to providing quality support services in the areas of advising, career counseling, financial aid, and job placement. Faculty and staff work as a team to provide opportunities for student success and to assist you in reaching your educational goals.

Again, welcome to Augusta Technical College. Use this catalog as a guide to the programs and services available to you.

Sincerely,

A handwritten signature in cursive script that reads "Terry Elam".

Terry D. Elam, President

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## **GENERAL INFORMATION**

### **Augusta Technical College Timeline**

- 1961** Augusta Area Vocational-Technical School was established by the Georgia State Board of Education in conjunction with the Richmond County Board of Education.
- 1963** The Richmond Area Vocational School was established.
- 1966** The two schools were combined to form Augusta Area Technical School.
- 1981** With the exception of the health occupations programs, which remained in a facility on Walton Way, the programs offered by Augusta Area Technical School were moved to one campus located off Deans Bridge Road.
- 1984** The first students graduated with an Associate of Applied Technology Degree (AAT).
- 1987** Augusta Area Technical School became a state school operated by the Georgia State Board of Technical and Adult Education. The State Board changed the school name to Augusta Technical Institute. The Augusta Technical Institute Foundation was founded to promote higher education by acquiring and administering cash, grants, and other funds to support scholarships, building projects, and other programs at Augusta Technical Institute.
- 1990** Augusta Technical Institute became Augusta's leading provider of literacy education when the school accepted responsibility for the Office of Adult Education.
- 1991** Allied Health programs moved to the Deans Bridge Road campus when construction was completed on a new Health Sciences building.
- 1995** The Augusta Technical Institute Foundation launched The Power To Be Campaign, a major gifts campaign to provide furnishings and equipment for Augusta Technical Institute's Thomson/McDuffie and Waynesboro/Burke Campuses, technology support, and funds for future land acquisition and capital construction.
- 1997** Plans were announced for the Waynesboro/Burke Campus. The Office of Adult Education was moved to the Augusta Campus. The Thomson/McDuffie Campus opened.
- 1999** Construction began on the Waynesboro/Burke Campus of Augusta Technical Institute. Plans for the Student Services/Classroom Building were announced for the Augusta Campus.
- 2000** Augusta Technical Institute's name became Augusta Technical College. The Waynesboro/Burke Campus of Augusta Technical College opened.
- 2001** Groundbreaking for the Student Services/Classroom Building was held on December 4, 2001.
- 2002** The 900 building was dedicated to Thelma "T" Ray Allgood.
- 2003** The Student Services/Classroom Building opened.
- 2004** The dedication of the Student Services/Classroom Building was held on April 29, 2004.
- 2005** Funds were appropriated for Columbia County Center.

## Mission

The mission of Augusta Technical College is to promote the educational, economic, and community development of the Central Savannah River Area.

## Goals

- To provide competency-based associate degree, diploma, and technical certificate of credit programs to prepare students for employment.
- To provide adult basic education services and developmental courses to prepare students for access to postsecondary education.
- To provide opportunities for lifelong learning through credit and non-credit courses, workshops, and seminars.
- To contribute to the development of business and industry and the community through customized education, job training, and retraining.
- To provide a seamless education system by collaborating with area secondary and postsecondary institutions.
- To provide support services and activities to enable students to develop and achieve educational, personal, and career goals.
- To provide opportunities that allow employees to remain current in their respective positions.
- To provide a planning and management system for the allocation of resources to enhance personnel, programs, facilities, technology, and equipment.
- To provide a positive image through marketing and public relations activities.
- To provide an institutional development program to enhance the college mission.
- To provide research and assessment to enhance planning and decision-making.

## Guarantee

The Technical College System of Georgia has developed curriculum standards with the direct involvement of business and industry. These standards serve as the industry-validated specifications for each program of study and allow Augusta Technical College to offer its business partners this guarantee:

**“If one of our graduates, who was educated under a standard program, and his or her employer agrees that the employee is deficient in one or more competencies as defined in the standards, Augusta Technical College will retrain that employee at no instructional cost to employee or employer.”**

This guarantee applies to graduates who are employed in their fields of training. It is in effect for a period of two years after graduation, and includes those graduates who have failed to pass a State of Georgia required licensing examination within two years after graduation.

To inquire or to file a claim under this warranty, the employer in conjunction with the graduate should contact the Vice President for Academic Affairs at (706) 771-4020 to discuss the need for retraining. A letter from the employer on company letterhead must be submitted to the Vice President for Academic Affairs noting that the graduate is deficient in one or more areas as defined in the Technical College System of Georgia.

## Accreditation

Augusta Technical College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award Associate of Applied Science Degrees, Diplomas, and Technical Certificates of Credit. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of Augusta Technical College.

Certain programs have also achieved special professional accreditation as listed below:

<b>PROGRAM</b>	<b>YEAR ACCREDITED</b>	<b>ACCREDITING AGENCY</b>
Cardiovascular Technology	1994	The Council on Accreditation of Allied Health Education Programs, Joint Review Committee on Education in Cardiovascular Technology
Dental Assisting	1971	Commission on Dental Accreditation of the American Dental Association
Mechanical Engineering Technology	1991	Accredited by the Technology Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 – Telephone: (410) 347-7700.
Medical Assisting	1975	Commission on Accreditation of Allied Health Programs ( <a href="http://www.caahep.org">www.caahep.org</a> ) upon the recommendation of the Medical Assisting Education Review Board (MAERB), 1361 Park Street, Clearwater, FL 33756, 727-210-2350.
Patient Care Assisting	1994	Georgia Medical Care Foundation, State of Georgia Department of Medical Assistance
Practical Nursing	1961	Georgia Board of Examiners of Licensed Practical Nurses
	1988	National League for Nursing Accrediting Commission, 61 Broadway – 33 <sup>rd</sup> Floor, NY, NY 10006; 1-800-669-1656 ext. 153; <a href="http://www.NLNAC.org">www.NLNAC.org</a>
Respiratory Care Technology	1981	The Council on Accreditation of Allied Health Education Programs, Committee on Accreditation for Respiratory Care
Surgical Technology	1993	The Council on Accreditation of Allied Health Education Programs, Accreditation Review Committee for Educational Programs in Surgical Technology
Occupational Therapy Assistant	2000	The Accreditation Council for Occupational Therapy Education of the American Occupational Therapy Association
Electronics and Computer Engineering Technology	2001	Accredited by the Technology Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 – telephone: (410) 347-7700.
Automotive Technology	2001	National Automotive Technical Education Foundation (NATEF)
Early Childhood Care and Education Development Center	2006	The Standards of Care Program Accreditation

## **Administrative Organization**

**Augusta Technical College** is under the policy and administrative control of the State Board of the Technical College System of Georgia. This Board provides overall policies for the management of the College to ensure that the needs of the citizenry, business and industry are met to the highest possible degree and in the most cost-effective and efficient manner. The Board shall provide overall policy guidance to the Commissioner of the Technical College System of Georgia, which is responsible for the day-to-day operations on behalf of the Board.

## State Board of the Technical College System of Georgia

Ronald W. Jackson	Commissioner
Ben Copeland, Sr.	First District
Sandra Reed	Second District
Lee Lee James	Third District
Dean Alford	Fourth District
Don Chapman	Fifth District
Carl E. Swearingen	Sixth District
Michael L. "Sully" Sullivan	Seventh District
L. McGrath Keen, Jr.	Eighth District
Emerson E. Russell	Ninth District
Cedric J. Johnson	Tenth District
Otis Raybon, Jr.	Eleventh District
Allen C. Rice	Twelfth District
John H. "Pepper" Bullock	Thirteenth District
Sylvia Anderson	Member-at-Large
Michael C. Daniel	Member-at-Large
Mary Flanders	Member-at-Large
Paul Holmes	Member-at-Large
Ann Purcell	Member-at-Large
Earl E. Smith	Member-at-Large
Jimmy Tallent	Member-at-Large
Ben J. Tarbutton, Jr.	Member-at-Large

**Augusta Technical College** is governed by an 11-member Board of Directors. The board members are nominated for their positions by area industry and educational officials and approved by the State Board of the Technical College System of Georgia. The Board of Directors meets monthly to interpret the State Board policies and provide supplemental policies to ensure that the needs of the CSRA are met. Responsibilities include reviewing and approving goals and objectives, short and long range plans, facilities expansion, program additions and changes, and the annual budget before submission for approval by the State Board.

### Augusta Technical College Board of Directors

Tommie Aaron	Richmond County
Alana Burke	Lincoln County
Walter Dukes, Chairman	Richmond County
W.H. "Dub" Harper	Burke County
Larry L. Jones	Richmond County
Brett McGuire	Columbia County
Robert C. Osborne, Jr.	Richmond County
Janie Peel	Columbia County
Irma Riddick, Vice Chairman	Columbia County
Thomas "Ernie" Sizemore	Richmond County
J. Foster Wylie	McDuffie County

### Locations

The Augusta campus of Augusta Technical College is located at 3200 Augusta Tech Drive, Augusta. Access is available from Deans Bridge Road (U.S. Highway 1) and from Lumpkin Road. The Thomson/McDuffie Campus is located at 388 Tech Drive N.W., Thomson. Access is available from I-20 and Highway 78. The Waynesboro/Burke County Campus facility is located at 216 Highway 24 South, Waynesboro. Access is available from Highway 25.

## Campus Tours

Visitors are welcome and are invited to visit Augusta Technical College when classes are in session. Each visitor is requested to check with the Director of Admissions and Counseling Services before touring the campus or visiting classes. Groups (secondary school classes, youth groups, etc.) wishing to tour the Augusta campus should contact the Director of Admissions and Counseling Services at (706) 771-4150 to arrange a convenient date and time. Campus tours of the Waynesboro and Thomson campuses may be arranged by contacting Student Services at the Waynesboro campus at (706) 437-6801 or at the Thomson campus at (706) 595-0166.

## Instructional Programs

**Associate Degree, Diploma, and Technical Certificate of Credit Programs:** The associate degree, diploma, and technical certificate of credit programs offered at Augusta Technical College provide instruction that develops the necessary knowledge, skills, and attitudes required for employment in career occupations. Programs are offered in Allied Health, Business, Industrial Technology, Information and Engineering Technology, and Personal Services. All programs are offered on a full-time basis, ranging from one quarter to two years. Many of the courses in these programs are also offered in the evening. Since the demand for most programs is heavy, prospective students should apply well ahead of desired entry dates. Applicants are admitted in the order of successful completion of entrance requirements or on a competitive basis for the program desired.

**Continuing Education:** Continuing education non-credit courses, seminars, workshops, and customized courses are designed to be responsive to life-long learning needs. While courses are offered on a quarterly basis, courses can begin on request. Courses are offered day and evening at the Augusta, Thomson, and Waynesboro campuses as well as other community locations.

The Continuing Education Office publishes a quarterly flyer that includes a list of courses, course descriptions, and fees. This information is available on each campus and at the College website at [www.augustatech.edu](http://www.augustatech.edu). Students are required to complete a registration form for courses. Senior citizen fee waivers are not applicable for continuing education non-credit courses, seminars, workshops, and customized courses.

Some of the continuing education courses receive CEUs (Continuing Education Units). CEUs are internationally recognized units of credit and represent ten hours of non-transferable credit. Transcripts of completed courses are available from the Student Records Office.

**Learning Support Classes:** Learning Support classes provide instruction to develop mathematics, language, and reading skills. Development of these skills allows students to reach levels recommended for entry into their chosen courses or programs of study.

**CADTEC:** The Center for Advanced Technology (CADTEC) was founded for the purpose of delivering innovative technologies to area industry. CADTEC offers customized training for business and industry using state-of-the-art training devices and techniques. Customized training can be arranged to meet the customer's needs. From job analysis and skill assessment through training on industrial level hardware and software, CADTEC offers businesses the ability to train all or a portion of their workforce at a reasonable cost. For more information about CADTEC, call (706) 771-4089.

**Quick Start Training:** Quick Start is the Technical College System of Georgia's statewide training program for new and expanding industries in Georgia. Developed as an incentive for companies to locate in Georgia, the Quick Start program is 100 percent state funded. All training services are available at no cost to client companies. Created by state statute in 1967 to provide job-specific training for Georgians to enter the workforce in the state's new and expanding industries, Quick Start has trained over 500,000 new workers for over 4600 Georgia businesses and industries. For more information about Quick Start, call (706) 771-5716 or (706) 771-5717.

**Off-Campus Instruction:** Non-credit, short-term, job-oriented courses are conducted by Augusta Technical College at the request of and in accordance with the needs of area business and industry. For more information about Off-Campus Instruction, call (706) 771-4089.

**Online-Courses:** Augusta Technical College participates with Georgia Virtual Technical College by offering courses over the Internet. Available courses and online registration for Augusta Technical College online courses are available at [www.augustatech.edu](http://www.augustatech.edu). For information about online courses, call (706) 771-5700.

## **Advisory Committees**

Instructional standards are maintained through the assistance of the College Board of Directors and program advisory committees. The Board of Directors assists and advises the President in the planning, implementation, and evaluation of the College mission and goals. Occupational program advisory committees work closely with their respective programs and provide advice as to the adequacy of equipment, instruction, and graduates' job performance capabilities.

## **College Calendar**

Associate degree, diploma, and technical certificate of credit programs are offered beginning in September (Fall Quarter), January (Winter Quarter), March (Spring Quarter), and July (Summer Quarter). Each quarter consists of 50 class days or the equivalent. Because entrance dates vary with programs, see Programs of Study section of this catalog for program entrance dates. Evening and off-campus courses are offered and scheduled as needed. Contact the Augusta Campus Admissions Office (706-771-4028), the Thomson Campus Student Services Office (706-595-0166), or the Waynesboro Campus Student Services Office (706-437-6801) for details.

## **Daily Schedule**

Classes are scheduled Monday through Thursday from 7:00 a.m. to 10:50 p.m. and Friday from 7:00 a.m. to 4:00 p.m. Weekend classes are also scheduled as needed.

## ADMISSION

Anyone desiring an application for admission or information concerning programs offered by Augusta Technical College should contact:

### AUGUSTA CAMPUS

Office of Admissions  
Augusta Technical College  
3200 Augusta Tech Drive  
Augusta, GA 30906  
(706) 771-4028

### THOMSON CAMPUS

Student Services  
Augusta Technical College  
388 Tech Drive, N.W.  
Thomson, GA 30824  
(706) 595-0166

### WAYNESBORO CAMPUS

Student Services  
Augusta Technical College  
216 Highway 24 South  
Waynesboro, GA 30830  
(706) 437-6801

## General Policy

**Augusta Technical College** is committed to an "open door" admission policy in accordance with its stated mission and goals. The "open door" policy means that any qualified applicant able to benefit from the curriculum will be served by the College on a first-applied, first-qualified basis with the exception of programs that have competitive admission.

## Eligible Applicants

Individuals who are 16 years old (Cosmetology and Allied Health applicants must be at least 17) or older who seek access to quality instruction designed to develop or improve occupational competencies are eligible to apply for admission.

## Entrance Requirements

**Education:** A GED or high school diploma (verified by an official transcript including diploma type) is required for admission unless otherwise specified by the program's standards. However, prior to graduating from Augusta Technical College, a GED or high school diploma is required where applicable. Certificates of attendance or special education diplomas are not recognized for admission purposes. Additionally, students with diplomas from secondary schools located outside the United States must have their transcripts evaluated for equivalency by an approved outside evaluation organization.

**Experience:** Paramedic Technology applicants must either provide documentation of certification as an Emergency Medical Technician (EMT) and six months experience working as an EMT or complete an EMT Field Internship course.

**Placement Tests:** Applicants for a degree, diploma, and technical certificate of credit programs must take the COMPASS Test. The Standardized Aptitude Test (SAT), American College Test (ACT), College Placement Exam (CPE), or ASSET scores may be accepted in lieu of the COMPASS.

The COMPASS is a series of placement tests in the areas of writing, reading comprehension, pre-algebra, and algebra. It is a computerized multiple-choice format test and is not timed. Calculators are provided for the pre-algebra and algebra sections. NOTE: COMPASS scores remain valid for sixty months.

Applicants with a learning or physical disability that may require testing accommodations must notify Counseling Services on the Augusta Campus or Student Services on the Thomson and Waynesboro Campuses, at least two days prior to the scheduled tests to arrange testing accommodations. Appropriate documentation will be required before allowing test accommodations.

**Health:** Applicants should be able to attend school regularly and to perform necessary classroom and laboratory/shop activities.

**Competitive Admission:** Admission to Cardiovascular Technology, Occupational Therapy Assistant, Practical Nursing, Radiologic Technology, and Respiratory Care Technology is competitive. These programs use a combination of factors including all or some of the following components: required college courses, placement examination scores, interviews, essays, and grade point average. For more information regarding this process for a specific program, please contact the Augusta Campus Admissions Office (706-771-4028), the Thomson Campus Student Services Office (706-595-0166), or the Waynesboro Campus Student Services Office (706-437-6801) for details.

**Note:** Applicable Augusta Technical College exemption exam scores will be used for competitive admissions ranking in lieu of DANTE, CLEP, AARTS, EX, or AP results, as well as results from similar exams.

## Deadlines for Competitive Other Special Admissions Programs

Program	Enrollment Date/Quarter	Application Deadline	Transcript(s)/Course Completion Deadlines
Cardiovascular Tech	September/Fall 2009	February 6, 2009	March 27, 2009
	September/Fall 2010	February 5, 2010	March 26, 2010
	September/Fall 2011	February 4, 2011	March 25, 2011
Health Care Assistant	See program advisor on the Augusta, Thomson, and Waynesboro campuses.		
Occupational Therapy Assistant Technology	Prospective students for the Spring 2010 and 2011 classes must complete the preadmission courses listed on page 48 by March 22, 2010 and March 23, 2011 respectively.		
Practical Nursing and Surgical Technology	Students are selected from the Health Care Assistant Program applicant pool. See program advisor for application and course completion deadlines.		
Radiologic Technology	January/Winter 2010	June 19, 2009	July 17, 2009
	January/Winter 2011	June 18, 2010	July 16, 2010
	January/Winter 2012	June 17, 2011	July 15, 2011
Respiratory Care Technology	July/Summer 2009	February 6, 2009	March 27, 2009
	July/Summer 2010	February 5, 2010	March 26, 2010
	July/Summer 2011	February 4, 2011	March 25, 2011

Prospective applicants for the Cardiovascular Technology, Occupational Therapy Assistant Technology, Respiratory Care Technology, and Radiologic Technology programs may enroll in the Associate of Applied Science Health program to complete pre-admission courses. Applicants for the Practical Nursing and Surgical Technology programs must complete the Health Care Assistant program.

Completion of pre-admission criteria does not guarantee admission to competitive admission programs. **Complete program requirements are given in the Program of Study section of this catalog.**

### Application Deadlines for Non-Competitive Programs

Non-competitive program acceptance is contingent upon successful completion of all admission procedures. Applications are accepted until the program slots are filled. Prospective students are encouraged to submit applications no later than 30 days before the start of each quarter. Complete program requirements are given in the Program of Study section of this catalog.

### Admission Procedures

Prospective students must complete the following:

1. Submit a completed application for admission and the required fee to the Student Accounts Office at the Augusta campus or the Student Services Office at the Waynesboro and Thomson campuses. If mailing the application, send a check or money order made payable to Augusta Technical College.
2. Request that an official transcript from the last high school attended or that official GED test scores be sent to the Office of Student Records at the Augusta campus. Official college transcripts must also be submitted if the applicant has earned college credits. Veterans must submit a copy of Form DD214 to verify courses completed in the military. Transcript request forms and GED test score request forms are available in Student Services at all campus locations.
3. Report for COMPASS testing if scheduled. Testing will not be required for students who have submitted acceptable official test scores (taken within the last 60 months) from a recognized admissions placement test (COMPASS, SAT, ACT, CPE, or ASSET) or have been awarded appropriate college credit for English and/or math.
4. Report for orientation and/or interview as required.

## Regular Admission

Regular admission to a degree, diploma, or Technical Certificate of Credit (TCC) program is granted to applicants meeting program standard admission and institutional admission requirements.

## Provisional Admission

Provisional admission is granted to applicants who are required to complete learning support courses at only one level in English, and/or math, and/or reading. Along with enrolling in the appropriate learning support courses, provisionally admitted students may enroll in program-specific courses designated as provisional based on program standards and course corequisites and/or prerequisites. Students admitted under this category must satisfactorily complete the necessary prerequisites and learning support coursework to enroll in program specific courses in order to progress through the State Standard Curriculum. Students may not be granted provisional admission to competitive admission programs or programs with wait lists.

## Learning Support Admission

Learning support admission is granted to students who do not meet the regular or provisional admission requirements. Students with learning support status may not take occupational courses until achieving provisional admission status.

**Note:** Students who need to master the competencies before entering 096 level classes in English, math, and reading will be referred to the Adult Education Department. Upon successful completion of appropriate Adult Education courses and/or attaining appropriate admission scores, these students may be admitted as learning support, provisional, or regular students.

## Special Admission

Special admission is granted to applicants on a space available basis who desire to take credit courses for personal or professional benefit but do not plan to earn a degree, diploma, or Technical Certificate of Credit. Special admission students should be aware of the following admissions criteria:

1. Transcripts are not evaluated except on request by students and/or college officials for proof of English, math, or other course prerequisites.
2. International students may not be admitted.
3. Students receiving financial assistance requiring certification of enrollment may not enter.
4. Prerequisite and/or co-requisite course requirements will apply.
5. Out-of-school applicants must be 18 years of age or older to be admitted.
6. Students on academic suspension may not be admitted.
7. A student may count up to a maximum of 25-quarter hours of credit toward a specific degree/diploma/technical certificate of credit program while in this status.
8. Special admit students have the prerogative to apply for regular student status but must meet the requirements of the regular student admissions process.
9. Special admit students receive credit for regular program coursework that is satisfactorily completed.
10. Special admit students are not eligible for financial aid.

## International Admission

International students who desire a student visa or who are transferring from another college on a student visa must complete the following requirements in addition to the admissions procedures for new students:

1. Provide an official English translation and evaluation of all secondary and postsecondary records performed by an independent evaluation service (the addresses and applications are available in the Student Records Office).
2. Submit TOEFL (Test of English as a Foreign Language) scores. A report/recommendation from an English language institute or program within the United States will be accepted in lieu of test scores.
3. Provide SAT, ACT, or COMPASS scores (taken within the last 60 months).
4. Provide a detailed statement of financial resources including a statement from a recognized financial institution or appropriate governmental agency indicating that the student has sufficient funds to finance an education, cover living expenses, and return home.

Note: Augusta Technical College is authorized to issue M1 student visas only.

## College Readmission

Students dismissed or suspended from the College because of administrative action, absenteeism, or academic reasons may apply to reenter the College at the beginning of any quarter following the dismissal or suspension period. Students who do not enroll for two consecutive quarters must re-apply. The program of study in effect at the time of reentry must be completed for graduation. Application to reenter must be made through Student Services.

## Program Readmission

New students will be given admission priority to competitive admission programs over admission of a student who has been suspended. In addition, students who do not meet the program specific academic requirements as indicated in the catalog may not be readmitted.

Students desiring to re-enter a competitive admission allied health program must follow the program policy for readmission. For more information regarding this process, please contact the program director or dean.

## Transient Admission

A student in good standing at another institution may enroll as a transient student on a space-available basis in order to complete work to be transferred back to the student's home institution. A transient student should be advised in writing by the home institution concerning recommended courses. The transient student must:

1. Submit an application for admission to the host institution.
2. Present a Transient Agreement Letter from the Registrar or Academic Dean of the home institution indicating that the student is in good standing and eligible to return to that institution. NOTE: The 25 hour credit maximum may be waived for the student upon the recommendation of the home institution.
3. Pay scheduled fees for the host institution.

Eligible program admitted students at Augusta Technical College desiring to take a course or courses from another institution must have prior approval from the Registrar.

## Transfer Admission

Applicants wishing to transfer to the College must complete the Admission Procedures. In addition, applicants who are in good standing at their previous institution may be accepted in good standing; applicants who are on academic probation at their previous institution may be accepted only on academic probation. Regular admission status is based upon the credential (degree, diploma, or Technical Certificate of Credit) being sought by the student.

**Note:** A student must complete in residence at least 25 percent of the credit hours required for graduation.

## Transfer Credit

**Augusta Technical College** recognizes previous postsecondary course work by accepting credits earned that are applicable to the student's program from other regionally or nationally accredited postsecondary institutions recognized by the United States Department of Education. A student who presents credit for evaluation and transfer must be aware that the awarding of credit does not guarantee that institutions subsequently attended by the student will accept those credits. A student may receive credit for courses taken at other regionally and nationally accredited postsecondary institutions if the following requirements are met:

1. An official transcript is on file in the Registrar's Office from all postsecondary institutions attended.
2. The course(s) taken is (are) essentially the same in content and credit hours as the course(s) at Augusta Technical College.
3. A grade of "C" or higher has been earned for each course to be transferred.
4. Departmental recommendation for approval is granted when specified by the Registrar.

A student must complete in residence at least 25 percent of the credit hours required for graduation.

**Armed Services Schools** - Credit may be awarded for education/training experiences in the Armed Services. Such experiences must be certified by the American Council on Education (identified in the Council's publication, *Guide to the Evaluation of Educational Experiences in the Armed Services*). In order to have military credit evaluated, students must submit a DD 295 (active duty personnel) or a DD 214 and DD 2586 (retired/separated personnel). Credit will be given on the basis of individual evaluation. Creditable military experience must closely correspond to courses in the Augusta Technical College curriculum in content and competencies.

**Foreign Earned Credit** - Credit may be awarded based upon an evaluation performed by an independent evaluation service. The address and applications are available in Student Services at all campus locations.

## Upper Level Course Substitution

Students, including those on financial aid, in diploma or Technical Certificate of Credit (TCC) programs may take the upper level equivalent of the required English, math, and/or psychology course(s) if their COMPASS, other acceptable entrance test scores, and/or prerequisites meet the degree level requirement for those areas.

## Credit by Exemption Examination

The hours earned nor the grades from successful completion of exemption examinations (designated by "EX" on transcripts) are computed in the grade point average and may affect financial aid status and/or Dean's list eligibility. Also, a student must complete in residence at least 25 percent of the credit hours required for graduation regardless of the amount of transfer and exemption credits awarded.

## College Exemption Examination

A student may receive credit for a course by passing the College exemption exam (generally administered during the week of final exams). Students desiring credit by exemption examination must:

1. Be accepted or enrolled at Augusta Technical College and meet the course pre-requisite.
2. Complete the Credit by Exemption Examination application (located in Student Services) and obtain approval from the Director of Admissions or Enrollment Manager.
3. Take the application to the appropriate program Dean (Augusta campus) or Director of Instruction (Waynesboro and Thomson campuses) for approval.
4. Take the completed application to Student Accounts (Augusta campus) or Student Services (Waynesboro and Thomson campuses) and pay the required exemption exam fee for each course to be challenged (cost is \$5 per credit hour with a maximum fee of \$25 per course).
5. Take the application to the person responsible for administering the exemption exam.
6. Earn a minimum score of 80 percent (required to pass an exemption examination).

**Standardized Examination Credit** – Credit will be awarded for successful completion of appropriate CLEP (College Level Examination Program) core subject area examinations. Credit is awarded based on score recommendations of the Council on College Level Services.

Credit will be awarded to students who have taken appropriate courses (determined equivalent to courses offered at the College) in high school and achieve a score of 3 or more on the Advanced Placement Examination offered by the College Entrance Examination Board.

**Experiential/Non-Traditional Learning** - Applicants with appropriate work experience, corporate courses, or other relevant background may request consideration to earn credit by exemption by contacting the Registrar at the Augusta campus.

## Education and Career Partnerships

Georgia has transitioned the Tech Prep initiative to Education and Career Partnerships (ECP). Education and Career Partnerships support career and technical education programs by serving as a governing body to support articulation agreements and to ensure that all partners develop, expand, and promote programs of study (Peach State Career Pathways) for seamless transitioning of students from secondary to postsecondary education and into careers. The 37 ECPs in Georgia are composed of representatives from secondary education, postsecondary education, and local business and industry. The Georgia Department of Education (GDOE) and the Technical College System of Georgia (TCSG) support the transition and believe that the new partnerships enhance learning opportunities for secondary and postsecondary students in the state.

The CSRA Education and Career Partnership (CSRA ECP) is composed of members from five local secondary school systems (Burke, Columbia, Lincoln, McDuffie, Richmond, and Wilkes), Augusta Technical College and local businesses. The development of Peach State Career Pathways and the renewal of articulation agreements by the CSRA ECP will facilitate the smooth transition of students from secondary to postsecondary education. A list of articulated courses can be seen at [www.augustatech.edu/csraecp](http://www.augustatech.edu/csraecp).

## **Accel**

Accel, a program funded by the Georgia Lottery and under the direction of the Georgia Student Finance Commission, allows eligible enrolled high school students to earn postsecondary and Carnegie Unit credit while jointly enrolled at a high school and a college, university, or technical college in the state of Georgia.

Accel students must meet regular admissions requirements for the program they have selected, be at least 16 years of age, and be able to provide their own transportation.

The process of applying for Accel begins with the high school student contacting the high school guidance counselor. The counselor will assist the student in identifying if Accel is an option.

## **Joint/Dual Enrollment**

Joint/Dual enrolled students are high school students who elect to attend Augusta Technical College. Students in the joint enrolled program take courses for postsecondary credit only. Students in the dual enrolled program, however, take courses for both high school and postsecondary credit. Students must meet regular admission requirements for the program selected, be at least 16 years of age (unless indicated otherwise), and provide their own transportation to campus. The process of applying for joint/dual enrollment begins with the high school counselor.

## **Senior Citizens**

Residents of Georgia who are 62 years of age or older may request a waiver of tuition. This policy applies to regular and college credit courses only. Waiver of fees and tuition does not apply to continuing education courses, noncredit courses, or seminars. If tuition is waived under this policy, admission will be granted only on a space-available basis. Senior citizens must meet all other admission requirements as specified in the College catalog. Proof of age must be presented at registration to receive a tuition waiver.

## **Audits**

Regular, provisional or special admission students may audit a class and receive no credit. However, a student will be permitted to re-register for the course for credit at a later date. In addition, a student must complete a Request to Audit Form before the time of registration or by the end of the drop/add period. Courses taken on an audit basis will not be used for certification for Financial Aid, Social Security, or Veterans Administration educational benefits. Students auditing course(s) must pay the regular tuition and fees for enrollment.

## **Background Check**

Conviction of a felony or gross misdemeanor may prohibit employment in field and may make a student ineligible to take licensing/certification exam(s) required by the profession. A background check may be required by some agencies before a student attends a clinical practicum. For more information, contact the appropriate program advisor.

# **ADULT EDUCATION**

## **Adult Education**

Adult Education is designed to assist individuals with basic reading and language skills, mathematics, science, social studies, General Education Development (GED) test preparation, English Literacy Program (ELP), civics education/citizenship, family literacy, and workplace literacy. For more information about Adult Education, call (706) 771-4131.

## **Adult Education Classes**

Classes are offered in Adult Basic Education, General Educational Development (GED) Test preparation, English Literacy Program (ELP), Civics Education/Citizenship, family literacy, and workplace literacy. These classes are offered during the day and evening at locations throughout the Augusta Technical College five-county service area in Burke, Columbia, Lincoln, McDuffie, and Richmond counties.

Registration is required for all Adult Education classes. Registration is in the Adult Education Admissions Office and there is no cost to individuals for adult education classes. To register, individuals 16 or 17 years of age need to provide picture identification, birth certificate, withdrawal form from the last school attended, and a parent's permission form and parent's identification. To register, individuals 18 or 19 years of age need a high school withdrawal form and picture identification and individuals 20 years or older need to provide only picture identification. For more information on enrolling in classes, call 706-771-4131.

## **GED Test Registration**

Registration is required for GED Testing, full battery testing, and partial testing. Individuals 20 years or older need a picture ID to register. Individuals 18 or 19 years old need their high school withdrawal form and picture ID to register. Individuals 16 or 17 years of age need State approval to take the GED Test, which can be obtained by providing the GED Office with picture ID, birth certificate, high school withdrawal form, and parent's permission form and ID to be forwarded to the State.

The GED testing fee is \$95 for the full battery test and \$19 for partial test or retakes and that must be paid at orientation. Call 706-771-4131 for the orientation schedule. The testing fee is payable by money order only, made to Augusta Tech-GED.

All individuals registering to take the GED Test are encouraged to take advantage of the free Specialty Workshops (mathematics and calculator, essay writing, test-taking tips, etc.) offered on Saturdays from 9 a.m. until 1 p.m. to improve their test scores.

Upon successful completion of the GED Test, the GED graduate will receive a GED diploma and a HOPE voucher for \$500. This voucher may be used to pursue further education at any Georgia accredited technical college or university. For information on GED testing, call 706-771-4131 or 706-771-5710.

## **Quick Start and Off-Campus Instruction**

Policies, requirements, and procedures pertaining to admission, Quick Start Training, and off-campus non-credit instructional programs may be obtained from the Interim Vice President for Economic Development at (706) 771-4089.

## **Rules Governing Legal Residency of Students for Tuition Purposes**

Legal residence in the State of Georgia requires not only recent physical presence in Georgia but also the element of intent to remain indefinitely. To be classified as an in-state student for tuition purposes, an individual who is 18 years of age or older must show that he/she has been a legal resident of Georgia for a period of not less than 12 months immediately preceding the date of registration. In the absence of documentation that the individual has established legal residence in Georgia, neither an emancipated minor nor any person 18 years of age or older shall gain in-state status while attending any educational institution in this state.

If a person is under 18 years of age, he or she may register as an in-state student only upon showing that his/her supporting parent or guardian has been a legal resident of Georgia for a period of at least 12 months immediately preceding the date of registration. If a parent or legal guardian of a minor changes his/her legal residence to another state following a period of legal residence in Georgia, a minor student may continue to take courses for a period of 12 consecutive months as an in-state student. After the 12 month period, the student may continue his/her registration only upon the payment of fees at the out-of-state rate. In the event that a legal resident of Georgia is appointed as guardian of a non-resident minor, such minor will not be permitted to register as an in-state student until the expiration of one year from the date of court appointment and then only upon proper showing that such appointment was not made to avoid payment of out-of-state fees.

Aliens shall be classified as non-resident students; however, an alien who is living in this country under an immigration document permitting indefinite or permanent residence shall have the same privilege of qualifying for in-state tuition as a citizen of the United States. Out-of-state tuition may be waived for exceptions as defined in this policy.

**Exceptions to the in-state residency requirements of this policy include the following:**

- Employees and their children who move to Georgia for employment with a new or expanding industry as defined in Georgia Code 20-4-40.
- Non-resident students who are financially dependent upon a parent, parents, or spouse who has been a legal resident of Georgia for at least 12 consecutive months immediately preceding the date of registration, provided that such financial dependence shall have existed for at least 12 consecutive months immediately preceding the date of registration.
- Full-time employees of Georgia's technical colleges, their spouses, and their dependent children.
- Full-time teachers in the public schools of Georgia or in the University System and their dependent children. Teachers employed full-time on military bases in Georgia shall qualify for this waiver.
- Military personnel and their dependents stationed in Georgia and on active duty.
- Military personnel and their dependents that are legal residents of Georgia but are stationed outside the state.
- Enrolled students who are legal residents of out-of-state counties bordering on Georgia counties in the Augusta Technical College service area. This applies to legal residents of South Carolina in the five bordering counties (Aiken, Allendale, Barnwell, Edgefield, and McCormick).
- International students selected by the president or authorized representative, provided that the number of the international students exempted does not exceed one percent of the total enrollment of full-time students, and
- Career consular officers and their dependents who are citizens of the foreign nation which their consular office represents, and who are living in Georgia under orders of their respective governments. This waiver shall apply only to those consular officers whose nations operate on the principle of educational reciprocity with the United States.

**Procedures**

When applying for admission to Georgia's technical colleges, an individual must indicate whether or not he/she is a legal resident of the state of Georgia and for what period of time. When a question arises concerning legal residence, proof of intent to remain in Georgia indefinitely must be reviewed with each case being considered unique and evaluated accordingly.

# FINANCIAL INFORMATION

## Introduction

Fees are payable prior to the beginning of each quarter/term/course except as noted. FEES ARE SUBJECT TO CHANGE AT THE BEGINNING OF ANY QUARTER, TERM, OR COURSE.

## Quarterly Fee Schedule

CREDIT HOUR (S)	*FEES
1	121.00
2	157.00
3	193.00
4	229.00
5	265.00
6	301.00
7	337.00
8	373.00
9	409.00
10	445.00
11	481.00
12 Plus (Full-Time)	517.00

*(Effective Winter quarter – January 2008)*

Fees listed above are for legal residents of Georgia and legal residents of South Carolina in bordering counties (Aiken, Allendale, Barnwell, Edgefield, and McCormick). Fees include tuition (\$36 per credit hour, unless otherwise indicated), student service fees (\*\$20 per quarter), registration fee (\$26 per quarter) Instructional and Technology Support Fee (\$35 per quarter – not covered by financial aid and must be paid), and supplemental accident insurance (\$4 per quarter). \*Student Services fee for Thomson and Burke campuses is \$17.

All Allied Health, Cosmetology, and Early Childhood students are required to pay an additional liability insurance fee of \$3. The liability insurance is paid each quarter with tuition and fees. This fee is not covered by financial aid and must be paid.

South Carolina residents living in counties other than those listed above and other out-of-state residents pay two times the tuition (\$72) per credit hour for associate degree, diploma, and certificate programs.

Foreign students pay four times the tuition (\$144 per credit hour for associate degree, diploma, and certificate programs) required for Georgia residents. This applies to non-immigrant aliens, those on I-20 Foreign Student Visas, and foreign students to include diplomatic, consular mission, and other non-consular personnel. Foreign immigrants who are permanent residents shall pay the same tuition as citizens of Georgia.

### The following program is charged tuition and fees as follows:

	Tuition Per Credit Hour	Full-time Tuition and Fees
**Cardiovascular Technology	\$ 70	\$ 925

\*\*Liability insurance fee as listed above will be added to tuition and other fees for these programs.

## Refunds

Students who withdraw before the quarter begins or during the first three days of the quarter may receive a 100% refund of tuition and fees if their financial obligations have been satisfied. No refund is granted for withdrawals after the 3<sup>rd</sup> instructional day of the quarter. Refund/withdrawal forms may be obtained in the Admissions Office, Building 1300, Augusta Campus, or in Student Services, Thomson/McDuffie Campus and Waynesboro/Burke Campuses. Students who submit a refund form after the stated deadline(s) will **not** be eligible for a refund. The Business Office will process refunds **after** the third week of the quarter.

## Refund Schedule

### Time of Withdrawal

A registered student may receive a full refund of all tuition and fees if their financial obligations have been satisfied provided that the Refund Form is received by the campus Student Services Office prior to the 4<sup>th</sup> instructional day of the quarter

### Amount Refunded

Full Refund of all Fees

Beginning the 4<sup>th</sup> instructional day of the quarter

No Refund

## General Fees and Expenses

**Application For Admission**—An individual's first application for admission to credit courses must be accompanied by a \$15 application fee (nonrefundable).

**ID Badges**—All students faculty and staff must have a current Augusta Technical College identification visible at all times. The identifications cards can be obtained from the bookstore in Building 1300 on the Augusta Campus and at the Admissions Office on the Thomson and Waynesboro Campuses. Student ID cards must be validated each quarter. Students can purchase a replacement ID card for a fee of \$3.

**Late Registration**—A \$25 late payment fee will be added to regular fees for all students paying on or after the first day of the quarter.

**Books, Tools, Uniforms, and Equipment**—Every student is required to have books, tools, uniforms, and other equipment appropriate to the program of study. In most instances these items will be usable in the student's employment following graduation. All required books and some other program needs may be purchased from the College bookstore.

### **Practicum/Clinical Courses—Travel**

Students enrolled in off-campus practicum or clinical courses will be required to travel to businesses, industries, and hospitals. Travel arrangements and costs for practicum/clinical courses must be provided by students.

**Transcripts** – A student who has discharged all financial obligations to the College is entitled to receive up to 10 transcripts free of charge upon written request. A fee of \$5 is charged for each additional transcript. Additional fees may apply for special conditions.

**Graduation Deadlines and Fees**—Graduation applications will be accepted in the campus Bookstore. Students should see their advisor one quarter before graduation is planned for graduation information. Graduation fees are non-refundable.

### **Degree/Diploma/Technical Certificate of Credit Graduation Fees**

- a. Degree, diploma, or technical certificate of credit (any number) received at the same graduation - \$40
- b. Second degree/diploma/technical certificate of credit received at subsequent graduation - \$30
- c. Additional cover for a degree, diploma, or technical certificate of credit - \$8
- d. The cost for invitations is included in the graduation fee. Students who apply for graduation and are approved by the Registrar will receive a postcard indicating when invitations may be picked up from the Records Office.

## Continuing Education/Off-Campus Courses

Fees are charged for each continuing education/off-campus course as indicated in the announcement of course offerings for each quarter. Students may be required to purchase textbooks and supplies for some courses.

## Financial Obligations

Students who are delinquent in the payment of any financial obligation(s) may be removed from one or all courses and will not be allowed to register for another quarter until all delinquent fees are paid. Student transcripts or other student records will not be released until all delinquent fees are paid.

# FINANCIAL AID

Augusta Technical College offers a comprehensive program of financial aid for students. Through this program, eligible students can receive one or more types of financial aid. Financial aid is generally in the form of grants, scholarships, and/or a work-study program.

Most financial aid at Augusta Technical College is awarded on the basis of a student's academic progress and proven financial need. Financial need is defined as the difference between a family's resources and the total expenses of attending the College. Augusta Technical College uses the Free Application for Federal Student Aid (FAFSA) to measure a family's financial strength.

Information about financial aid is available in the Financial Aid Office in Building 1300 on the Augusta Campus and in the Student Services Office at the Waynesboro and Thomson campuses.

## Grants

**NOTE: You must apply annually for all grants**

**Federal PELL Grant** - Students who have financial need and are enrolled in an associate degree or a diploma program may be eligible for this grant if they have not previously earned a bachelor's degree. All students seeking financial assistance at Augusta Technical College must apply for the grant before aid will be awarded. Grants range from \$400 to \$4,050 per year depending upon the level of federal funding, the cost of education, and the student's eligibility index as calculated by PELL Grant. The award also varies with credit hours of enrollment. It is recommended that the student apply at least ten (10) weeks prior to the quarter beginning date. Learning support courses are not covered by this grant.

**Federal Supplemental Education Opportunity Grant (FSEOG)** - Students with exceptional financial need may be eligible for this grant. The award amount is contingent upon the availability of SEOG funds and the amount of other aid the student is receiving. Eligible students are processed on a first-come, first-served basis until allocated funds are expended.

**The HOPE Scholarship/Grant Program** - Funded by the Georgia Lottery for Education for eligible students, HOPE pays for tuition and mandatory fees (excluding malpractice insurance and the instructional and technology fee). In addition, eligible students will receive a book/supply allowance based upon hours of enrollment.

### General Eligibility Requirements

1. Must be a "legal" resident of Georgia for one year or active military/dependant.
2. Must be enrolled in an eligible post-secondary institution.
3. Must be a U.S. citizen or Permanent Resident Alien.
4. Must not be in default of Federal Title IV aid or owe a refund on Federal Title IV aid.

### Specific Eligibility for Associate Degree Students

1. Must be a member of the 1993 or later high school graduating class.
2. Must have a high school cumulative grade point average (GPA) of 3.0 for college preparatory curriculum or cumulative 3.2 in other curriculum.
3. Eligible student may receive grant payments up to 190 credit hours.
4. Must maintain 3.0 cumulative GPA at each 45-credit hour increment, additional established checkpoints, and also meet Federal standards of satisfactory progress.
5. For associate degree students who have previously attended post-secondary schools, see Financial Aid office for additional eligibility requirements.
6. Students who have completed 45 degree level credit hours and maintained a "B" average, see Financial Aid office for eligibility.

The HOPE Scholarship covers tuition and mandatory fees (excluding malpractice insurance and the instructional and technology fee) for Associate of Applied Science degrees and books up to \$100.

### Specific Eligibility for Diploma/Certificate Students

1. Eligible regardless of year of high school graduation.
2. Eligible for a maximum of 95 quarter hours HOPE Grant payments, or a maximum of 130 quarter hours, or the number of hours required for graduation, whichever is less, but only if enrolled in specific programs of study designed to require more than 95 quarter hours for graduation.

3. Must maintain a cumulative grade point average of 2.0 GPA and completion rate of 67 percent of coursework.
4. Must not be in default on a student loan or owe a refund on a grant.

The HOPE Grant covers tuition cost for diplomas and technical certificates of credit mandatory fees (excluding malpractice insurance and the instructional and technology fee) and books up to \$100 per quarter.

**NOTE:**

Military personnel in Georgia are eligible for the HOPE Grant provided they are enrolled in a certificate or diploma program.

## **Georgia LEAP Program (Leveraging Educational Assistance Partnership)**

Students with exceptional financial need may be eligible for this grant. The award amount is contingent upon the availability of LEAP funds and the amount of other aid the student is receiving. The student must be PELL eligible and be enrolled at least half-time (6 hours).

## **Scholarships**

Scholarships are available to students in need of financial assistance through the Financial Aid Office. Please call the Financial Aid Office at (706) 771-4149 for more information, application dates, and guidelines pertaining to each scholarship.

**Jack B. Patrick Scholarship**—Established in honor of Jack B. Patrick, former President of Augusta Technical College. Three scholarships are awarded annually for tuition and books. Each award is up to \$500 per quarter.

**Lowe's Educational Scholarship Program**—Established through a gift from Lowe's Charitable and Educational Foundation. Ten \$2000 scholarships are awarded annually to full-time students in specific trade fields and certain business programs. Scholarships may only be applied to tuition and fees. Part-time students may also apply but awards will be reduced for lesser credit hours.

**Ray Powell Memorial Scholarship**—Named in honor of former instructor and Vice President for Instruction, Ray Powell. One scholarship is awarded annually for tuition and books. Each award is up to \$300 per quarter.

**Todd R. Cato Memorial Scholarship**—Established in memory of former student, Todd R. Cato. One scholarship is awarded annually to an area high school graduate that lettered in a sport, was active in an extracurricular activity and has an overall grade average of 75 or better. This is a one-time annual award up to \$500.

**Lichtenberg Scholarship**—Established by Ric and Peggy Lichtenberg of Samson Manufacturing. This scholarship is awarded annually to two students pursuing an Associate Degree and who have demonstrated financial need. The award varies depending on individual needs.

**The J. D. Smith Waynesboro Rotary Club Scholarship**—Established by the Waynesboro Rotary Club in honor of Mr. J.D. Smith. This \$750 scholarship is awarded annually to a Burke County resident pursuing an Associate Degree. The recipient must have a grade point average of 2.0 or better, must have demonstrated financial need, must not be receiving HOPE or Pell, and must not be enrolled in remedial classes. Preference is given to students who have been members of Interact in high school.

**The Barbara Williams Dental Assisting Scholarship**—Established in honor of former Program Chair, Barbara Williams. This scholarship is awarded annually to a student pursuing a diploma in Dental Assisting. Applicants must demonstrate financial need and have a 3.0 cumulative grade point average. This is a one-time annual award up to \$500.

**Regent Security Services Scholarship Program**—Funds scholarships for employees of Regent Security Services and their family members attending Augusta Technical College. Contact Regent Security Services for more details on the program.

**The Medical Assisting Endowment** - Established by Dr. Paul Fischer of the Centers for Primary Care. The scholarships are awarded twice a year, spring and fall quarters. Each award is \$500. The scholarships are for currently enrolled, full-time Medical Assisting students with a 3.0 or better grade point average. Currently Certified Medical Assistants wishing to return to college to acquire an Associate of Applied Science - Health Degree may also apply. Applications should be made through the Department Head of the Medical Assisting Program.

**Toolbox Scholarships** - Funded by various donors and foundations, these scholarships are awarded quarterly based on financial need and range up to \$250 per quarter. There is a limit of one Toolbox Scholarship per year per recipient. The scholarships are to be used for books, tools and supplies listed on program supply lists.

**The Widow’s Home of Augusta, Georgia Inc. Scholarship** - This scholarship is awarded each summer quarter to a degree seeking female student who is a non-qualifier for need-based financial aid and/or female student whose financial status has changed or decreased. Applications should be made through the Financial Aid Office. The Board of the Widow’s Home makes the final scholarship selection. The scholarship is for one year with the possibility of renewal for a second year, funds permitting.

NOTE: Eligibility criteria are subject to change for each award year. All scholarship awards are contingent on availability of funds from donating organizations/individuals. Complete scholarship details and eligibility criteria are available with each scholarship application.

## **Federal Work-Study**

The Federal Work-Study Program provides jobs for students who need financial aid and who must earn a part of their educational expenses. The amount of the award depends on need and the amount of funds available. Tuition and fees cannot be deducted from a Federal Work-Study award. Students must apply by completing the individual Federal Work Study application in the Financial Aid Office. Students normally work 2 to 3 hours per class day or 15 hours per week.

## **Course Load Determination**

<b>Minimum</b>	<b>Quarter Credit Hours</b>
Full Time	12 or more
Three-Quarter Time	9-11
Half-time	6-8
Less than half-time	1-5

## **Academic Policies for Financial Aid**

Federal regulations require the College to establish policies--Standards of Satisfactory Progress--to measure whether students applying for financial aid are in good academic standing and making satisfactory academic progress toward completion of their diploma or degree programs. A student must maintain a cumulative grade point average (GPA) of 2.0 to receive financial aid and maintain a 67 percent completion rate.

A detailed description of the Standards of Satisfactory Progress policy is available in the Financial Aid Office.

## **Learning Support and Financial Aid**

Students must be accepted as regular or provisional to be considered for Pell Grant. Students accepted as learning support may be considered for HOPE Grant only. Learning support courses count in the HOPE MAXIMUM hours limits. Special admissions students DO NOT QUALIFY FOR Pell or HOPE.

## **Drug-Free Postsecondary Education Act of 1990**

The “Drug-Free Postsecondary Education Act of 1990” requires students who commit certain felony offenses involving marijuana, controlled substances, or dangerous drugs to be: 1. a) suspended from postsecondary public education institutions and b) denied state funds from the date of conviction to the completion of the next academic term, and 2) denied state funds at postsecondary nonpublic educational institutions from the date of conviction to the completion of the next academic term. The Act shall apply only with respect to felony offenses committed on or after July 1, 1990. The Georgia Student Finance Authority is authorized to define such terms and prescribe such rules, regulations, and procedures as may be reasonable and necessary to carry out the purposes of the Act. Campus crime statistics are available at the College website, [www.augustatech.edu](http://www.augustatech.edu).

## **Vocational Rehabilitation Service**

The Vocational Rehabilitation Service of the Georgia Department of Labor provides financial assistance to persons with certain physical disabilities. Contact the local Division of Vocational Rehabilitation for details.

## Educational Benefits for Veterans and Eligible Dependents

The Financial Aid Office assists veterans and eligible dependents in applying for VA educational benefits. Information is also available at [www.gbill.va.gov](http://www.gbill.va.gov) and [www.va.gov](http://www.va.gov).

### G.I. Bill-Procedures for Applying for Benefits

See the VA Certifying Official in the Financial Aid Office to complete paperwork. To withdraw from courses or to make program changes, students must see the VA Certifying Official.

## ACADEMIC REGULATIONS

### Grading System

The following grading system is used:

<u>Program Courses</u>		<u>Learning Support Courses</u>	
Grade	Grade Point	Grade	Grade Point
<b>A</b> = 90 - 100	4	<b>A*</b> = 90 - 100	0
<b>B</b> = 80 - 89	3	<b>B*</b> = 80 - 89	0
<b>C</b> = 70 - 79	2	<b>C*</b> = 70 - 79	0
<b>D</b> = 60 - 69	1	<b>D*</b> = 60 - 69	0
<b>F</b> = 0 - 59	0	<b>F*</b> = 0 - 59	0
<b>WF</b> = 0 - 59	0	<b>WF*</b> = 0 - 59	0
<b>I</b> = Incomplete		<b>I</b> = Incomplete	
<b>IP</b> = In Progress		<b>AU</b> = Audit/Warranty	
<b>AC</b> = Articulated Credit		<b>TR</b> = Transfer Credit	
<b>AU</b> = Audit/Warranty		<b>W</b> = Withdraw	
<b>EX</b> = Exempted/Credit by Exam		<b>WP</b> = Withdraw Passing	
<b>TR</b> = Transfer Credit			
<b>W</b> = Withdraw			
<b>WP</b> = Withdraw Passing			

### WORK ETHICS GRADE

<b>3</b> =	Exceeds Expectations
<b>2</b> =	Meets Expectations
<b>1</b> =	Needs Improvement
<b>0</b> =	Unacceptable

**“AU” AUDIT**—Indicates a student is registered to audit a course and attend classes without meeting all admission requirements for the course and without receiving credit. Students are not permitted to change from audit to credit after the drop/add period without meeting recommended admission requirements or from credit to audit after the drop/add period at the beginning of each quarter.

**“I” INCOMPLETE**—Indicates that a student has satisfactorily completed a substantial portion of the required course work, but for non-academic reasons beyond the student's control, has not been able to complete the course. It is at the discretion of the instructor as to whether an “I” grade is issued. The student must contact the instructor to develop plans for a timely completion of the course. If the required work is not completed before midterm of the following quarter, the “I” will automatically become an “F.” If a grade of “I” is received in a course that is a prerequisite to other courses, the student must complete the required prerequisite and receive a final grade to be eligible to enroll in other courses.

**“IP” IN PROGRESS**—Indicates that a course continues beyond the end of the quarter.

**“W” WITHDRAW**—Signifies the student stopped attending and/or withdrew before midterm.

**“WF” WITHDRAW FAILING**—Signifies the student withdrew with a failing grade after midterm. “WF” carries a grade point value of “0.”

**“WP” WITHDRAW PASSING**—Signifies the student withdrew with a passing grade after midterm.

## Grade Change Policy

If a student questions a grade received in a course, the student should contact the instructor with a petition to change a grade. The Registrar cannot change a grade without the approval and notification by the instructor. A student must petition for a grade change and have the change resolved by mid-term of the subsequent quarter.

## Program/Course Grade Requirements

Specified courses in degree/diploma/technical certificate of credit programs of study may require a grade of "C" or higher as stated in the program description or course description sections of the college catalog. A grade of "C" or higher may be required for a specific course that is a prerequisite to a more advanced course.

## Electives

In the Program Section, some programs list elective hours (general, occupational and/or technical electives). This number of elective hours is required for graduation from the program. Students may contact their program advisor for suggestions for appropriate course selections. Students on financial aid should have the course selections approved before registering. Students who have transfer credit that can be used for the elective hour requirement may not receive financial aid coverage for the cost of any additional elective courses.

## Practicum/Clinical Travel

Students enrolled in off-campus practicum or clinical courses will be required to travel to businesses, industries, or hospitals. All travel arrangements and costs for practicum/clinical courses must be provided by students.

## Work Ethics

The work ethics grade is designed to evaluate and encourage good work habits. Performance factors and indicators include, but are not limited to, quality of work, ability to follow instructions, productivity, dependability, honesty, reliability, attendance and punctuality, attitude, integrity, enthusiasm, interpersonal skills, and initiative.

Students will receive a work ethics grade (3, 2, 1, or 0) for all courses each quarter. The quarterly work ethics grade will not affect the academic grade point average (GPA) of a student. The work ethics grade will be printed on the transcript.

## Dean's List

The Dean's List is compiled quarterly. Students who attempt and earn 10 or more credit hours with a quarterly grade point average of 3.5 or higher are placed on the Dean's List. Learning support classes are not calculated in the GPA.

## Academic Probation and Suspension

A student who earns a quarterly grade point average of less than 2.0 will be placed on academic probation during the next quarter of registration and enrollment. A student will be suspended for one quarter if a grade point average of less than 2.0 is earned during the quarter the individual is enrolled on academic probation. During the first quarter of enrollment after academic suspension, a student is placed on academic probation.

A student who fails or does not successfully complete (earn a grade of "C" or higher as required for courses specified in the college catalog) a course twice will not be allowed to repeat that course for one year and will be allowed to retake a third time on a space available basis only. A new or continuing student will be given registration priority over a student retaking a course(s) for the third time. A student who is academically suspended from a program twice will not be allowed to reenter that program. Students in either of the above categories are required to have academic advising by their advisor(s) before repeating a course. Reapplication for admission does not mandate acceptance to the same program after the first suspension from that program.

Students who do not earn a grade of "C" or higher in any two courses attempted in their program of study as specified in **NOTES** as listed in the **Program of Study** section of the College catalog will be suspended from their program for one year. Before reentering the program, the student must complete an individualized remedial program assigned by the department head. Students who do not earn a grade of "C" or higher in any three courses with these prefixes will not be allowed to reenter that program or course(s).

## **Academic Good Standing**

Academic Good Standing means that students are eligible to enroll or re-enroll. However, it should be noted that a cumulative grade point average of 2.0 or higher is required for graduation.

## **Satisfactory Academic Progress**

Students are considered to be making satisfactory academic progress if they are in good standing or on academic probation.

## **Unsatisfactory Academic Progress**

Students are considered to be making unsatisfactory academic progress if they have been placed on academic suspension because of quarterly grade point averages.

## **Proof of Registration**

A student will be required to present proof of registration and payment of fees upon entering each course at the beginning of the quarter. This includes courses added during the drop/add period.

## **Drop/Add Period**

A student may drop or add a course(s) without academic penalty before the first day of the quarter (**drop/add period is the two days before the quarter begins**). Course(s) dropped during the drop/add period will not appear on the student's transcript. Additionally, students with no financial obligation to the College may withdraw from courses during the first three (3) instructional days of the quarter without penalty.

## **Course Add Period**

Students may add open and approved sections of courses through the first seven (7) calendar days of the quarter.

## **Withdrawal from Course(s)**

A student who withdraws from a course(s) **after the drop/add period**, must complete a Schedule Change Form. This form must be signed by all required College personnel. Schedule Change Forms are available in the Office of Admissions at the Augusta Campus and in Student Services at the Waynesboro and Thomson Campuses. Refunds may be given based upon the College refund policy.

## **Withdrawal from the College**

If a student desires to withdraw from the College (**all courses**), the student should go to the Registrar's Office to be withdrawn. The Registrar will provide the student with a statement indicating the consequences of withdrawing from the College, and the student will sign a waiver noting that he/she has received this information. The student will be required to turn in his/her student ID to the Registrar. If the student does not have his/her student ID, an ID hold will be placed on the student's account.

## **Repeat of Course/Forfeiture of Credit**

By registering for a credit course(s) for which the student has already received credit, a student forfeits the previous credit in that course(s) for graduation purposes. The student's official grade for graduation purposes in the course(s) will be the last one earned on repetition. All grades earned remain on the official academic record and are computed in the cumulative grade point average.

## **Graduation Information**

Graduates are students who have achieved regular program admission status and have successfully completed a program of study as outlined in the College catalog with a 2.0 or higher program grade point average. In addition, a grade of "C" or higher must be earned in courses specified in the College catalog. A student who has completed all courses in a program with less than a 2.0 program grade point average is not eligible to be a graduate but may receive a transcript. When a student reenters after withdrawal or termination, the program of study in effect at the time of reentry must be completed. A student must complete at least 25 percent of the credit hours required for graduation in residence regardless of the amount of transfer and exemption credit awarded.

All Advisor Recommendation for Graduation forms will be evaluated by the Registrar. Students should see their advisors prior to midterm of the quarter before their last planned quarter of enrollment for graduation eligibility information. All eligible graduates are encouraged to participate in the ceremony. For participation in the graduation ceremony, applications for graduation must be submitted with the required fee to the college bookstore.

Graduates who do not wish to participate in the graduation ceremony may pick up their degree/diploma/certificate any time after the graduation ceremony. No fee is required.

## **Honor Graduates**

Degree and diploma graduates who have achieved a program grade point average of 3.5 or higher are recognized at graduation as honor graduates.

## **College Honor Code**

It is my honor to be an Augusta Technical College student. I pledge to do honor to myself, my classmates, and the College by doing my best and by following the College Honor Code. I will not dishonor myself or the College by lying, cheating, stealing, or doing harm to another person or property. I understand that following an honor code is a reflection of my work ethic which is important to my success on the job and in life.

## **Double Majors/Specialties**

**Majors**—The opportunity to pursue a double major (two programs of study) and receive two diplomas is available to students enrolled at Augusta Technical College. Upon registering for the last course/quarter for the first major, the student must complete an Application for Admission for the second major. The requirements, as listed in the catalog, must be satisfied for both majors. The quarter the student is accepted and enrolled for each major determines which catalog requirements must be met. If all requirements for both majors are completed prior to a graduation exercise, then both diplomas will be awarded. If not, the student will be permitted to participate in the second graduation exercise and receive the second diploma.

**Specialties**—Some majors at Augusta Technical College provide the opportunity to complete more than one area of specialization. However, only one diploma will be received. The distinction among specialties is made on the transcript.

## **Technical Certificates of Credit**

Students enrolled in a technical certificate of credit program will receive a certificate upon successful completion of all program requirements with a cumulative grade point average of 2.0 or higher.

## **STUDENT SERVICES**

### **Orientation**

An orientation is provided for new students. Orientation includes a survey of school facilities; an explanation of college rules and policies; a briefing on student services including financial aid, bookstore, library, counseling, registrar/records, and career services; and a briefing on assessing faculty advisors. Information about programs of study and the Student Activities Council is also provided. Orientation is continued throughout each student's enrollment by the student's faculty advisor. This service is provided to assist the student in making adequate adjustments to the instructional program and to the world of work. For students with disabilities, the counseling staff provides an individual orientation explaining accommodations and services. After orientation the counseling staff is available to assist each student in his or her adjustment to technical education by offering a variety of services. An online version of the new student orientation is also available at [www.augustatech.edu](http://www.augustatech.edu).

### **Academic Counseling Services**

Counselors provide support for students who request assistance or who may be referred for assistance by an instructor. Students occasionally need help that involves career choices, poor grades, study skills, scheduling classes, academic advising, and wellness.

### **Career Services**

The goal of the Career Services Office is to provide services that enable students to meet their employment goals while in school and upon graduation. Career Services is considered a team effort at Augusta Technical College and involves program instructors, deans and directors, and counselors. The office processes full-time and part-time job order requests directly to the College website. Therefore, students may view the job openings from off-campus locations and in the library or career center. Other services offered by the office include mock interviewing, resume and cover letter critiques, resume referral to employers, career fairs, and workshops. Also, information is collected from graduates and their employers to ensure that the College is achieving its educational objectives and giving students the skills they need for success.

### **Special Needs/Disability Services**

Special assistance is provided for students with disabilities so that they have an equal opportunity to enroll and to participate in College programs and activities. Students with disabilities must self-identify quarterly and provide documentation of the disability to a counselor in the Counseling Center in order to receive assistance. Available services include accommodation during the admission process and modification in the instructional setting. Also, various community agencies may be contacted for additional support resources.

### **Advisement and Registration**

After a student has been enrolled for one quarter, the advisement/registration process is as follows:

1. Students will be notified of quarterly advising/registration dates via flyers and SmartWeb e-mail.
2. Currently enrolled students must meet with their program advisor or learning support advisor to outline their schedule of classes.
3. Register on-line for the appropriate course(s) on the Augusta Technical College web site located at internet address [www.augustatech.edu](http://www.augustatech.edu).
4. Pay any outstanding tuition and/or fees in the student accounts office (Augusta Campus) or in Student Services (Burke and Thomson campuses).

### **Library/Information Technology Centers**

The libraries of Augusta Technical College share an online catalog and circulation system providing users with a way to search for and checkout materials from each campus. All locations provide circulation of library materials from open stacks, reference assistance, Internet access, and interlibrary loan services. Group, individual, and class orientations are available on a scheduled basis. A major information resource, much of which is full-text, is Georgia Library Learning Online (GALILEO). GALILEO allows patrons to access online a wide range of information. The libraries seek the input of faculty and students via surveys, interviews, and marketing efforts to ensure that services and materials support student's needs. The operating hours for the centers are posted on each campus and are available on the College web site.

## **Tutoring Center**

Tutoring services provide professional and peer tutoring on the Augusta, Thomson, and Waynesboro campuses. Students may receive individual and/or small group academic help, support, and encouragement. Hours of service are determined by student need quarterly for each campus and are posted in the tutoring area. Students may request an appointment for tutoring at other hours. Tutoring services are available in Room 217, Building 200 on the Augusta campus, in the library on the Waynesboro campus, and in the Liaison Office Conference Room on the Thomson campus.

## **Health Services**

In the event of injury or other medical emergencies, the nearest instructor or staff member and the dean or director should be notified. Professional emergency care, if needed, will be secured by the appropriate dean, director, Vice President for Operations, or the Vice President for Administrative Services. As a nonresidential school, Augusta Technical College expects that the student will normally secure medical services through a family physician. In case of a serious accident or illness, the College will refer the student to the nearest hospital (or hospital of the student's choice) for emergency care and will notify the student's next-of-kin. It is to be understood that the student or the student's family will be responsible for the cost of such emergency care, including ambulance service, if in the opinion of college authorities, such service is necessary.

## **Campus Security**

It is the obligation of the College to ensure orderly operation, to protect the rights of all members of the College community, to prohibit acts which materially and substantially interfere with legitimate educational objectives or interfere with the rights of others, and to institute disciplinary action where conduct adversely affects the pursuit of educational objectives.

Therefore, Augusta Technical College employs Special Duty Sheriff's Department Deputies to enforce security rules and regulations including the Code of Conduct and Traffic and Parking Regulations (see the Augusta Technical College Student Handbook). The special duty officers are employees of Augusta Technical College when on assignment. They have full arrest powers and can issue traffic citations.

Uniformed officers provide police protection for safety. The purpose of campus security is to serve the student and provide a safe and pleasant campus atmosphere. Students are encouraged to provide cooperation to the officers. Students and faculty/staff must have the Augusta Technical College identification card visible for verification at all times.

Students and faculty/staff shall not interfere with the special duty officers in the performance of their duties. For questions, problems, or special needs, or if there is a concern regarding enforcement of the code of conduct, traffic and parking regulations and/or security procedures, contact the Vice President for Administrative Services or the Vice President for Operations.

Report all emergencies, thefts, vehicle accidents, injuries, suspicious persons, suspicious activities, and solicitors at the Augusta Campus to the Vice President for Administrative Services, Building 100, (706) 771-4009. After 4:30 p.m., contact Continuing Education, Building 100, (706) 771-4025. Report all emergencies, thefts, vehicle accidents, injuries, suspicious persons, suspicious activities, and solicitors at the Thomson or Waynesboro Campuses to the Vice President of Operations.

Statistics concerning the occurrence on campus of criminal offenses reported by special duty officers to the Vice President for Administrative Services will be published annually in September. This information will be available in the Library/Information Technology Center and the Business Office.

## **ID Badges**

All students faculty and staff must have a current Augusta Technical College identification visible at all times. The identifications cards can be obtained from the bookstore in Building 1300 on the Augusta Campus and at the Admissions Office on the Thomson and Waynesboro Campuses. Student ID cards must be validated each quarter. Students can purchase a replacement ID card for a fee of \$3.

## **Accident Insurance**

All credit students are required to purchase accident insurance at the time of registration. In case of an accident, the student is responsible for any expenses not paid by this accident insurance. Accident insurance provides partial (supplemental) coverage for medical expenses related to accidents (accidental injury or death) as specified below.

1. College—Time Coverage protects students while engaged in college activities during the quarter.
2. Traveling—To or from the student's residence and the College to attend classes or as a member of a supervised group (not as a spectator) traveling in a college-furnished vehicle or chartered transportation going to or from a college-sponsored activity.
3. On the College Premises—During the hours on the days when the College is in session or any other time while the student is required to participate in a college-sponsored activity (not as a spectator).
4. Away From The College Premises—As a member of a supervised group participating in a college-sponsored activity requiring the attendance of the student (not as a spectator).

Students are responsible for reporting claims to the Vice President for Administrative Services or a Vice President for Operations.

## **Liability Insurance**

All Early Childhood Care and Education, Cosmetology, and Allied Health students are required to obtain professional liability insurance for coverage in the internship and clinical education and training areas that are a required part of each of these programs.

## **Student Records**

Procedures relating to the establishment, utilization, availability, and retention of student records are in accordance with the provisions of the Family Educational Rights and Privacy Act of 1974 as amended, the policies of Augusta Technical College, the State Board of Technical and Adult Education, and the Records Management Office Procedures and Regulations as established by the State of Georgia. Students, alumni, and other former students should contact the Student Records office on all matters relating to their academic records, transfer of credit, withdrawal, graduation, and other governmental or college certificates.

## **Directory Information**

In compliance with the Privacy Act, certain organizations will have access to student records without prior consent for disclosure. Augusta Technical College will disclose directory information, consisting of the name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degree and awards received, and the most previous educational agency or institution attended by the student. A student who objects to the disclosure of "directory information" to organizations must provide a written and signed notice to the Registrar's office on the Augusta campus prior to the end of registration each quarter.

## **Housing**

Dormitories or other on/off-campus housing facilities are not provided by Augusta Technical College. Students desiring housing may obtain information through local newspaper advertisements and real estate agencies.

## **Cafeteria/Student Center**

A Cafeteria/Student Center is housed in the 400 building on the Augusta campus. Short order breakfast and lunch are served between 7:30 a.m. and 1:30 p.m.

## **Snack Bars**

Vending rooms are located at all campus locations.

## **Children on Campus**

It is the policy of the College that children are not permitted on campus except for special functions (i.e. open house).

## **Special Populations Program**

The Special Populations Program provides services for single parents, including single pregnant women; displaced homemakers who have experienced a sudden personal and economic dislocation due to divorce, separation, disability, or death of a spouse; and individuals who are pursuing training in nontraditional careers. The primary objective of the program is to provide a supportive environment in which the student or prospective student can develop a personal plan of action that will lead to employment while overcoming the barriers that may prevent an individual from becoming independent and employable. This is accomplished through individual consultation with the program coordinator, as well as through group presentations regarding educational and career opportunities, use of available school and community resources, information about nontraditional jobs, and assessment of personal skills, interests, and values. The program also offers individual and group advising on such topics as stress management, money management, parenting skills, problem solving, and job search.

There is no charge for any program services. More information may be obtained by calling the coordinator of the Special Populations Program at (706) 771-4070.

## **Bookstore**

A bookstore is located in Building 1300 on the Augusta campus. Bookstores are also located on the Thomson and Waynesboro campuses. Hours are posted at each location.

New and used books are available for sale along with a variety of computer software, apparel, gift items, and supplies needed by students. It is recommended that new students attend all classes on the first day of the quarter to obtain a complete list of textbooks and supplies that will be needed.

## **Refund Policy**

Textbooks - A full refund will be made subject to the following conditions:

1. New books must be free of all marks - either pencil or ink.
2. Shrink-wrapped material must be unopened.
3. New or used books must be returned or exchanged within two weeks from date of purchase.
4. A student ID card or picture ID and original cash register receipt are required for all returns or exchanges.
5. Refunds on all items purchased by check require a ten-business day waiting period from date of purchase.
6. Defective new books will be exchanged at no charge. Used books are not guaranteed.
7. Refunds will not be made on non-required books or supplies.

## **Used Book Buy Back**

Used textbooks are purchased at the College bookstore the last two days of each quarter.

## **STUDENT ACTIVITIES**

### **GOAL Program**

The Georgia Occupational Award of Leadership (GOAL) is cosponsored statewide by the Georgia Chamber of Commerce and the State Board of Technical and Adult Education. GOAL is cosponsored locally by The Optimist Club of Augusta and Augusta Technical College. The purposes of the GOAL Program are to give recognition annually to the State's outstanding postsecondary technical students and to stimulate public interest in the importance of technical education.

The main objectives of the GOAL Program are the following:

1. To spotlight the importance of technical education in modern society
2. To reward students who excel in learning a skill
3. To encourage pride in workmanship
4. To generate greater respect and appreciation for the working person
5. To emphasize the dignity of work in today's society

All students with a 3.0 GPA who have completed at least 12 quarter hours toward program graduation at a technical college are eligible for GOAL nomination. From these nominations, a committee chooses four outstanding students from degree or diploma programs. Finally, the College winner, chosen from the four finalists, is selected to compete in the annual statewide GOAL competition in Atlanta. The College winner must be enrolled in the same program or same program group throughout the competition.

### **Augusta Tech Games**

Augusta Tech Games are held for students in the spring of each year. Various types of activities are planned by the Student Activities Council.

## **STUDENT ORGANIZATIONS**

### **National Technical Honor Society**

The National Technical Honor Society (NTHS) is designed to honor academic excellence for students enrolled in diploma programs. Membership in NTHS is the highest scholastic honor awarded for excellence in workforce and technical occupational education in America. NTHS encourages scholastic achievement, skill development, honesty, service leadership, citizenship, and individual responsibility.

### **Phi Theta Kappa**

Phi Theta Kappa is an international scholastic honorary society for students enrolled in associate degree programs at two-year colleges and technical colleges and institutes. The only nationally acclaimed honor organization serving American institutions offering associate degree programs, Phi Theta Kappa annually initiates some 35,000 students into over 1100 chapters located in the U.S. and its territorial possessions. The organization maintains a "shared commitment to excellence" through its four hallmarks: scholarship, leadership, fellowship, and service.

### **Professional Organizations**

Students are encouraged to participate in local, regional, and national organizations related to their programs of study. The following organizations maintain campus chapters or area chapters for student membership:

American Association of Medical Assistants  
American Culinary Federation Junior Chefs Association  
American Society of Mechanical Engineers  
American Student Committee of the Occupational Therapy Association  
Armed Forces Communications and Electronics Association  
Association of Information Technology Professionals  
Association of Surgical Technologists  
Image Communications Organization Network  
Institute of Electrical and Electronic Engineers  
Instrument Society of America  
International Association of Administrative Professionals  
Tenth District Practical Nurses Association

## **Student Leadership Council**

The Student Leadership Council, with representation from the student body, provides a channel through which students may exhibit leadership, influence college decision-making, voice concerns, and enhance communication among students, faculty, and staff.

## **Skills USA**

Skills USA was established for trade, industrial, technical, and allied health students. It is a student organization that focuses on teaching leadership skills and offering opportunities for students to participate in skill competitions at the state and national level. Skills USA brings together people with common interests to exchange ideas, discuss problems, and work toward their goals. Students should see their advisors to become a part of the Skills USA team.

## **Grievance Procedure Policy**

Augusta Technical College is in compliance with the rules and regulations for the administration of Title IV of the Civil Rights Act of 1964, Title IX of the Educational Amendments of 1972, Title II of the Amendments of 1976, Public Law 83-318, as amended by Section 3 of Public Law 93-568, Title VI, Section 504 of the Rehabilitation Act of 1973, and Public Law 101-336, The Americans with Disabilities Act of 1990.

In accordance with the rules and regulations cited above, Augusta Technical College does not discriminate in its educational programs, activities, or employment policies on the basis of age, race, color, national origin, creed, religion, sex, marital status, disability, academic, or economic disadvantage.

## **Appeal Procedure**

The following procedure is to be used in reporting and settling grievances in regard to the policy listed above.

- a. An opportunity will be provided to resolve the complaint informally through meetings with faculty/staff and student(s) and/or the appropriate coordinator as designated in this policy.
- b. All parties to the complaint will be protected from retaliation. All written complaints and information obtained by impartial inquiry will be kept confidential.
- c. The Coordinator shall within 15 days conduct a thorough and impartial inquiry into the matter. The findings of this inquiry will be reported in writing to the College administration.
- d. A decision concerning the complaint shall be made within ten (10) working days by the appropriate Vice President listed below: Vice President for Academic Affairs (Day or Evening credit programs), Vice President for Economic Development (Adult Education, Continuing Education or Industry Training programs), Vice President for Operations, Vice President for Administrative Services (Business Office, Financial Aid, Bookstore, Maintenance, Grounds, and Custodial services), or the Dean of Students (Admission, Counseling, Placement, or Student Activities).
- e. The decision of a Vice President or Dean may be appealed to the President with further appeals respectively to the Augusta Technical College Board of Directors, Technical College System of Georgia Commissioner, and the State Board of Technical and Adult Education.

## **Coordinators**

Representatives from the faculty and staff have been designated as Coordinators in regard to efforts by Augusta Technical College to comply with and carry out its responsibilities under Title IV, Title VI, Title IX, Section 504, and Public Law 101-336, The Americans with Disabilities Act of 1990. Their responsibilities include the investigation of any complaints communicated in writing alleging non-compliance by Augusta Technical College, or alleging any action by the College which would be prohibited by the laws, rules, and regulations cited above. The names of individuals designated as Coordinators for Title IV, Title VI, Title IX, Section 504, and Public Law 101-336, The Americans with Disabilities Act of 1990 are posted in the Admissions Office and the Information Technology Center.

**STUDENT GRIEVANCE PROCEDURE  
COORDINATORS FOR DISCRIMINATION  
IN REGARD TO RACE, SEX OR DISABILITY**

**NONDISCRIMINATION COMPLIANCE COORDINATOR**

**RANDALL DAVIS  
AUGUSTA CAMPUS  
BUILDING 100  
706-771-4081**

**ADA/504 COORDINATOR**

**KARISSA DAVIS  
AUGUSTA CAMPUS  
BUILDING 1300  
706-771-4067**

**MAILING ADDRESS:  
AUGUSTA TECHNICAL COLLEGE  
3200 AUGUSTA TECH DRIVE  
AUGUSTA, GA 30906**

# Programs of Study

## HEALTH

### ASSOCIATE OF APPLIED SCIENCE-HEALTH DEGREE

*Offered at the Augusta, Waynesboro, and Thomson campuses*

Entrance Dates: Fall, Winter, Spring, Summer  
 Length of Program: General Track – Two Quarters  
 Credit Hours Required for Graduation: General Track: 95

**Program Description:** The Associate of Applied Science in Health degree program is a sequence of college-level courses that are designed to enhance students' career advancement opportunities as health care service providers. The courses will help students to be competitive in allied health employment arenas that include but are not limited to hospitals, physicians' offices, pharmaceutical companies, day surgeries, health departments, wellness centers, insurance agencies, and nursing homes. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Graduates of this program can obtain employment at primary, secondary, and long-term care medical care facilities.

### GENERAL TRACK CURRICULUM

<u>Curriculum Outline</u>	<u>Credits</u>
<b>General Core Courses</b>	<b>35</b>
ENG 1101 Composition and Rhetoric I	5
MAT 1111 College Algebra	5
ENG 1102 Literature and Composition (or)	
HUM 1101 Introduction to Humanities (or)	
ART 1101 Art Appreciation (or)	
MUS 1101 Music Appreciation	5
SPC 1101 Public Speaking (or)	
ENG 1105 Technical Communications	5
SOC 1101 Introduction to Sociology (or)	
PSY 1101 Introduction to Psychology	5
ECO 1101 Principles of Economics (or)	
ECO 2106 Principles of Microeconomics (or)	
ECO 2105 Principles of Macroeconomics	5
XXX xxx Natural Science	5

**Students completing the general core track may select 5 credit hours from the courses listed below:**

- BIO 1111 Biology I
- BIO 2113 Anatomy and Physiology I (**and**)
- BIO 2114 Anatomy and Physiology II
- BIO 2117 Introduction to Microbiology
- CHM 1111 Chemistry I
- CHM 1213 Inorganic Chemistry
- PHY 1110 Introductory Physics

<b>Occupational Courses</b>	<b>60</b>
SCT 100 Introduction to Microcomputers	3
XXX xxx Completion of required courses for a Diploma (must be taught by an instructor credentialed to teach in an AAS program)	57

Prospective students for the Cardiovascular Technology, Radiologic Technology, and Respiratory Care Technology programs must complete one course in freshman English (ENG 1101), one course in communications (SPC 1101 or ENG 1105), one course in humanities (ENG 1102 or HUM 1101), one course in behavior science (PSY 1101), one course in mathematics (MAT 1111) and all courses listed under their chosen program track.

<b>CARDIOVASCULAR TECHNOLOGY TRACK</b>		<b>31</b>
AHS 104	Introduction to Health Care	3
AHS 109	Medical Terminology	3
BIO 1111	Biology I	5
BIO 2113	Anatomy and Physiology I	5
BIO 2114	Anatomy and Physiology II	5
CHM 1213	Inorganic Chemistry	5
PHY 1110	Introductory Physics	5

<b>RADIOLOGIC TECHNOLOGY TRACK</b>		<b>18</b>
AHS 104	Introduction to Health Care	3
BIO 2113	Anatomy and Physiology I	5
BIO 2114	Anatomy and Physiology II	5
PHY 1110	Introductory Physics	5

<b>RESPIRATORY CARE TECHNOLOGY TRACK</b>		<b>25</b>
BIO 2113	Anatomy and Physiology I	5
BIO 2114	Anatomy and Physiology II	5
BIO 2117	Introductory Microbiology	5
CHM 1111	Chemistry I	5
PHY 1110	Introductory Physics (or)	
PHY 1111	Mechanics	5

<b>OCCUPATIONAL THERAPY ASSISTANT TRACK</b>		<b>13</b>
AHS 109	Medical Terminology	3
BIO 2113	Anatomy and Physiology I	5
BIO 2114	Anatomy and Physiology II	5

### Notes:

- This degree is awarded in conjunction with approved courses for a diploma or degree in technical programs.
- For graduation the program must include a minimum of 60-quarter credit hours of occupational preparation courses. In most cases, completion of the requirements of a diploma program will meet this requirement, but, in addition, in all cases the following requirements must be met.
- These courses must include a course providing computer literacy (normally SCT 100).
- All courses counting towards the 60 credit minimum must be taught by an instructor credentialed at a level qualifying him or her to teach in an AAS program (normally an associate degree).
- Courses beyond the 60 credit minimum necessary to fulfill the requirement of completion of the diploma program may be taught by instructors credentialed only at the diploma program level, but will not be transferred into the degree program. Diploma-level English, mathematics, science, psychology, and employment courses (TCSG courses not numbered in the 190s or 290s) may count toward the 60-credit minimum for occupational preparation courses but will not be applicable to the general education requirement above, regardless of the credentials of the instructor.
- Conviction of a felony or gross misdemeanor may prohibit employment in field and may make a student ineligible to take licensing/certification exam(s) required for the profession. A background check and/or drug screen may be required by some agencies before a student attends a clinical practicum. For more information, contact the appropriate program advisor.
- A grade of "C" or higher is required for all courses.

# Programs of Study

## CARDIOVASCULAR TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE DEGREE

*Offered at the Augusta Campus*

Entrance Dates:	Fall
Length of Program:	Six Quarters
Credit Hours Required for Graduation:	
• Cardiac Catheterization Specialization	135
• Echocardiography	146
• Vascular	156

**Admission:** Admission to Cardiovascular Technology is competitive (refer to page 15 for enrollment date and application, transcript, and course completion deadlines). Prospective students must have completed all courses listed under General Core Courses (BIO 1111, CHM 1111, ENG 1101, HUM 1101, MAT 1101 or MAT 1111, PSY 1101, and SPC 1101 or ENG 1105) and designated Occupational Courses (BIO 2113, BIO 2114, SCT 100, PHY 1110, and AHS 109) by the transcript deadline (*page 15*) to enter the program. A minimum of a 2.7 grade point average on a 4.0 scale must be achieved in these courses in order to be evaluated for admission to the program. For more information regarding this process, please contact the Admissions Office at (706) 771-4028.

**Program Description:** Cardiovascular Technology is a program of Augusta Technical College and University Hospital's Harry T. Harper, Jr., M.D., School of Cardiac and Vascular Technology. The off-campus site is centered at the Georgia Heart Institute at University Hospital. High school graduation or GED is required for admission to this program.

The program is accredited by The Council on Accreditation of Allied Health Education Programs—Joint Review Committee on Education in Cardiovascular Technology. Students take the National Registry in Cardiac or Vascular Technology before graduation.

**Employment Opportunities:** Cardiovascular technologists may pursue career opportunities within hospitals, physicians' offices, medical clinics, mobile outreach companies, cardiac equipment companies, or research groups.

### Curriculum Outline

General Core Courses	Credits
ENG 1101 Composition and Rhetoric I	5
MAT 1101 Mathematical Modeling (or)	
MAT 1111 College Algebra	5
ENG 1102 Literature and Composition (or)	
HUM 1101 Introduction to Humanities (or)	
ART 1101 Art Appreciation (or)	
MUS 1101 Music Appreciation	5
ENG 1105 Technical Communications (or)	
SPC 1101 Public Speaking	5
PSY 1101 Introduction to Psychology	5
BIO 1111 Biology I	5

### Occupational Courses

AHS 102 Drug Calculation and Administration	3
AHS 104 Introduction Health Care	3
AHS 109 Medical Terminology	3
BIO 2113 Anatomy and Physiology I	5
BIO 2114 Anatomy and Physiology II	5
CVT 102 Medical Physics	3
CVT 103 Electrophysiology I & Anatomy	4
CVT 104 Electrophysiology II	2
CVT 108 Cardiovascular Advanced Hemodynamics	3
CVT 109 Cardiovascular Physiology	3
CVT 110 Noninvasive Fundamentals Echocardiography	4
ECH 155 Professional Development	1
CVT 111 Invasive Cardiovascular Fundamentals	4
PHY 1110 Introductory Physics	5
SCT 100 Introduction to Microcomputers	3
VAS 110 Vascular Fundamentals	4
CHM 1111 Chemistry I	5

Completion of one of the following specializations is required for graduation

Cardiac Catheterization		50
CVT 120	Cardiac Catheterization I	4
CVT 121	Cardiac Catheterization II	9
CVT 122	Cardiac Catheterization III	9
CVT 123	Cardiac Catheterization Clinical IV	12
CVT 124	Cardiac Catheterization Clinical I	5
CVT 125	Cardiac Catheterization Clinical II	3
CVT 126	Cardiac Catheterization Clinical III	3
DIS 150	Directed Independent Study	2
XXX xxx	Electives	3

OR

Echocardiology		61
DMS 136	Sonography Physics I	3
DMS 202	Sonography Physics II	2
ECH 131	Echocardiography I	6
ECH 136	Echocardiography Clinical I	8
ECH 137	Echocardiography Clinical II	8
ECH 236	Echocardiography Clinical III	8
ECH 133	Echocardiography II	6
ECH 231	Echocardiography III	6
ECH 237	Echocardiography Clinical IV	12
ECH 240	Registry Review	2

OR

Vascular		71
DMS 133	Cross Sectional Anatomy	4
DMS 136	Sonography Physics I	3
DMS 202	Sonography Physics II	2
VAS 136	Basic Extremity Testing	5
VAS 141	Basic Cerebrovascular & Venous Extremity	4
VAS 143	Vascular Clinical I	8
VAS 144	Vascular Clinical II	8
VAS 202	Advanced Cerebrovascular	3
VAS 203	Arterial Duplex	3
VAS 205	Interventional & Therapeutic	3
VAS 215	Vascular Physical Principles and Instrumentation Registry Review	2
VAS 220	Comprehensive Vascular Technology Registry Review	2
VAS 230	Essentials of Vascular Sonography	2
VAS 242	Abdominal Vascular	4
VAS 245	Vascular Clinical III	8
VAS 246	Vascular Clinical IV	10

### Recommended Electives

(\*Only for Cardiac Catheterization Specialization)

ENG 1102	Literature and Composition
ECO 2106	Principles of Microeconomics (or)
ECO 2105	Principles of Macroeconomics
CHM 1213	Inorganic Chemistry
CHM 1214	Organic Chemistry
SOC 1101	Introduction to Sociology

### Notes:

- A grade of "C" or higher is required for all courses.
- Prior to participation in campus/clinical labs, students are required to submit completed medical and dental examination forms. All required immunizations, including Hepatitis B, must be accompanied by documentation. Students who refuse to take the Hepatitis B vaccination series must sign a declination form and be aware that clinical practicum sites may refuse them an opportunity to gain clinical experience.
- A student who does not earn a grade of "C" or higher in any two courses with the AHS, CVT, DMS, ECH, or VAS prefixes will be suspended from the program for one year. Before re-entering the program, the student must complete an individualized remedial program assigned by the department head. A student who does not earn a grade of "C" or higher in any three courses with these prefixes will not be allowed to re-enter the Cardiovascular Technology Program.
- Conviction of a felony or gross misdemeanor may prohibit employment in field and may make a student ineligible to take licensing/certification exam(s) required for the profession. A background check and/or drug screen may be required by some agencies before a student attends a clinical practicum. For more information, contact the appropriate program advisor.

# Programs of Study

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## DENTAL ASSISTING DIPLOMA

*Offered at the Augusta Campus*

Entrance Dates: Fall and Spring  
 Length of Program: Five Quarters  
 Credit Hours Required for Graduation: 91

**Program Description:** The Dental Assisting Program prepares students for employment in many different positions in today's dental offices or clinics. Graduates are competent in the technical areas of chairside assisting, infection control, dental radiology, dental practice management, and dental laboratory procedures. Graduates receive a diploma in dental assisting and are certified in expanded functions for the State of Georgia and are eligible to sit for the Dental Assisting National Board exam. High school graduation or GED is required for admission to this program. The Dental Assisting Program is accredited by Commission on Dental Accreditation (CODA). The Commission on Dental Accreditation can be contacted at telephone number (312) 440-2698 or at 211 East Chicago Avenue, Chicago, Illinois 60611

The dental assisting program is accredited by the Commission on Dental Accreditation and has been granted the accreditation status of "Approval." The Commission is a special accrediting body recognized by the Commission on Recognition of Postsecondary Accreditation and by the United States Department of Education. The Commission on Dental Accreditation can be contacted at telephone number (312) 440-2698 or at 211 East Chicago Avenue, Chicago, Illinois 60611.

**Employment Opportunities:** Certified dental assistants are in great demand in our service area. Graduates should be able to obtain suitable employment with excellent working conditions in private dental offices, hospital dental clinics, dental schools, public health departments, military and veterans dental clinics, and prison dental clinics.

### Curriculum Outline

**Credits**

<b>General Core Courses</b>		<b>15</b>
ENG 1010	Fundamentals of English I	5
MAT 1012	Foundations of Mathematics	5
PSY 1010	Basic Psychology	5
<b>Occupational Courses</b>		<b>76</b>
AHS 104	Introduction to Health Care	3
DEN 101	Basic Human Biology	3
DEN 102	Head and Neck Anatomy	2
DEN 103	Preventive Dentistry	4
DEN 105	Microbiology and Infection Control	3
DEN 106	Oral Anatomy	5
DEN 107	Oral Pathology and Therapeutics	4
DEN 138	Scopes of Professional Practice	2
DEN 109	Dental Assisting National Board Examination Prep	3
DEN 137	Dental Assisting – Expanded Functions	4
DEN 140	Dental Practice Management	5
DEN 139	Dental Radiology	5
DEN 134	Dental Assisting I	7
DEN 135	Dental Assisting II	7
DEN 136	Dental Assisting III	4
DEN 146	Dental Practicum I	2
DEN 147	Dental Practicum II	2
DEN 148	Dental Practicum III	8
SCT 100	Introduction to Microcomputers	3

### **Notes:**

- Students must successfully pass all prerequisite courses each quarter to progress to next quarter.
- Dental Assisting students must submit medical examination and evaluation forms and letters of recommendation prior to enrollment in clinical courses. These forms will be distributed by academic advisors.
- A grade of "C" or higher is required in all courses.
- A student who is not enrolled in the program for one or more quarters will be required to validate knowledge of courses with the DEN prefix completed in the previous quarters (as designated by course instructors). A student who is not enrolled in the program for more than one year will be required to retake courses with the DEN and AHS prefixes. A student who does not earn a grade of "C" or higher in any two courses with the AHS or DEN prefixes (including second attempts to any of these courses) will not be allowed to reenter the program.
- Prior to participation in campus/clinical labs, students are required to submit completed medical and dental examination forms. All required immunizations, including Hepatitis B, must be accompanied by documentation. Students who refuse to take the Hepatitis B vaccination series must sign a declination form and be aware that clinical practicum sites may refuse them an opportunity to gain clinical experience.
- Conviction of a felony or gross misdemeanor may prohibit employment in field and may make a student ineligible to take licensing/certification exam(s) required for the profession. A background check and/or drug screen may be required by some agencies before a student attends a clinical practicum. For more information, contact the appropriate program advisor.

# Programs of Study

## FIRE SCIENCE TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE DEGREE

*Offered at the Augusta campus*

Entrance Dates: Fall  
Length of Program: Eight Quarters  
Credit Hours Required for Graduation: 103

**Program Description:** The Fire Science Technology degree program responds to the needs of fire departments to provide critical educational opportunities to employees who either strive for advancement or have assumed greater roles and responsibilities. This program provides the knowledge, skill and attitudes necessary for the student to successfully lead and supervise fire and rescue personnel in both emergency and non-emergency settings. This is a college level program designed to assist the student in developing advanced skills in written communication, understanding the human reactions to disaster/emergency situations, and enhance the student's mathematical and science background. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** This program provides education in leadership and theoretical and skill enhancement to firefighting professionals already trained and working in the profession.

### Curriculum Outline

	<b>Credits</b>
<b>General Core Courses</b>	<b>25</b>
ENG 1101 Composition and Rhetoric I	5
MAT 1111 College Algebra <b>(or)</b>	
MAT 1101 Mathematical Modeling	5
ENG 1102 Literature and Composition <b>(or)</b>	
HUM 1101 Introduction to Humanities <b>(or)</b>	
ART 1101 Art Appreciation <b>(or)</b>	
MUS 1101 Music Appreciation	5
ENG 1105 Technical Communications <b>(or)</b>	
SPC 1101 Public Speaking	5
PSY 1101 Introduction to Psychology <b>(or)</b>	
SOC 1101 Introduction to Sociology	5

### **Occupational Courses**

FSC 101 Introduction to Fire Science	5	<b>73</b>
FSC 110 Fire Science Supervision/Leadership	5	
FSC 121 Fire Fighting Strategy & Tactics	5	
FSC 132 Fire Service Instructor	5	
FSC 141 Hazardous Materials	5	
FSC 151 Fire Prevention and Inspection	5	
FSC 161 Fire Service Safety & Loss Control	5	
FSC 201 Fire Service Management	5	
FSC 210 Fire Service Hydraulics	5	
FSC 220 Fire Protection Systems	5	
FSC 230 Fire Service Building Construction	5	
FSC 241 Incident Command	5	
FSC 270 Fire/Arson Investigations	5	
SCT 100 Introduction to Microcomputers	3	

### **Electives**

XXX xxx Science Electives <b>(or)</b>	<b>5</b>
XXX xxx General Core Electives	5

### **Science Electives**

BIO 1111 Biology I <b>(or)</b>	
BIO 2113 Anatomy and Physiology I <b>(and)</b>	
BIO 2114 Anatomy and Physiology II	
CHM 1111 Chemistry I <b>(or)</b>	
CHM 1213 Inorganic Chemistry	
PHY 1110 Introductory Physics <b>(or)</b>	
PHY 1111 Mechanics	

### **General Core Electives**

ENG 1102 Literature and Composition	
SOC 1101 Introduction to Sociology	
ECO 2106 Principles of Microeconomics (or)	
ECO 2105 Principles of Macroeconomics	
FSC 280 Fire Service Law	

### **Notes:**

- A grade of "C" or higher is required for all courses.
- A student who does not earn a grade of "C" or higher in any two courses attempted with the prefix BIO, CHM, FSC, MAT, and PHY will be suspended from the program for one year. Before re-entering the program, the student must complete an individualized remedial program assigned by the department head. After the third unsuccessful attempt of any courses with the FSC prefix, the student will not be allowed to re-enter the Fire Science Technology program.
- Conviction of a felony or gross misdemeanor may prohibit employment in field and may make a student ineligible to take licensing/certification exam(s) required for the profession. A background check and/or drug screen may be required by some agencies before a student attends a clinical practicum. For more information, contact the appropriate program advisor.

# Programs of Study

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## FIRE SCIENCE TECHNOLOGY DIPLOMA

*Offered at the Augusta campus*

Entrance Dates: Fall  
Length of Program: Five Quarters  
Credit Hours Required for Graduation: 89

**Program Description:** The Fire Science Technology program responds to the needs of fire departments to provide critical educational opportunities to employees who either strive for advancement or have assumed greater roles and responsibilities. This program provides the knowledge, skill and attitudes necessary for the student to successfully lead and supervise fire and rescue personnel in both emergency and non-emergency settings. This is a college level program designed to assist the student in developing advanced skills in written communication, understanding the human reactions to disaster/emergency situations, and enhance the student's mathematical and science background. High school graduation or GED is required for graduation from this program.

**Employment Opportunities:** This program provides education in leadership and theoretical and skill enhancement to firefighting professionals already trained and working in the profession.

### Curriculum Outline

### Credits

#### General Core Courses

13

ENG 1010	Fundamentals of English I	5
MAT 1012	Foundations of Mathematics	5
EMP 1000	Interpersonal Relations and Professional Development	3

#### Occupational Courses

76

FSC 101	Introduction to Fire Science	5
FSC 110	Fire Science Supervision/Leadership	5
FSC 121	Fire Fighting Strategy & Tactics	5
FSC 132	Fire Service Instructor	5
FSC 141	Hazardous Materials Operations	5
FSC 151	Fire Prevention and Inspection	5
FSC 161	Fire Service Safety & Loss Control	5
FSC 201	Fire Administration Management	5
FSC 210	Fire Service Hydraulics	5
FSC 220	Fire Protection Systems	5
FSC 230	Fire Service Building Construction	5
FSC 241	Incident Command	5
FSC 270	Fire/Arson Investigations	5
SCT 100	Introduction to Microcomputers	3
XXX xxx	Electives	5

#### Electives

ENG 1012	Technical Writing
MAT 1013	Algebraic Concepts
PSY 1010	Basic Psychology
FSC 280	Fire Service Law

### Notes:

- A grade of "C" or higher is required for all courses.
- A student who does not earn a grade of "C" or higher in any two courses attempted with the prefix FSC and MAT will be suspended from the program for one year. Before re-entering the program, the student must complete an individualized remedial program assigned by the department head. After the third unsuccessful attempt of any courses with the FSC and MAT prefixes, the student will not be allowed to re-enter the Fire Science Technology program.
- Conviction of a felony or gross misdemeanor may prohibit employment in field and may make a student ineligible to take licensing/certification exam(s) required for the profession. A background check and/or drug screen may be required by some agencies before a student attends a clinical practicum. For more information, contact the appropriate program advisor.

# Programs of Study

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## FIRE FIGHTER I TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta and Thomson Campuses*

Entrance Dates: To be announced  
Length of Program: Two Quarters  
Credit Hours Required for Graduation: 17

**Program Description:** The Firefighter I program is designed to prepare graduates for success in a fire service environment. This technical certificate program is conducted in cooperation with Georgia Firefighter Standards and Training to ensure graduates have the skills, knowledge and credentials to serve as firefighters in fire departments. Graduates will be tested and certified at the National Professional Qualifications (NPQ) System Fire Fighter I level according to National Fire Protection Association (NFPA) 1001, Standard for Fire Fighter Professional Qualifications. High school graduation or GED is required for graduation from this program.

**Employment Opportunities:** Graduates are in demand for employment in private and public area fire departments. Positions available to graduates include entry level firefighter, public educator, juvenile fire setter intervention programs, fire inspection and prevention officer, facilities safety officer, in-house fire brigade officer and communications officer.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>Occupational Courses</b>	<b>17</b>
FSC 102 Emergency Service Fundamentals	3
FSC 103 Basic Firefighter Module I	6
FSC 104 Basic Firefighter Module II	3
FSC 105 Fire and Life Safety Educator	5

### Notes:

- A grade of "C" or higher is required for all courses.
- A student who does not earn a grade of "C" or higher in any two courses attempted with the prefix FSC will be suspended from the program for one year. Before re-entering the program, the student must complete an individualized remedial program assigned by the department head. After the third unsuccessful attempt of any courses with the FSC prefix, the student will not be allowed to re-enter the Fire Fighter I program.
- Students must be eighteen years of age and submit a medical report release form certifying their ability to meet the strenuous physical performance demands of the firefighter I program as well as the use of self-contained breathing apparatus before enrolling in FSC 103 and FSC 104.
- Students may enroll in FSC 102 and 105 prior to age eighteen and/or before obtaining a medical release from their physician.
- Conviction of a felony or gross misdemeanor may prohibit employment in field and may make a student ineligible to take licensing/certification exam(s) required for the profession. A background check and/or drug screen may be required by some agencies before a student attends a clinical practicum. For more information, contact, the appropriate advisor.

# Programs of Study

## HEALTH CARE ASSISTANT TECHNICAL CERTIFICATE OF CREDIT

Offered at the Augusta, Waynesboro, and Thomson campuses

### Entrance Dates:

Practical Nursing Track:	Fall and Winter: Augusta Fall and Spring: Waynesboro Winter and Summer: Thomson
Surgical Technology Track:	Fall: Augusta
Length of Program:	Three Quarters
Credit Hours Required for Graduation:	Minimum 40 (Practical Nursing Track) Minimum 38 (Surgical Technology Track)

**Admission:** Admission to the Health Care Assistant program can be obtained through achieving the established minimum score on ASSET, SAT, ACT, COMPASS or having grades of "C" or higher in English 1010, Math 1012, or their equivalent. Applicants for the Practical Nursing and Surgical Technology program tracks will be admitted to the Health Care Assistant program for completion of the Core Courses (ENG 1010 or 1101, MAT 1012, and PSY 1010), Occupational Courses (AHS 1011, AHS 104, AHS 109, and SCT 100) and a specialization. Students' admission to their program choice is contingent upon completion of the Health Care Assistant program which includes a specialization. For more information regarding this process, please contact the Admissions Office at (706) 771-4028.

**Program Description:** The Health Care Assistant program is designed to allow prospective students for the Practical Nursing and Surgical Technology programs to meet core and designated occupational course requirements, and obtain a specialization that is occupational-producing. The areas of specialization include Electrocardiographic Technology, Health Unit Clerk, Phlebotomy, Medical Coding, Hemodialysis, Central Sterile Processing, and Patient Care Assisting. High school graduation or GED is required for admission to this program.

### Employment Opportunities:

Graduates are in demand for employment in medical laboratories, hospitals, clinics and doctor's offices.

### Curriculum Outline

General Core Courses	Credits
ENG 1010 Fundamentals of English I (or)	15
ENG 1101 Composition and Rhetoric	5
MAT 1012 Foundations of Mathematics (or)	
MAT 1111 College Algebra	5
PSY 1010 Introduction of Psychology (or)	
PSY 1101 Introductory Psychology	5
<b>Occupational Courses</b>	<b>14-19</b>
AHS 1011 Anatomy and Physiology (or)	
BIO 2113 Anatomy and Physiology (and)	5
BIO 2114 Anatomy and Physiology	5
AHS 104 Introduction to Health Care	3
AHS 109 Medical Terminology for Allied Health	3
SCT 100 Introduction to Microcomputers	3

### Specializations

(Students must complete one of the specializations listed to meet program requirements for graduation.)

#### Central Sterile Processing Specialization

Students must complete the Central Sterile Processing specialization in order to be considered for admission to the Surgical Technology program. Students will be ranked for enrollment into the Central Sterilization Specialization based on their GPA in MAT 1012 and AHS 1011.

CSS 100 Introduction to Sterile Processing	6
SUR 108 Surgical Microbiology	3

#### Phlebotomy Technician Specialization

PHL 103 Introduction to Venipuncture	4
PHL 105 Clinical Practice	8

#### Electrocardiographic Technology Specialization

ECG 103 Introduction to Electrocardiography	3
ECG 105 Electrocardiography Practicum	8

#### Hemodialysis Patient Care Specialization

HCT 110 Hemodialysis Patient Care	10
HCT 120 Hemodialysis Practicum	5

#### Medical Coding Specialization

MAS 112 Human Disease ( <i>Refer to notes below</i> )	5
MAS 151 ICD-9 Medical Procedures Coding I	3
MAS 152 ICD-9 Medical Procedures Coding II	3
MAS 153 CPT-4 Medical Physician's Procedural Coding	3
BUS 1130 Document Processing	6

- **BUS 1130 is a prerequisite for the Medical Coding Specialization.** The prerequisite for BUS 1130-Document Processing is the ability to key (type) at least 25 words per minute (WPM). If you cannot key at this speed, you will need to take BUS 100 to attain this speed prior to enrolling in BUS 1130. Because BUS 100 is not a required course in the program, you may be required to pay out of pocket for this course.
- **The prerequisites courses for MAS 112 are ENG 1010 or 1101, AHS 1011, BUS 1130, and AHS 109.**

#### Patient Care Assisting Specialization

AHS 103 Nutrition and Diet Therapy	2
CNA 100 Patient Care Fundamentals	8
EMP 1000 Interpersonal Relations and Professional Development	3

#### Health Unit Clerk

BUS 170 Health Unit Coordinating	8
BUS 171 Health Unit Coordinating Practicum	4

#### Notes:

- A grade of "C" or higher is required for all courses. A student will not be considered for admission to the Practical Nursing or Surgical Technology programs if he/she has to repeat more than one course to obtain a grade of "C" or higher. This includes courses taken under any program of study
- Prior to participation in campus/clinical labs, students are required to submit completed medical and dental examination forms. All required immunizations, including Hepatitis B, must be accompanied by documentation. Students who refuse to take the Hepatitis B vaccination series must sign a declination form and be aware that clinical practicum sites may refuse them an opportunity to gain clinical experience.
- Applicants must have the appropriate ASSET, COMPASS, SAT or ACT scores to take the equivalent associate degree level courses.
- Submission of an application to and completion of the Health Care Assistant program does not guarantee admission to the Practical Nursing and Surgical Technology Programs. The Practical Nursing and Surgical Technology programs are competitive admission programs.
- Conviction of a felony or gross misdemeanor may prohibit employment in field and may make a student ineligible to take licensing/certification exam(s) required for the profession. A background check and/or drug screen may be required by some agencies before a student attends a clinical practicum. For more information, contact the appropriate program advisor.
- Student activities associated with the curriculum, especially while students are completing his or her clinical rotations, will be educational in nature. Students will not receive any monetary remuneration during this educational experience, nor will he or she be substituted for hired staff personnel within the clinical institution, in the capacity of a central sterile processor.
- AHS courses that were taken more than five years ago must be repeated.
- A student may only repeat a course one time to achieve a grade higher than "C".

# Programs of Study

## MEDICAL ASSISTING DIPLOMA

*Offered at the Augusta, Waynesboro, and Thomson campuses*

Entrance Dates: Fall and Spring: Augusta  
Fall: Thomson  
Fall: Waynesboro  
Length of Program: Five Quarters  
Credit Hours Required for Graduation: 84

**Program Description:** The Medical Assisting program is a specialized training program that provides the student with the knowledge and skills to become a competent medical assistant in the medical profession. Important attributes of successful program graduates are critical thinking, problem solving, human relations skills, and the ability to apply knowledge and skills to the work environment. The field is presently experiencing rapid expansion, and the trend is expected to continue in the foreseeable future. After completion of this five-quarter day program, the student is encouraged to take the National Certification Exam to become a Certified Medical Assistant (CMA). The five-quarter diploma level Medical Assisting program on the Augusta, Thomson, and Waynesboro campuses of Augusta Technical College is accredited by the Commission on Accreditation of Allied Health Education Programs ([www.caahep.org](http://www.caahep.org)) upon the recommendation of the Medical Assisting Education Review Board (MAERB). The address and phone number for the Commission on Accreditation of Allied Health Education Programs is 1361 Park Street, Clearwater, FL 33756, 727-210-2350. High school graduation or GED is required for admission to this program. For information regarding this process, please contact the Admissions Office (706) 771-4028.

**Employment Opportunities:** The Medical Assisting Program prepares students for employment in a variety of positions in today's medical offices. Additionally, other medically related facilities such as hospitals, clinics, insurance companies, and health departments may provide suitable employment opportunities.

### Curriculum Outline

### Credits

<b>General Core Courses</b>		<b>15</b>
ENG 1010	Fundamentals of English I	5
MAT 1012	Foundations of Mathematics	5
PSY 1010	Basic Psychology	5
<b>Occupational Courses</b>		<b>69</b>
AHS 1011	Anatomy and Physiology	5
AHS 104	Introduction to Health Care	3
AHS 109	Medical Terminology for Allied Health	3
BUS 1130	Document Processing	6
MAS 106	Medical Office Procedures	5
MAS 110	Medical Insurance Management	3
MAS 111	Administrative Practice Management	4
MAS 101	Legal Aspects of the Medical Office	3
MAS 103	Pharmacology	5
MAS 108	Medical Assisting Skills I	6
MAS 109	Medical Assisting Skills II	6
MAS 112	Human Diseases	5
MAS 117	Medical Assisting Practicum	8
MAS 118	Medical Assisting Seminar	4
SCT 100	Introduction to Microcomputers	3

### Notes:

- Students in the health field have a special responsibility regarding grades in their programs. To be eligible for graduation, students must make a minimum passing grade of "C" in all courses.
- A student who does not earn a grade of "C" or higher in any two courses attempted will be suspended from the program for one year. After the third unsuccessful attempt of any course, the student will not be allowed to re-enter the Medical Assisting program.
- Courses with the prefix of AHS or MAS that were taken more than five years ago must be repeated.
- Prior to participation in campus/clinical labs, students are required to submit completed medical and dental examination forms. All required immunizations, including Hepatitis B, must be accompanied by documentation. Students who refuse to take the Hepatitis B vaccination series must sign a declination form and be aware that clinical practicum sites may refuse them an opportunity to gain clinical experience.
- Conviction of a felony or gross misdemeanor may prohibit employment in field and may make a student ineligible to take licensing/certification exam(s) required for the profession. A background check and/or drug screen may be required by some agencies before a student attends a clinical practicum. For more information, contact the appropriate program advisor.
- The prerequisite for BUS 1130 - Document Processing is the ability to key (type) at least 25 words per minute (WPM). If you cannot type at this speed you will need to take BUS 100 to attain this speed prior to enrolling in BUS 1130. As BUS 100 is not a required course in the program, you may be required to pay out of pocket for this class. You will need to take BUS 100 prior to entering the second quarter of the program to remain in sequence with your cohort and to complete the program in 5 quarters.

# Programs of Study

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## MEDICAL CODING TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta campus*

Entrance Dates: Summer  
Length of Program: Four Quarters  
Credit Hours Required for Graduation: 36

### **Program Description:**

The Medical Coding technical certificate of credit program provides a sequence of courses that prepares students with appropriate general core, anatomy and physiology, human disease, and ICD-9 Coding and CPT-4 Coding. Learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of didactic and laboratory instruction necessary for successful employment. High school graduation or GED is required for admission to this program.

**Program Objectives:** The mission of the Medical Coding program is to provide enhanced training for persons who have successfully completed a medical program or are currently working in the medical field. Upon completion of this course, students are encouraged to attempt an entry-level coding certification exam. Medical Coding students may work in positions in medical coding departments in hospitals, clinics, and medical offices.

**Employment Opportunities:** The current need and an anticipated rise in the number of medical coders needed in local hospitals, clinics, and medical/surgical offices have had a positive impact on entry-level salaries in the Augusta Technical College service area.

### **Curriculum Outline**

### **Credits**

<b>General Core Courses</b>	<b>10</b>
ENG 1010 Fundamentals of English I(or)	5
ENG 1012 Business Communication	
AHS 1011 Anatomy and Physiology	5
<b>Occupational Courses</b>	<b>26</b>
BUS 1130 Document Processing	6
AHS 109 Medical Terminology	3
MAS 112 Human Disease ( <i>Refer to notes below</i> )	5
MAS 151 ICD-9 Medical Procedures Coding I	3
MAS 152 ICD-9 Medical Procedures Coding II	3
MAS 153 CPT-4 Medical Physician's Procedural Coding	3
SCT 100 Introduction to Microcomputers	3

### **Notes:**

- A grade of "C" or higher is required in all courses.
- Conviction of a felony or gross misdemeanor may prohibit employment in field and may make a student ineligible to take licensing/certification exam(s) required for the profession. A background check and/or drug screen may be required by some agencies before a student attends a clinical practicum. For more information, contact the appropriate program advisor
- Prerequisites required by medical coding students for MAS 112 are ENG 1010 or 1012, AHS 1011, BUS 1130, and AHS 109.
- The prerequisite for BUS 1130-Documents Processing is the ability to key (type) at least 25 words per minute (WPM). If you cannot key at this speed, you will need to take BUS 100 to attain this speed prior to enrolling in BUS 1130. Because BUS 100 is not a required course in the program, you may be required to pay out of pocket for this course. You will need to take BUS 100 prior to entering the second quarter of the program to remain in sequence with your cohort and complete the program in four quarters.

# Programs of Study

## OCCUPATIONAL THERAPY ASSISTANT ASSOCIATE OF APPLIED SCIENCE DEGREE

*Offered at the Augusta Campus*

Entrance Dates: Spring  
Length of Program: Nine Quarters  
Credit Hours Required for Graduation: 135

**Admissions:** Applicants are required to obtain established minimum entrance scores on COMPASS, ASSET, SAT, or ACT tests. High school graduation or GED is required. Prospective students need to have completed ENG 1101, SOC 1101, BIO 2113, BIO 2114, MAT 1101 or 1111, AHS 109, and HUM 1101 or equivalent prior to program admission. For more information regarding this process, please contact the Admissions Office at (706) 771-4028.

**Program Description:** The Occupational Therapy Assistant curriculum prepares students to provide services to individuals whose abilities to perform occupations (day-to-day activities) are impaired by developmental deficits, the aging process, or physical and/or psychosocial disabilities. Occupational therapy assistants work under the guidance of registered occupational therapists to screen and evaluate individuals, then plan and implement interventions for them to develop, maintain, or regain independence. The program includes off-campus fieldwork in health care facilities.

The Occupational Therapy Assistant Program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD 20824-1220. ACOTE's phone number c/o AOTA is (301)652-AOTA.

Graduates of the program will be able to sit for the national certification examination for the occupational therapy assistant administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this exam, the individual will be a Certified Occupational Therapy Assistant (COTA). In addition, most states require licensure in order to practice; however, state licenses are usually based on the results of the NBCOT Certification Examination.

**Employment Opportunities:** Occupational therapy assistants work in inpatient and outpatient hospitals and rehabilitation centers, transitional care facilities, prisons, home health care, nursing homes, industry, halfway houses, group homes, assisted living facilities, schools, sheltered workshops, community mental health centers, day care or early intervention centers, hospice programs, and wellness/fitness centers.

### Curriculum Outline

**Credits**

<b>General Core Courses</b>		<b>45</b>
ENG 1101	Composition and Rhetoric I	5
MAT 1101	Mathematical Modeling (or)	
MAT 1111	College Algebra	5
ENG 1102	Literature and Composition (or)	
HUM 1101	Introduction to Humanities (or)	
ART 1101	Art Appreciation (or)	
MUS 1101	Music Appreciation	5
ENG 1105	Technical Communications (or)	
SPC 1101	Public Speaking	5
SOC 1101	Introduction to Sociology	5
PSY 1101	Introduction to Psychology	5
PSY 2250	Abnormal Psychology	5
BIO 2113	Anatomy and Physiology I	5
BIO 2114	Anatomy and Physiology II	5
<b>Occupational Courses</b>		<b>90</b>
AHS 109	Medical Terminology for Allied Health	3
OTA 101	Introduction to Occupational Therapy	3
OTA 102	Growth and Development	5
OTA 103	Development Tasks	3
OTA 104	Conditions in Occupational Therapy	5
OTA 105	Analysis of Human Movement	6
OTA 201	Psychosocial Dysfunction	7
OTA 202	Psychosocial Dysfunction treatment Methods	3
OTA 204	Pediatric Issues	5
OTA 206	Physical Dysfunction	7
OTA 207	Physical Dysfunction Treatment Methods	3
OTA 209	Geriatric Issues	5
OTA 212	Occupational Therapy Trends and Issues	3
OTA 213	Therapeutic Adaptations	5
OTA 221	Level II Fieldwork – A	12
OTA 222	Level II Fieldwork – B	12
SCT 100	Introduction to Microcomputers	3

### **Notes:**

- A grade of "C" or higher is required for all courses.
- A student who does not earn a grade of "C" or higher in any two courses attempted with the OTA prefix will be suspended from the program for one year. Before re-entering the program, the student must complete an individualized remedial program assigned by the department head. After the third unsuccessful attempt of any courses with the OTA prefix, the student will not be allowed to re-enter the Occupational Therapy Assistant program.
- All Level II Fieldwork must be completed within 18 months of completion of the didactic course work before the student is eligible for graduation.
- Prior to participation in Level I and Level II Fieldwork experiences, students are required to submit completed medical and dental examination forms. Separate documentation will be required for Hepatitis B seroconversion, RPR, TB testing, MMR and chicken pox titers. Students who refuse to take the Hepatitis B vaccination series must sign a declination form and be aware that fieldwork sites may refuse them an opportunity to gain clinical experience.
- Conviction of a felony or gross misdemeanor may prohibit employment in field and may make a student ineligible to take licensing/certification exam(s) required for the profession. A background check and/or drug screen may be required by some agencies before a student attends a clinical practicum. For more information, contact the appropriate program advisor.

# Programs of Study

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## PARAMEDIC TECHNOLOGY DIPLOMA

*Offered at the Augusta Campus*

Entrance Dates: Fall  
 Length of Program: Five Quarters  
 Credit Hours Required for Graduation: 78

**Program Description:** The Paramedic Technology diploma program prepares students for employment in paramedic positions in today's health services field. The Paramedic Technology program provides learning opportunities that introduce, develop, and reinforce academic and occupational knowledge, skills, and attitudes required for job acquisition, retention, and advancement. The program provides opportunities to upgrade present knowledge and skills from the Emergency Medical Technician-Basic and the Emergency Medical Technician-Intermediate levels to retrain as a paramedic. Graduates of the program receive a Paramedic Technology diploma and are eligible to sit for the paramedic certification test. High school graduation or GED is required for admission to this program.

Graduates are prepared to take the state written and practical exam administered by the National Registry of Emergency Medical Technicians. The program meets the Georgia Department of Human Resources guidelines for training programs for paramedics.

**Employment Opportunities:** Paramedics are in demand for employment with medical service providers, ambulance services, and hospitals. The graduate is eligible to sit for the certification examination.

### Curriculum Outline

	<b>Credits</b>
<b>General Core Courses</b>	
ENG 1010 Fundamentals of English I	5
MAT 1012 Foundations of Mathematics	5
AHS 1011 Anatomy and Physiology	5
<b>Occupational Courses</b>	
EMS 126 Introduction to the Paramedic Profession	3
EMS 127 Patient Assessment	4
EMS 128 applied Physiology and Pathophysiology	3
EMS 129 Pharmacology	4
EMS 130 Respiratory Emergencies	5
EMS 131 Trauma	5
EMS 132 Cardiology I	5
EMS 133 Cardiology II	4
EMS 134 Medical Emergencies	5
EMS 135 Maternal/Pediatric Emergencies	5
EMS 136 Special Patients	2
EMS 200A Clinical Application of Advanced Emergency Care I	1
EMS 200B Clinical Application of Advanced Emergency Care II	2
EMS 200C Clinical Application of Advanced Emergency Care III	2
EMS 200D Clinical Application of Advanced Emergency Care IV	5
EMS 201 Summative Evaluations	5
SCT 100 Introduction to Microcomputers	3

### **Notes:**

- Documentation of EMT Basic Certification is a minimum requirement for admission to the Paramedic Program.
- A grade of "C" or higher is required for all courses.
- A student who does not earn a grade of "C" or higher in any course attempted with the EMS prefix will be suspended from the program for one year. Before re-entering the program, the student must complete an individualized remedial program assigned by the department head. After the third unsuccessful attempt of a course with the EMS prefix, the student will not be allowed to reenter the Paramedic Technology program.
- Prior to participation in campus/clinical labs, students are required to submit completed medical and dental examination forms. All required immunizations, including Hepatitis B, must be accompanied by documentation. Students who refuse to take the Hepatitis B vaccination series must sign a declination form and be aware that clinical practicum sites may refuse them an opportunity to gain clinical experience. Students must present proof of current certification as an Emergency Medical Technician prior to acceptance into the program.
- Conviction of a felony or gross misdemeanor may prohibit employment in field and may make a student ineligible to take licensing/certification exam(s) required for the profession. A background check and/or drug screen may be required by some agencies before a student attends a clinical practicum. For more information, contact the appropriate program advisor.

# Programs of Study

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## EMERGENCY MEDICAL TECHNOLOGY- INTERMEDIATE TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta and Thomson campuses*

Entrance Dates: Fall: Augusta  
To Be Announced: Thomson and Waynesboro  
Length of Program: Four Quarters  
Credit Hours Required for Graduation: 24

**Program Description:** This program covers both the U.S. Department of Transportation 1985 Emergency Medical Technician-Intermediate Curriculum and the 1994 Emergency Medical Technician-Basic Curriculum. The EMT-I Program is designed to provide additional training and increased knowledge and skills in specific aspects of advanced life support above the basic level. Successful completion of the program allows the graduate to take the National Registry of Emergency Medical Technician EMT-I certification examination and receive Georgia certification. Upon completion of EMC 110, students would be eligible to sit for the National Registry of EMT Basic Exam.

The Emergency Medical Technology program is intended to produce graduates who are prepared and eligible to write the National Registry EMT– Intermediate certification examination. Graduates will be competent in the basic skills necessary to assess and treat both pre-hospital medical and traumatic emergencies. Varied clinical and lab experiences are planned to integrate theory and practice.

**Employment Opportunities:** Emergency Medical Technician certification is the minimal requirement necessary to operate an emergency ambulance and work in the medical field as an Emergency Medical Technician.

### Curriculum Outline

**Credits**

<b>Occupational Courses</b>		<b>3</b>
EMC 100	Introduction to the EMT Profession	
EMC 103	Patient Assessment and Airway for the EMT	3
EMC 105	Medical/Behavioral and OB/Pediatric Emergencies for the EMT	4
EMC 108	Trauma Emergencies and WMD Response	2
EMC 110	Summative Evaluations for the EMT-Basic	3
EMC 113	Pharmacology and Shock/Trauma Management for the EMT-Intermediate	3
EMC 116	Hazardous Materials, Vehicle Extrication Process, Patient Assessment/ Initial Management	3
EMC 119	Summative Evaluations for the EMT- Intermediate	3

### **Notes:**

- A grade of “C” or higher is required in all courses.
- A student who does not earn a grade of “C” or higher in any course attempted with the EMC prefix will be suspended from the program for one year. Before re-entering the program, the student must complete an individualized remedial program assigned by the department head. After the third unsuccessful attempt of any courses with the EMC prefix, the student will not be allowed to re-enter the Emergency Medical Technology program.
- Prior to participation in campus/clinical labs, students are required to submit completed medical and dental examination forms. All required immunizations, including Hepatitis B, must be accompanied by documentation. Students who refuse to take the Hepatitis B vaccination series must sign a declination form and be aware that clinical practicum sites may refuse them an opportunity to gain clinical experience.
- To be admitted to the program, each student must
  - a. Be 18 years old before completing the program,
  - b. Sign a statement that states he/she is neither alcohol nor drug dependent,
  - c. Be physically and mentally capable of performing the duties of an Emergency Medical Technician, and
  - d. Be a high school graduate or equivalent prior to start of course.
- Conviction of a felony or gross misdemeanor may prohibit employment in field and may make a student ineligible to take licensing/certification exam(s) required for the profession. A background check and/or drug screen may be required by some agencies before a student attends a clinical practicum. For more information, contact the appropriate program advisor.

# Programs of Study

**PHARMACY TECHNOLOGY  
ASSOCIATE OF APPLIED SCIENCE  
DEGREE**

*Offered at the Augusta Campus*

Entrance Dates: Winter  
Length of Program: Seven Quarters  
Credit Hours Required for Graduation: 96

**Program Description:** The Pharmacy Technology Associate Degree Program is a sequence of courses that prepare students for careers in the pharmacy field. Learning opportunities develop academic and professional knowledge and skills required for job acquisition, retention, and advancement. Pharmacy Technology program graduates are prepared to function as pharmacy technicians in positions requiring preparations of medications according to prescriptions under supervision of a pharmacist. Program graduates are to be competent in the college level areas of communications, math, and interpersonal relations. Program graduates are to be competent to perform basic occupational functions including pouring, weighing, or measuring dosages, and grinding, heating, filtering, or dissolving and mixing liquid or soluble drugs and chemicals. They are also to be competent in procuring, storing, and issuing pharmacy materials and supplies, as well as maintaining files and records. Before graduation, students receive preparation for and are eligible to take the national Pharmacy Technician Certification Board. The program graduate receives an Associate of Applied Science degree and is employable as a pharmacy technician. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Graduates are in demand in hospital pharmacies and retail pharmacies.

**Curriculum Outline**

**Credits**

<b>General Core Courses</b>		<b>30</b>
ENG 1101	Composition and Rhetoric	5
MAT 1101	Mathematical Modeling (or)	
MAT 1111	College Algebra	5
ENG 1102	Literature and Composition (or)	
HUM 1101	Introduction to Humanities (or)	
ART 1101	Art Appreciation (or)	
MUS 1101	Music Appreciation	5
PSY 1101	Introduction to Psychology	5
SPC 1101	Public Speaking	5
ECO 2106	Principles of Microeconomics (or)	
ECO 2105	Principles of Macroeconomics	5
<b>Occupational Courses</b>		<b>66</b>
AHS 1015	Basic Inorganic Chemistry	4
AHS 109	Medical Terminology for Allied Health	3
BIO 2113	Anatomy and Physiology I	5
BIO 2114	Anatomy and Physiology II	5
PHR 101	Pharmacy Technology Fundamentals	5
SCT 100	Introduction to Microcomputers	3
PHR 100	Pharmaceutical Calculations	5
PHR 102	Principles of Dispensing Medications	6
PHR 103	Principles of Sterile Medication Preparation	6
PHR 104	Pharmacy Technology	5
PHR 105	Pharmacy Technology Practicum	7
PHR 106	Advanced Pharmacy Technology Principles	5
PHR 107	Advanced Pharmacy Technology Practicum	7

**Notes:**

- A grade of "C" or higher is required for all courses.
- A student who does not earn a grade of "C" or higher in any two courses attempted with the AHS, BIO, MAT, and PHR prefix will be suspended from the program for one year. Before re-entering the program, the student must complete an individualized remedial program assigned by the department head. After the third unsuccessful attempt of any courses with the PHR prefix, the student will not be allowed to re-enter the Pharmacy Technology program.
- Prior to participation in campus/clinical labs, students are required to submit completed medical and dental examination forms. All required immunizations, including Hepatitis B, must be accompanied by documentation. Students who refuse to take the Hepatitis B vaccination series must sign a declination form and be aware that clinical practicum sites may refuse them an opportunity to gain clinical experience.
- Conviction of a felony or gross misdemeanor may prohibit employment in field and may make a student ineligible to take licensing/certification exam(s) required for the profession. A background check and/or drug screen may be required by some agencies before a student attends a clinical practicum. For more information, contact the appropriate program advisor.

# Programs of Study

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## PHARMACY TECHNOLOGY DIPLOMA

*Offered at the Augusta Campus*

Entrance Dates: Summer  
Length of Program: Five Quarters  
Credit Hours Required for Graduation: 76

**Program Description:** The Pharmacy Technology diploma is designed to enable the student to acquire the knowledge, skills, and attitudes for employment within a pharmacy. The program prepares graduates to perform a variety of technical duties related to preparing and dispensing drugs in accordance with standard procedures and laws under the supervision of a registered pharmacist. A variety of clinical experiences is designed to integrate theory and practice. The program graduate receives a diploma and is employable as an entry-level pharmacy technician. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Graduates are in demand in hospital pharmacies and retail pharmacies.

### Curriculum Outline

**Credits**

#### **General Core Courses**

**15**

ENG 1010 Fundamentals of English I 5  
MAT 1012 Foundations of Mathematics 5  
PSY 1010 Basic Psychology 5

#### **Occupational Courses**

**61**

AHS 1011 Anatomy and Physiology 5  
AHS 1015 Basic Inorganic Chemistry 4  
AHS 109 Medical Terminology for Allied Health 3  
PHR 100 Pharmaceutical Calculations 5  
PHR 101 Pharmacy Technology Fundamentals 5  
PHR 102 Principles of Dispensing Medications 6  
PHR 103 Principles of Sterile Medication Preparation 6  
PHR 104 Pharmacy Technology 5  
PHR 105 Pharmacy Technology Practicum 7  
PHR 106 Advanced Pharmacy Technology Principles 5  
PHR 107 Advanced Pharmacy Technology Practicum 7  
SCT 100 Introduction to Microcomputers 3

#### **Notes:**

- A grade of "C" or higher is required for all courses.
- A student who does not earn a grade of "C" or higher in any two courses attempted with the AHS, MAT and PHR prefix will be suspended from the program for one year. Before re-entering the program, the student must complete an individualized remedial program assigned by the department head. After the third unsuccessful attempt of any courses with the AHS, MAT and PHR prefixes, the student will not be allowed to re-enter the Pharmacy Technology program.
- Prior to participation in campus/clinical labs, students are required to submit completed medical and dental examination forms. All required immunizations, including Hepatitis B, must be accompanied by documentation. Students who refuse to take the Hepatitis B vaccination series must sign a declination form and be aware that clinical practicum sites may refuse them an opportunity to gain clinical experience.
- Conviction of a felony or gross misdemeanor may prohibit employment in field and may make a student ineligible to take licensing/certification exam(s) required for the profession. A background check and/or drug screen may be required by some agencies before a student attends a clinical practicum. For more information, contact the appropriate program advisor.

# Programs of Study

## PRACTICAL NURSING DIPLOMA

*Offered at the Augusta, Waynesboro, and Thomson campuses*

Entrance Dates: Summer and Fall: Augusta  
Summer and Winter: Waynesboro  
Fall and Spring: Thomson

Length of Program: Four Quarters

Credit Hours Required for Graduation: 95

**Admission:** Admission to the Practical Nursing program is competitive. Students must complete the Practical Nursing Track of the Health Care Assistant program which includes a specialization in order to be considered for admission to the program. General Core Courses (ENG 1010, MAT 1012 and PSY 1010) and designated Occupational Courses (AHS 1011, AHS 104, AHS 109 and SCT 100) must be completed with a GPA of 2.5 on a 4.0 scale to be evaluated for admission to the Practical Nursing Program. For more information regarding this process, please contact the Admissions Office at (706) 771-4028.

**Program Description:** The Practical Nursing program is designed to prepare students to take the state board examination for licensure as practical nurses, NCLEX-PN. The program prepares graduates to give competent nursing care. This preparation is done through a selected number of academic and occupational courses providing a variety of techniques and materials necessary to assist the student in acquiring the knowledge and skills to give competent care. A variety of clinical experiences is planned so that theory and practice are integrated under the guidance of the clinical instructor. Program graduates receive a practical nursing diploma and have the qualifications of an entry-level practical nurse. The Practical Nursing Program is approved by the Georgia Board of Examiners of Licensed Practical Nurses and accredited by the National League for Nursing Accrediting Commission (NLNAC). The address and phone number is: National League for Nursing Accrediting Commission, 61 Broadway 33rd Floor, New York City, NY 10006, 1-800-669-1656 Ext. 153. The web site is [www.nlnac.org](http://www.nlnac.org). High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Graduates are in high demand for employment in nursing homes, health centers, convalescent homes, hospitals, schools, doctor's offices, and prisons.

### Curriculum Outline

**Credits**

<b>General Core Courses</b>		<b>15</b>
ENG 1010	Fundamentals of English I	5
MAT 1012	Foundations of Mathematics	5
PSY 1010	Basic Psychology	5
<b>Occupational Courses</b>		<b>80</b>
AHS 1011	Anatomy and Physiology	5
AHS 102	Drug Calculation and Administration	3
AHS 103	Nutrition and Diet Therapy	2
AHS 104	Introduction to Health Care	3
AHS 109	Medical Terminology for Allied Health	3
NPT 112	Medical Surgical Nursing I Practicum	7
NPT 113	Medical Surgical Nursing II Practicum	7
NPT 213	Obstetrical Nursing Practicum	3
NPT 212	Pediatric Nursing Practicum	2
NPT 215	Nursing Leadership Practicum	2
NSG 110	Nursing Fundamentals	10
NSG 112	Medical Surgical Nursing I	9
NSG 113	Medical Surgical Nursing II	9
NSG 212	Pediatric Nursing	5
NSG 213	Obstetrical Nursing	5
NSG 215	Nursing Leadership	2
SCT 100	Introduction to Microcomputers	3

### **Notes:**

- Students who do not earn a grade of "C" or higher in any one course with the AHS, NSG, or NPT prefix will be suspended from the program for one quarter. Before reentering the program, the student must complete an individualized remedial program assigned by the course instructor. A student who does not earn a grade of "C" or higher in any two courses with the AHS, NSG, or NPT prefix will not be allowed to reenter the program. This includes AHS courses taken under any program of study. A student who is not enrolled in the program for more than one year will be required to reenter the first quarter of the program.
- AHS courses that were taken more than five years ago must be repeated.
- A grade of "C" or higher is required for all courses listed in the curriculum outline.
- Practical Nursing students must submit completed medical and dental examination forms and reference forms prior to participation in lab activities beginning in AHS 102, AHS 104 and NSG 110. Separate documentation will be required for Hepatitis B seroconversion, RPR, TB testing, and all immunizations and/or titers. Students who refuse to take the Hepatitis B vaccination series must sign a declination form and be aware that clinical practicum sites may refuse them an opportunity to gain clinical experience.
- Conviction of a felony or gross misdemeanor may prohibit employment in field and may make a student ineligible to take the licensing exam required for the profession. A background check and/or drug screen may be required by some agencies before a student attends a clinical practicum. For more information, contact the appropriate program advisor.

# Programs of Study

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## PATIENT CARE ASSISTING TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta, Waynesboro, and Thomson campuses*

Entrance Dates: Fall and Spring: Augusta  
Winter and Summer: Waynesboro  
Length of Program: Winter and Summer: Thomson  
One Quarter: Augusta and Waynesboro  
Two Quarters: Thomson  
Credit Hours Required for Graduation: 16

**Program Description:** The purpose of this program is to provide education to prepare students to be competent nursing assistants in nursing homes, home healthcare, and other allied health settings. The student must successfully complete the certification exam prior to employment as a patient care assistant. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Graduates are in demand for employment in nursing homes, home health agencies, and hospitals. Georgia State Law requires nursing homes to perform background checks on prospective employees to determine prior offenses and/or felonies. Such searches could influence the employability of Patient Care Assisting graduates.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>Occupational Courses</b>	<b>16</b>
AHS 103 Nutrition and Diet Therapy	2
AHS 109 Medical Terminology for Allied Health	3
CNA 100 Patient Care Fundamentals	8
EMP 1000 Interpersonal Relations and Professional Development	3

### Notes:

- A grade of "C" or higher is required for all courses.
- Prior to participation in campus/clinical labs, students are required to submit completed medical and dental examination forms. All required immunizations, including Hepatitis B, must be accompanied by documentation. Students who refuse to take the Hepatitis B vaccination series must sign a declination form and be aware that clinical practicum sites may refuse them an opportunity to gain clinical experience.
- Conviction of a felony or gross misdemeanor may prohibit employment in field and may make a student ineligible to take licensing/certification exam(s) required for the profession. A background check and/or drug screen may be required by some agencies before a student attends a clinical practicum. For more information, contact the appropriate program advisor.
- A student must complete the program to be eligible to apply to take the certification exam.

# Programs of Study

## RADIOLOGIC TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE DEGREE

Offered at the Augusta Campus

Entrance Dates: Winter  
Length of Program: Seven Quarters  
Credit Hours Required for Graduation: 144

**Admission:** Admission to Radiologic Technology is competitive (refer to page 15 for enrollment date and application, transcript, and course completion deadlines). Prospective students must have completed all courses listed: General Core (ENG 1101, MAT 1101 or 191, HUM 1101, PSY 1101, SPC 1101) and designated Occupational Courses (AHS 104, BIO 2113, BIO 2114, PHY 1110 and SCT 100), by the transcript deadline (*page 15*) to enter the program. For more information regarding this process, please contact the Admissions Office at (706) 771-4028.

**Program Description:** The Radiologic Technology Associate Degree Program provides a sequence of courses that prepare students for positions in radiologic departments and related businesses and industries. Learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of didactic and clinical instruction necessary for successful employment. Program graduates receive an Associate of Applied Science degree in Radiologic Technology, have the qualifications of a radiographer, and are eligible to sit for a national certification examination for radiographers. High school graduation or GED is required for admission to this program.

**Program Objectives:** The mission of the Radiologic Technology program is to prepare qualified radiographers who are caring, competent, ethical, and professional and who respond to the needs of the patient and the needs of the organization. Technological advances in the medical field have increased the demand for entry-level radiographers who will perform tasks that include assisting the physician, caring for the critically ill, and performing x-ray exams for patients in the operating room, emergency room, and in the radiology department.

**Employment Opportunities:** The current need and an anticipated rise in the number of radiographers needed in local hospitals, clinics, and medical/surgical offices have had a positive impact on entry-level salaries in the Augusta Technical College service area. The Medical College of Georgia offers opportunities for further training in related areas beyond the associate degree if desired.

### Curriculum Outline

Credits

General Core Courses		25
ENG 1101	Composition and Rhetoric I	5
MAT 1101	Mathematical Modeling (or)	
MAT 1111	College Algebra	5
ENG 1102	Literature and Composition (or)	
HUM 1101	Introduction to Humanities (or)	
ART 1101	Art Appreciation (or)	
MUS 1101	Music Appreciation	5
PSY 1101	Introductory Psychology	5
SPC 1101	Public Speaking	5
Occupational Courses		119
AHS 104	Introduction to Health Care	3
BIO 2113	Anatomy and Physiology I	5
BIO 2114	Anatomy and Physiology II	5
PHY 1110	Introductory Physics	5
RAD 101	Introduction to Radiography	5
RAD 107	Principles of Radiographic Exposure I	4
RAD 108	Radiographic Procedures I	4
RAD 110	Radiographic Procedures II	4
RAD 112	Radiographic Procedures III	4
RAD 116	Principles of Radiographic Exposure II	3
RAD 117	Radiographic Imaging Equipment	4
RAD 119	Radiographic Pathology and Medical Terminology	3
RAD 120	Principles of Radiation Biology and Protection	5
RAD 123	Radiologic Science	5
RAD 126	Radiologic Technology Review	4
RAD 132	Introductory Clinical Radiography I	5
RAD 133	Introductory Clinical Radiography II	7
RAD 134	Radiography III	7
RAD 135	Clinical Radiology IV	7
RAD 136	Clinical Radiography V	7
RAD 137	Clinical Radiography VI	10
RAD 138	Clinical Radiography VII	10
SCT 100	Introduction to Microcomputers	3

### Note:

- Prior to participation in campus/clinical labs, students are required to submit completed medical and dental examination forms. All required immunizations, including Hepatitis B, must be accompanied by documentation. Students who refuse to take the Hepatitis B vaccination series must sign a declination form and be aware that clinical practicum sites may refuse them an opportunity to gain clinical experience.
- A grade of "C" or higher is required for all courses.
- A student who does not earn a grade of "C" or higher in any two courses attempted with the RAD prefix will be suspended from the program for one year. Before re-entering the program, the student must complete an individualized remedial program assigned by the department head. A student who does not earn a grade of "C" or higher in any three courses with the RAD prefix will not be allowed to re-enter the Radiologic Technology Program.
- Conviction of a felony or gross misdemeanor may prohibit employment in field and may make a student ineligible to take licensing/certification exam(s) required for the profession. A background check and/or drug screen may be required by some agencies before a student attends a clinical practicum. For more information, contact the appropriate program advisor.

# Programs of Study

## RESPIRATORY CARE TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE DEGREE

*Offered at the Augusta Campus*

Entrance Dates: Summer  
Length of Program: Five Quarters  
Credit Hours Required for Graduation: 128

**Admission:** Admission to the Respiratory Care Technology program is competitive (refer to page 15 for enrollment date and application, transcript, and course completion deadlines). Prospective students need to have completed all courses listed in the Curriculum Outline except those with an RTT prefix by the transcript deadline (*page 15*) to enter the program. For more information regarding this process, please contact the Admissions office at (706) 771-4028.

**Program Description:** The Associate of Applied Science Degree in the Respiratory Care Technology program is a sequence of courses that prepares graduates to assist physicians in the evaluation, diagnosis, and treatment of patients with respiratory, cardiac, and renal dysfunction. This program offers students a variety of clinical opportunities to assist in the management of patients across the lifespan. Respiratory Care Technology offers the student clinical accessibility to patients with such conditions as injury due to trauma, infectious diseases, congenital anomalies, acquired lung disease, renal failure, distressed newborns, and many more categories. Learning opportunities develop academic and professional knowledge and skills required for job acquisition, retention, and advancement. Program graduates are to be competent in the general areas of humanities, social sciences, natural sciences, mathematics, computer skills, and written and oral communication. Upon completion of the program, graduates are eligible to sit for the National Board for Respiratory Care (NBRC) Entry Level Certification Respiratory Therapist Examination to obtain the credential of Certified Respiratory Therapist (CRT). After obtaining the CRT credential, graduates are eligible to sit for the Registry Examination for Advanced Respiratory Care Technology Practitioners to obtain the credential of Registered Respiratory Therapist (RRT). The RRT credential must be obtained no later than three years past the graduation date or the CRT credential will be revoked. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Respiratory Care Technology graduates find a variety of employment opportunities in hospitals, home health agencies, medical equipment sales, physicians' offices, polysomnography, and pulmonary function laboratories.

### Curriculum Outline

#### General Core Courses

		Credits
ENG 1101	Composition and Rhetoric I	5
MAT 1101	Mathematical Modeling (or)	
MAT 1111	College Algebra	5
ENG 1102	Literature and Composition (or)	
HUM 1101	Introduction to Humanities (or)	
ART 1101	Art Appreciation (or)	
MUS 1101	Music Appreciation	5
ENG 1105	Technical Communications (or)	
SPC 1101	Public Speaking	5
PSY 1101	Introductory Psychology	5
CHM 1111	Chemistry I	
PHY 1110	Introductory Physics (or)	5
PHY 1111	Mechanics	5

#### Occupational Courses

		Credits
BIO 2113	Human Anatomy and Physiology I	5
BIO 2114	Human Anatomy and Physiology II	5
BIO 2117	Introductory Microbiology	5
RTT 111	Pharmacology	5
RTT 112	Introduction to Respiratory Therapy	5
RTT 113	Respiratory Therapy Lab I	5
RTT 193	Cardiopulmonary Anatomy and Physiology	10
RTT 209	Clinical Practice I	2
RTT 210	Clinical Practice II	2
RTT 211	Pulmonary Disease	5
RTT 212	Critical Respiratory Care	5
RTT 213	Mechanical Ventilation Equipment and Airway Care	5
RTT 214	Advanced Critical Care Monitoring	2
RTT 215	Pulmonary Function Testing	1
RTT 216	Pediatric and Neonatal Respiratory Care	3
RTT 217	Advanced Respiratory Care	5
RTT 218	Clinical Practice III	2
RTT 219	Clinical Practice IV	2
RTT 220	Clinical Practice V	5
RTT 222	Clinical Practice VI	10
RTT 227	Rehabilitation and Home Care	1
SCT 100	Introduction to Microcomputers	3

#### Notes:

- A grade of "C" or higher is required for all courses.
- Respiratory Care Technology students must submit letters of recommendation prior to enrollment in clinical courses. These forms will be distributed by academic advisors.
- A student who does not earn a grade of "C" or higher in any two courses attempted with the RTT prefix will be suspended from the program for one year. Before reentering the program, the student must complete an individualized remedial program assigned by the department head. After the third unsuccessful attempt of a course with the RTT prefix, the student will not be allowed to reenter the Respiratory Care Technology program.
- Prior to participation in campus/clinical labs, students are required to submit completed medical and dental examination forms. All required immunizations, including Hepatitis B, must be accompanied by documentation. Students who decline the Hepatitis B vaccination series must sign a declination form and be aware that clinical practicum sites may refuse them an opportunity to gain clinical experience at the facility.
- Conviction of a felony or gross misdemeanor may prohibit employment in field and may make a student ineligible to take licensing/certification exam(s) required for the profession. A background check and/or drug screen may be required by some agencies before a student attends a clinical practicum. For more information, contact the appropriate program advisor.

# Programs of Study

## SURGICAL TECHNOLOGY DIPLOMA

*Offered at the Augusta Campus*

Entrance Dates: Summer  
Length of Program: Four Quarters  
Credit Hours Required for Graduation: 87

Admission: Admission to the Surgical Technology program is competitive. Students must complete the Health Care Assistant program, which includes the Central Sterile Processing specialization in order to be considered for admission to the Surgical Technology program. General Core Courses (ENG 1010, MAT 1012 and PSY 1010) and designated Occupational Courses (AHS 1011, AHS 104, AHS 109 and SCT 100) must be completed in order to be evaluated for admission to the Surgical Technology program. For more information regarding this process, please contact the Admissions Office at (706) 771-4028.

**Program Description:** The Surgical Technology diploma program prepares students for employment in a variety of positions in the surgical field. Learning opportunities develop academic and professional knowledge and skills required for job acquisition, retention, and advancement. Surgical Technology graduates are prepared to function as surgical technologists in positions requiring advanced knowledge in surgical procedures. Graduates are eligible to take the National Certification Examination for Surgical Technologist. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Surgical technicians are in demand for employment in hospitals, operating rooms, physicians' offices, emergency rooms, ambulatory and day surgery centers, central sterile processing departments, and managerial roles, and more.

## Curriculum Outline

## Credits

<b>General Core Courses</b>		<b>15</b>
ENG 1010	Fundamentals of English I	5
MAT 1012	Foundations of Mathematics	5
PSY 1010	Basic Psychology	5
<b>Occupational Courses</b>		<b>72</b>
AHS 1011	Anatomy and Physiology	5
AHS 104	Introduction to Health Care	3
AHS 109	Medical Terminology for Allied Health	3
SUR 101	Introduction to Surgical Technology	6
SUR 102	Principles of Surgical Technology	5
SUR 108	Surgical Microbiology	3
SUR 109	Surgical Patient Care	3
SUR 110	Surgical Pharmacology	3
SUR 112	Introductory Surgical Practicum	7
SUR 203	Surgical Procedures I	6
SUR 204	Surgical Procedures II	6
SUR 213	Specialty Surgical Practicum	8
SUR 214	Advanced Specialty Surgical Practicum	8
SUR 224	Seminar in Surgical Technology	3
SCT 100	Introduction to Microcomputers	3

### Notes:

- A grade of "C" or higher is required for all courses. A student will not be considered for admission to the Surgical Technology program if he/she has to repeat more than one course to obtain a grade of "C" or higher. This applies to applicable courses taken in any program at Augusta Technical College and transfer courses on all submitted transcripts.
- A student who does not earn a grade of "C" or higher in any course with the SUR prefix will have to wait one year before reentering the program. A student who does not earn a grade of "C" or higher in any two courses with the AHS, MAT, or SUR prefixes will not be allowed to reenter the Surgical Technology program.
- Prior to enrollment and participation in campus/clinical labs, students are required to submit completed medical and dental examination forms. These forms will be distributed by academic advisors. All required immunizations, including Hepatitis B, must be accompanied by documentation. Students who refuse to take the Hepatitis B vaccination series must sign a declination form and be aware that clinical practicum sites may refuse them an opportunity to gain clinical experience.
- Conviction of a felony or gross misdemeanor may prohibit employment in field and may make a student ineligible to take licensing/certification exam(s) required for the profession. A background check and/or drug screen may be required by some agencies before a student attends a clinical practicum. For more information, contact the appropriate program advisor.
- Student activities associated with the curriculum, especially while students are completing his or her clinical rotations, will be educational in nature. Students will not be receiving any monetary remuneration during this educational experience, nor will he or she be substituted for hired staff personnel within the clinical institution, in the capacity of a surgical technologist.

# Programs of Study

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## BUSINESS

### ASSOCIATE OF APPLIED SCIENCE-BUSINESS DEGREE

*Offered at the Augusta, Waynesboro, and Thomson campuses*

Entrance Dates: Fall, Winter, Spring, and Summer  
 Length of Program: Two Quarters  
 Credit Hours Required for Graduation: 90

**Program Description:** The Associate of Applied Science in Business degree program is a sequence of college-level courses that are designed to enhance students' career advancement in business occupations. The courses will help students to be competitive in business and employment arenas. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Graduates of this program can obtain employment in public, private, and government facilities.

### Curriculum Outline

### Credits

<b>General Core Courses</b>		<b>30</b>
ENG 1101	Composition and Rhetoric	5
MAT 1101	Mathematical Modeling <b>(or)</b>	
MAT 1111	College Algebra	5
ENG 1102	Literature and Composition <b>(or)</b>	
HUM 1101	Introduction to Humanities <b>(or)</b>	
ART 1101	Art Appreciation <b>(or)</b>	
MUS 1101	Music Appreciation	5
ENG 1105	Technical Communications <b>(or)</b>	
SPC 1101	Public Speaking	5
ECO 1101	Principles of Economics <b>(or)</b>	
ECO 2106	Principles of Microeconomics <b>(or)</b>	
ECO 2105	Principles of Macroeconomics	5
SOC 1101	Introduction to Sociology <b>(or)</b>	
PSY 1101	Introduction to Psychology	5
<b>Occupational Courses</b>		<b>60</b>
SCT 100	Introduction to Microcomputers	3
XXX xxx	Completion of required courses for a Diploma (must be taught by an instructor credentialed to teach in a AAS program)	57

### **Notes:**

- This degree is awarded in conjunction with approved courses for a diploma or degree in technical programs.
- The program must include a minimum of 60-quarter credit hours of occupational preparation courses. In most cases, completion of the requirements of a diploma program will meet this requirement; but, in addition, in all cases the following requirements must be met.
- These courses must include a course providing computer literacy (normally SCT 100).
- All courses counting towards the 60 credit minimum must be taught by an instructor credentialed at a level qualifying him or her to teach in an AAS program (normally an associate degree).
- Courses beyond the 60 credit minimum necessary to fulfill the requirement of completion of the diploma program may be taught by instructors credentialed only at the diploma program level, but will not be transferred into the degree program. Diploma level English, mathematics, science, psychology, and employment courses (TCSG courses not numbered in the 190s or 290s) may count toward the 60-credit minimum for occupational preparation courses but will not be applicable to the general education requirement above, regardless of the credentials of the instructor.

# Programs of Study

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## TECHNICAL COMMUNICATIONS SPECIALIST TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta, Waynesboro, and Thomson campuses*

Entrance Dates: Fall, Winter, Spring, Summer  
 Length of Program: 4 Quarters  
 Credit Hours Required for Graduation: 49

**Program Description:** The Technical Communications Specialist technical certificate of credit introduces students to some of the most important aspects of writing and oral communication skills along with the technical proficiency to translate technical information to various audiences. This program serves as a stand-alone career path or as a supplemental area of expertise taken in concert with another program of study. The sequence of classes encompasses the traditional core classes required of associate and baccalaureate studies. Some of these classes may transfer to area colleges and universities. High school graduation or GED is required for admission to this program.

**Program Objectives:** This program is primarily designed for the associate degree level student that is in the process of exploring and deciding upon a career choice. By enrolling in the Technical Communications Specialist technical certificate of credit, students can begin taking classes without declaring a major program area. Once a student decides upon a program of study, many of the courses in the Technical Communications Specialist will transfer into other programs of study. This program will also fill a need for students that want to attend school but will need to transfer to other institutions in order to complete their educational goals.

**Employment Opportunities:** Students awarded the Technical Communications Specialist technical certificate of credit could transfer into other associate degree level programs of study. Students completing the certificate program would qualify for entry-level jobs requiring strong written and oral communication skills in a variety of business, health, and industrial organizations. Completers of this program could also successfully transfer course work into other educational institutions

### Curriculum Outline

ENG 1101	Composition and Rhetoric	5
ENG 1102	Literature and Composition	5
HUM 1101	Introduction to Humanities (or)	5
MUS 1101	Music Appreciation (or)	
ART 1101	Art Appreciation	
MAT 1101	Mathematical Modeling (or)	5
MAT 1111	College Algebra	
SPC 1101	Public Speaking	5
PSY 1101	Introduction to Psychology	5
BUS 108	Word Processing	5
BUS 148	Document Editing and Proofreading	3
BUS 261	Presentation Applications	3
SCT 100	Introduction to Microcomputers	3
XXX xxx	General Core Elective	5

### General Core Electives:

*(A minimum of 5 credit hours from the following list is required.)*

ECO 1101	Principles of Economics	5
ECO 2106	Microeconomics	5
ECO 2105	Macroeconomics	5
ENG 1105	Technical Communications	5
SOC 1101	Introduction to Sociology	5
HUM 1101	Introduction to Humanities	5*
MUS 1101	Music Appreciation	5*
ART 191	Art Appreciation	5*
MAT 1101	Mathematical Modeling	5*
MAT 1111	College Algebra	5*

*(\*If not already used as a course to meet above requirements)*





# Programs of Study

## BUSINESS ADMINISTRATIVE TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE DEGREE

Offered at the Augusta and Thomson campuses

Entrance Dates: Fall and Spring  
Length of Program: Six Quarters  
Credit Hours Required for Graduation: 95

**Program Description:** The Business Administrative Technology program is designed to prepare graduates for employment in a variety of positions in today's technology-driven workplaces. The Business Administrative Technology program provides learning opportunities, which introduce, develop, and reinforce academic and occupational knowledge, skills, and attitudes required for job acquisition, retention, and advancement. The program emphasizes the use of word processing, spreadsheet, presentation, and database applications software. Students are also introduced to accounting fundamentals, electronic communications, internet research, and electronic file management. The program includes instruction in effective communication skills and technology innovations for the office. Additionally, the program provides opportunities to upgrade present knowledge and skills or to retrain in the area of administrative technology. Graduates of the program receive a Business Administrative Technology Associate of Applied Science degree. A high school diploma or GED is required for admission to this program.

**Employment Opportunities:** Graduates of this program find employment as administrative and executive office professionals in government, business, medical, legal, educational, and technical areas. With the ongoing expansion of business in the CSRA, there is a continual need for highly skilled administrative professionals and office support personnel.

### Curriculum Outline

	<b>Credits</b>
<b>General Core Courses</b>	<b>25</b>
ENG 1101 Composition and Rhetoric I	5
MAT 1101 Mathematical Modeling (or)	
MAT 1111 College Algebra	5
SPC 1101 Public Speaking	5
PSY 1101 Introduction to Psychology	5
ENG 1102 Literature and Composition (or)	
HUM 1101 Introduction to Humanities (or)	
ART 1101 Art Appreciation (or)	
MUS 1101 Music Appreciation	5
<b>Occupational Courses</b>	<b>58</b>
ACC 101 Principles of Accounting I	6
ACC 102 Principles of Accounting II	6
BUS 1130 Document Processing	6
BUS 105 Database Applications	3
BUS 106 Office Procedures	5
BUS 108 Word Processing	5
BUS 109 Applied Office Procedures	5
BUS 148 Business Document Proofreading and Editing	3
BUS 160 Electronic Communications Applications	5
BUS 201 Advanced Word Processing	5
BUS 202 Spreadsheet Applications	3
BUS 261 Presentation Applications	3
SCT 100 Introduction to Microcomputers	3

### **Electives**

XXX xxx Elective Courses 12

(A minimum of 12 credit hours from the following list is required).

BUS 100	Introduction to Keyboarding	3
BUS 120	Speed and Accuracy Keying	2
BUS 161	Desktop Publishing	3
BUS 203	Office Management	5
BUS 204	Business Administrative Assistant Internship I	6
BUS 224	Business Administrative Assistant Internship II	12
BUS 260	Advanced Spreadsheet Applications	3
BUS 262	Web Page Design	3
BUS 263	Electronic Mail Applications	3
CIS 2201	HTML Fundamentals	3
MKT 100	Introduction to Marketing	5
MKT 101	Principles of Management	5
MKT 103	Business Law	5
MSD 100	Management Principles	5
MSD 104	Human Resource Management	5
MSD 113	Business Ethics	5
MSD 206	Project Management	5
MSD 210	Team Project	5

### **Notes:**

Upon entry into this program, if student is unable to key at a rate of 25 wpm or higher, BUS 100 must be taken as a first-quarter elective

# Programs of Study

## BUSINESS ADMINISTRATIVE TECHNOLOGY (BAT) DIPLOMA

*Offered at the Augusta, Waynesboro, and Thomson campuses*

Entrance Dates: Fall and Spring  
 Length of Program: Five Quarters  
 Credit Hours Required for Graduation: 74-76

**Program Description:** The Business Administrative Technology program is designed to prepare graduates for employment in a variety of positions in today's technology-driven workplaces. The program provides learning opportunities that introduce, develop, and reinforce academic and occupational knowledge, skills, and attitudes required for job acquisition, retention, and advancement. Additionally, the program provides opportunities to upgrade present knowledge and skills or to retrain in the areas business administration and business technology. Graduates of the program receive a Business Administrative Technology diploma with a specialty in either Business Administrative Assistant or Medical Administrative Assistant. A high school diploma or GED is required for admission to this program.

**Employment Opportunities:** Graduates of this program find employment as administrative and executive office professionals in government, business, medical, legal, educational, and technical areas. With the ongoing expansion of business in the CSRA, there is a continual need for highly skilled administrative professionals and office support personnel.

### Curriculum Outline

	<b>Credits</b>
<b>General Core Courses</b>	
	<b>18</b>
ENG 1010 Fundamentals of English I	5
ENG 1012 Fundamentals of English II	5
MAT 1011 Business Mathematics (or)	5
MAT 1012 Foundations of Mathematics	
EMP 1000 Interpersonal Relations and Professional Development	3
<b>Occupational Courses</b>	
	<b>23</b>
BUS 1130 Document Processing	6
BUS 108 Word Processing	5
BUS 148 Business Document Proofreading and Editing	3
BUS 208 Office Accounting (or)	
ACC 101 Principles of Accounting I	6
SCT 100 Introduction to Microcomputers	3

**Completion of one of the following specializations is required**

### BUSINESS ADMINISTRATIVE ASSISTANT COURSES

<b>Occupational Specialization Courses</b>	
	<b>21</b>
BUS 106 Office Procedures	5
BUS 109 Applied Office Procedures	5
BUS 160 Electronic Communications Applications	5
BUS 202 Spreadsheet Applications	3
BUS 261 Presentation Applications	3

### **Electives**

XXX xxx Elective Courses	12
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**(A minimum of 12 credit hours from the following is required)**

BUS 100 Introduction to Keyboarding	3
BUS 105 Database Applications	3
BUS 120 Speed and Accuracy Keying	2
BUS 161 Desktop Publishing	3
BUS 201 Advanced Word Processing	5
BUS 203 Office Management	5
BUS 204 Business Administrative Assistant Internship I	6
BUS 224 Business Administrative Assistant Internship II	12
BUS 260 Advanced Spreadsheet Applications	3
BUS 262 Web Page Design	3
BUS 263 Electronic Mail Applications	3
MKT 100 Introduction to Marketing	5
MKT 101 Principles of Management	5
MKT 103 Business Law	5
MSD 100 Management Principles	5
MSD 104 Human Resource Management	5
MSD 113 Business Ethics	5

### MEDICAL ADMINISTRATIVE ASSISTANT COURSES

BUS 211 Medical Terminology (or)	
AHS 109 Medical Terminology for Allied Health	3
BUS 212 Anatomy and Terminology for the Medical Administrative Assistant (or)	
AHS 1011 Anatomy and Physiology	5
MAS 112 Human Diseases	5
BUS 216 Medical Administrative Procedures	5
BUS 226 Medical Office Billing/Coding/Insurance	5

### **Electives**

XXX xxx Elective Courses	12
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**(A minimum of 12 credit hours from the following is required)**

BUS 100 Introduction to Keyboarding	3
BUS 105 Database Applications	3
BUS 120 Speed and Accuracy Keying	2
BUS 161 Desktop Publishing	3
BUS 201 Advanced Word Processing	5
BUS 202 Spreadsheet Applications	3
BUS 203 Office Management	5
BUS 205 Medical Administrative Assistant Internship I	6
BUS 213 Medical Document Processing/Transcription	5
BUS 214 Advanced Medical Document Processing/Transcription	5
BUS 215 Medical Administrative Assistant Internship II	12
BUS 260 Advanced Spreadsheet Applications	3
BUS 262 Web Page Design	3
BUS 263 Electronic Mail Applications	3
MAS 151 ICD-9 Medical Procedures Coding	3
MAS 152 ICD-9 Medical Procedures Coding II	3
MAS 153 CPT-4 Physician's Procedural Coding	3

### **Notes:**

- Upon entry into these programs, if student is unable to key at a rate of 25 wpm or higher, BUS 100 must be taken as a first-quarter elective.
- MAT 111 will substitute for MAT 1011.

# Programs of Study

## ADMINISTRATIVE SUPPORT ASSISTANT (ASA) TECHNICAL CERTIFICATE OF CREDIT

Offered at the Augusta, Thomson, and Waynesboro campuses

Entrance Dates: Winter and Summer  
Length of Program: Two Quarters  
Credit Hours Required for Graduation: 31

**Program Description:** This certificate program prepares individuals to provide administrative support under the supervision of office managers, executive assistants, and other office personnel. Courses include math, introduction to microcomputers, word processing, office procedures, and accounting. A high school diploma or GED is required for admission to this program.

**Employment Opportunities:** Those students who graduate with the Administrative Support Assistant certificate may be employed in entry level positions in office settings including educational institutions, federal, state, and local government offices, and small and large businesses. Entry level positions are available in several areas including office assistant, receptionist, clerk typist, general office clerk, order clerk, stock control clerk, and data entry clerk

### Curriculum Outline Credits

<b>Occupational Courses</b>		
SCT 100	Introduction to Microcomputers	3
BUS 106	Office Procedures	5
BUS 1130	Document Processing	6
BUS 108	Word Processing	5
BUS 208	Office Accounting (or)	
ACC 101	Principles of Accounting I	6

### Electives

XXX xxx	Elective Courses	6
<b>(A minimum of 6 credit hours from the following is required)</b>		
BUS 100	Introduction to Keyboarding	3
BUS 105	Database Applications	3
BUS 120	Speed and Accuracy Keying	2
BUS 161	Desktop Publishing	3
BUS 201	Advanced Word Processing	5
BUS 203	Office Management	5
BUS 204	Business Administrative Assistant Internship I	6
BUS 211	Medical Terminology	3
BUS 212	Anatomy and Terminology for the Medical Administrative Assistant	5
BUS 260	Advanced Spreadsheet Applications	3
BUS 262	Web Page Design	3
BUS 263	Electronic Mail Applications	3
MKT 100	Introduction to Marketing	5
MKT 101	Principles of Management	5
MKT 103	Business Law	5
MSD 100	Management Principles	5
MSD 104	Human Resource Management	5
MSD 113	Business Ethics	5

### Notes:

Upon entry into this certificate program, if student is unable to key at a rate of 25 wpm or higher, BUS 100 must be taken as a first-quarter elective.

## MICROSOFT OFFICE APPLICATIONS PROFESSIONAL (MOAS) TECHNICAL CERTIFICATE OF CREDIT

Offered at the Augusta, Thomson, and Waynesboro campuses

Entrance Dates: Winter and Summer  
Length of Program: Three Quarters  
Credit Hours Required for Graduation: 22

**Program Description:** This certificate program provides students with the knowledge and skills to perform word processing, spreadsheet, database, and presentation applications in an office environment. It is designed to provide hands-on instruction for developing foundation skills for office assistant careers. A high school diploma or GED is required for admission to this program.

**Employment Opportunities:** A heavy concentration of hands-on computer coursework prepares the graduate of this certificate program to perform in the business office setting with the skills necessary to support the document processing, database, and spreadsheet requirements of the organization. In addition, entry level employment may be found in federal, state, and local government offices, as well as in small and large businesses, professional services, merchandising, and manufacturing businesses.

### Curriculum Outline Credits

<b>Occupational Courses</b>		
SCT 100	Introduction to Microcomputers	3
BUS 108	Word Processing	5
BUS 202	Spreadsheet Applications	3
BUS 261	Presentation Applications	3
BUS 105	Database Applications	3

### Electives

XXX xxx	Elective Courses	5
<b>(A minimum of 5 credit hours from the following is required)</b>		
BUS 100	Introduction to Keyboarding	3
BUS 1130	Document Processing	6
BUS 105	Database Applications	3
BUS 120	Speed and Accuracy Keying	2
BUS 161	Desktop Publishing	3
BUS 201	Advanced Word Processing	5
BUS 203	Office Management	5
BUS 204	Business Administrative Assistant Internship I	6
BUS 211	Medical Terminology	3
BUS 212	Anatomy and Terminology for the Medical Administrative Assistant	5
BUS 260	Advanced Spreadsheet Applications	3
BUS 262	Web Page Design	3
BUS 263	Electronic Mail Applications	3
MKT 100	Introduction to Marketing	5
MKT 101	Principles of Management	5
MKT 103	Business Law	5
MSD 100	Management Principles	5
MSD 104	Human Resource Management	5
MSD 113	Business Ethics	5

# Programs of Study

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## MEDICAL LANGUAGE SPECIALIST (MLS) TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta campus*

Entrance Dates: Winter and Summer  
Length of Program: Four Quarters  
Credit Hours Required for Graduation: 43

**Program Description:** The Medical Language Specialist certificate program is designed to provide learning opportunities that introduce, develop, and reinforce academic and occupational knowledge, skills, and attitudes required for job acquisition. After completion of the program and working experience in the field, the student is encouraged to take the American Association for Medical Transcription Exam to become certified. A high school diploma or GED is required for admission to this program.

**Employment Opportunities:** The student may pursue diverse career opportunities in hospitals, physicians' offices, clinics, research facilities, etc. In addition, the student may elect to start a home-based business.

**Work Experience:** Prior work experience in the medical office or health care industry is not a requirement for admission into the program; however, this work experience will enhance employment opportunities following the completion of this certificate program.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>Occupational Courses</b>	
SCT 100 Introduction to Microcomputers	3
ENG 1010 Fundamentals of English I	5
BUS 211 Medical Terminology (or)	
AHS 109 Medical Terminology for Allied Health	3
BUS 1130 Document Processing	6
BUS 212 Anatomy and Terminology for the Medical Administrative Assistant (or)	
AHS 1011 Anatomy and Physiology	5
MAS 112 Human Diseases	5
BUS 213 Medical Document Processing/Transcription	5
BUS 214 Advanced Medical Document Processing/Transcription	5
<b>Electives</b>	
XXX xxx Elective Courses	6

**(A minimum of 6 credit hours from the following is required)**

BUS 100 Introduction to Keyboarding	3
BUS 108 Word Processing	5
BUS 120 Speed and Accuracy Keying	2
BUS 148 Business Document Proofreading and Editing	3
BUS 160 Electronic Communication Applications	5
BUS 201 Advanced Word Processing	5
BUS 202 Spreadsheet Applications	3
BUS 263 Electronic Mail Applications	3

### Notes:

Upon entry into this certificate program, if student is unable to key at a rate of 25 wpm or higher, BUS 100 must be taken as a first-quarter elective.

**Work Experience:** Prior work experience in the medical office or health care industry is not a requirement for admission into the program; however, this work experience would greatly enhance employment opportunities following the completion of this certificate program.

# Programs of Study

## CRIMINAL JUSTICE TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE DEGREE

Offered at the Augusta, Thomson, and Waynesboro Campuses

Entrance Dates: Fall and Spring: Augusta  
Fall and Spring: Thomson  
Fall and Spring: Waynesboro  
Length of Program: Eight Quarters  
Credit Hours Required for Graduation: 98

**Program Description:** The Criminal Justice Technology Program is a sequence of courses designed to prepare students for a career in public protection, private security, and corrections. Program graduates will be competent in the general areas of communications, mathematics, and human relations. The program of study emphasizes the areas of law enforcement, constitutional and criminal law, criminal justice, corrections, and juvenile justice. High school graduation or GED is required for admission to this program.

Students desiring to be employed in the public protection sector upon graduation must meet the requirements established by Georgia Code 35-8-8.

**Employment Opportunities:** Criminal Justice graduates find a variety of employment opportunities in public protection, private security, and corrections.

### Curriculum Outline

	Credits
<b>General Core Courses</b>	<b>30</b>
ENG 1101 Composition and Rhetoric	5
MAT 1101 Mathematical Modeling (or)	
MAT 1111 College Algebra	5
ENG 1102 Literature and Composition (or)	
HUM 1101 Introduction to Humanities (or)	
ART 1101 Art Appreciation (or)	
MUS 1101 Music Appreciation	5
ENG 1105 Technical Communication (or)	
SPC 1101 Public Speaking	5
PSY 1101 Introduction to Psychology	5
ECO 1101 Principles of Economics (or)	
ECO 2106 Principles of Microeconomics (or)	
ECO 2105 Principles of Macroeconomics	5
<b>Occupational Courses</b>	<b>68</b>
CRJ 101 Introduction to Criminal Justice	5
CRJ 103 Corrections	5
CRJ 104 Principles of Law Enforcement	5
CRJ 105 Criminal Procedure	5
CRJ 168 Criminal Law	5
CRJ 202 Constitutional Law	5
CRJ 207 Juvenile Justice	5
CRJ 209 Criminal Justice Technology Practicum/Internship	5
CRJ 212 Ethics in Criminal Justice	5
SCT 100 Introduction to Microcomputers	3
XXX xxx Occupationally Related Electives	20

### Occupationally Related Electives

(A minimum of 20 credit hours from the following list is required.)

ACC 101 Principles of Accounting I	6
CRJ 162 Methods of Criminal Investigation	5
CRJ 163 Investigation and Presentation of Evidence	3
CRJ 165 Community Oriented Policing	5
CRJ 206 Criminology	5
CRJ 175 Report Writing	5
CRJ 211 Homeland Security	5
ECE 202 Social Issues and Family Involvement	5
FSC 141 Hazardous Materials	5
FSC 270 Fire Investigations	5
MKT 103 Business Law	5
MSD 103 Leadership	5
MSD 104 Human Resource Management	5

### Notes:

Students who have been convicted of a felony or sufficient misdemeanors to show a disregard for the law will not be eligible for state and local law enforcement positions.

# Programs of Study

## CRIMINAL JUSTICE TECHNOLOGY DIPLOMA

*Offered at the Augusta, Thomson, and Waynesboro Campuses*

Entrance Dates: Fall and Spring: Augusta  
Fall and Spring: Thomson  
Fall and Spring: Waynesboro

Length of Program: Five Quarters  
Credit Hours Required for Graduation: 73

**Program Description:** The Criminal Justice Technology Program is a sequence of courses designed to prepare students for a career in public protection, private security, and corrections. Program graduates will be competent in the general areas of communications, mathematics, and human relations. The program of study emphasizes the areas of law enforcement, constitutional and criminal law, criminal justice, corrections, and juvenile justice. High school graduation or GED is required for admission to this program.

Students desiring to be employed in the public protection sector upon graduation must meet the requirements established by Georgia Code 35-8-8.

**Employment Opportunities:** Criminal Justice graduates find a variety of employment opportunities in public protection, private security, and corrections.

### Curriculum Outline

#### **General Core Courses**

	<b>Credits</b>
ENG 1010 Fundamentals of English I	5
MAT 1012 Foundations of Mathematics	5
PSY 1010 Basic Psychology	5

#### **Occupational Courses**

CRJ 101 Introduction to Criminal Justice	5
CRJ 103 Corrections	5
CRJ 104 Principles of Law Enforcement	5
CRJ 105 Criminal Procedure	5
CRJ 168 Criminal Law	5
CRJ 202 Constitutional Law	5
CRJ 207 Juvenile Justice	5
CRJ 209 Criminal Justice Technology Practicum/Internship	5
CRJ 212 Ethics in Criminal Justice	5
SCT 100 Introduction to Microcomputers	3
XXX xxx Occupationally Related Electives	10

#### **Occupationally Related Electives**

*(A minimum of 10 credit hours from the following is required.)*

CRJ 162 Methods of Criminal Investigation	5
CRJ 163 Investigation and Presentation of Evidence	3
CRJ 165 Community Oriented Policing	5
CRJ 206 Criminology	5

#### **Notes:**

Students who have been convicted of a felony or sufficient misdemeanors to show a disregard for the law will not be eligible for state and local law enforcement positions.

## CRIMINAL JUSTICE TECHNOLOGY TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta, Thomson, and Waynesboro Campuses*

Entrance Dates: Fall and Spring: Augusta  
Fall and Spring: Thomson  
Fall and Spring: Waynesboro

Length of Program: Two Quarters  
Credit Hours Required for Graduation: 23

**Program Description:** The Criminal Justice Specialist Technical Certificate of Credit is a sequence of courses designed to provide the student with knowledge and skills required to the majority of the entry level positions in the Criminal Justice field. Areas covered are Criminal Justice Technology, Corrections, Law Enforcement, Constitutional Law, and Microcomputers. High school graduation or GED is required for entrance into this program.

Students desiring to be employed in the public protection sector upon graduation must meet the requirements established by Georgia Code 35-8-8.

**Employment Opportunities:** Criminal Justice graduates of the Technical Certificate find a variety of entry-level employment opportunities in public and private protection and corrections.

### Curriculum Outline

### **Credits**

#### **Occupational Courses**

CRJ 101 Introduction to Criminal Justice	5
CRJ 103 Corrections	5
CRJ 104 Principles of Law Enforcement	5
CRJ 202 Constitutional Law	5
SCT 100 Introduction to Microcomputers	3

#### **NOTES:**

Students who have been convicted of a felony or sufficient misdemeanors to show a disregard for the law will not be eligible for state and local law enforcement positions.

# Programs of Study

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## BASIC LAW ENFORCEMENT TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta campus*

**Entrance Dates:** Winter/Summer  
**Length of Program:** 2 Quarters  
**Credit Hours Required for Graduation:** 59

**Program Description:** The Basic Law Enforcement Certificate program provides students with the necessary skills, standards, and knowledge in order to become qualified, proficiently trained, ethical and competent law enforcement officers in criminal justice careers.

**Program Objectives:** This program will prepare individuals with the necessary skills to become qualified, proficiently trained, ethical and competent peace officers in criminal justice careers. Those who attend the Academy will be POST certified. Students who attend the Academy can continue their education at Augusta Tech after the post certification and earn a diploma or degree in Criminal Justice.

**Employment Opportunities:** Graduates of the Basic Law Enforcement Technical Certificate of Credit are prepared for positions as law enforcement officers with law enforcement agencies.

### Curriculum Outline

<b>Occupational Courses</b>	<b>59</b>
CRJ 101 Introduction to Criminal Justice	5
CRJ 104 Principles of Law Enforcement	5
CRJ 105 Criminal Procedure	4
CRJ 1010 Basic Law Enforcement Health and Life Safety	3
CRJ 1012 Ethics and Liability for Basic Law Enforcement	2
CRJ 150 Police Patrol Operations	5
CRJ 156 Police Traffic Control and Accident Investigation	5
CRJ 162 Methods of Criminal Investigation	5
CRJ 168 Criminal Law	5
CRJ 1014 Firearms Training for Basic Law Enforcement	5
CRJ 1016 Emergency Vehicle Operations	5
CRJ 1018 Defensive Tactics	4
CRJ 202 Constitutional Law	5

**ADA Compliance:** Training requires the regular sustained performance of moderately physically demanding work, typically involving some combination of climbing, running, balancing, stooping, kneeling, crouching, and crawling and involves lifting, carrying, pushing, and pulling moderately heavy materials. Other training requires sensory ability to perceive and discriminate color or shades of color, sounds, odor, depth, texture, visual cues or signals, and the ability to communicate orally.

### Notes:

- Admissions Criteria to the Peace Officers Training Academy:
  - 18 years of age
  - High school transcript or GED transcript
  - College transcripts, if applicable
  - Proof of citizenship
  - COMPASS test
  - Successfully complete background investigation
- The Academy will contact eligible applicants to further assist with the applicant process. Applicants will need to complete the following:
  - POST Application for certification
  - Background Check
  - Fingerprints
  - Physical Exam
  - Driver History
  - Oral Interview
- The Academy sends the applicant's completed packet to The Georgia Peace Officers Standards and Training Council for final processing.

**Disclaimer:** Students desiring to be employed in the public protection sector upon graduation must meet the requirements established by Georgia Code 35-8-8 and POST Rules 464-3-01 through 464-3-03.

# Programs of Study

## ENVIRONMENTAL HORTICULTURE DIPLOMA

*Offered at the Augusta and Thomson campuses*

Entrance Dates: Fall and Spring - Augusta  
Fall, Winter, Spring, Summer - Thomson  
Length of Program: Four Quarters  
Credit Hours Required for Graduation: 78

**Program Description:** The Environmental Horticulture program is a sequence of courses that prepares students for careers in environmental horticulture. The program provides learning opportunities which introduce, develop, and reinforce academic and technical knowledge, skills, and attitudes required for job acquisition, retention, and advancement. Additionally, the program provides opportunities to retrain or upgrade present knowledge and skills. Graduates of the program receive an Environmental Horticulture diploma which qualifies them as a horticulturist. \*High School graduation or GED is required for admission into this program.

**Employment Opportunities:** A graduate of this program may expect to find career opportunities as a greenhouse worker or manager, a nursery worker or manager, landscape/grounds manager, landscape designer or contractor, garden center employee, or small business owner in one or more of these areas.

### Curriculum Outline

### Credits

#### General Core Courses

ENG 1010	Fundamentals of English I	5
MAT 1012	Foundations of Mathematics	5
EMP 1000	Interpersonal Relations and Professional Development	3

#### Fundamental Occupational Courses

EHO 100	Horticulture Science	5
EHO 101	Woody Ornamental Plant Identification	6
EHO 102	Herbaceous Plant Identification	5
EHO 103	Greenhouse Operations	3
EHO 104	Horticulture Construction	3
EHO 105	Nursery Production	4
EHO 106	Landscape Design	5
EHO 107	Landscape Installation	3
EHO 108	Pest Management	5
EHO 112	Landscape Management	5
EHO 114	Garden Center Management	3
EHO 115	Environmental Horticulture Internship	3
SCT 100	Introduction to Microcomputers	3
XXX xxx	Electives	12

#### Environmental Horticulture Diploma Electives

(A minimum of 12 credit hours from the following list is required.)

EHO 125	Plant Propagation	5
EHO 131	Irrigation	5
EHO 133	Turfgrass Management	5
EHO 141	Soils	5
EHO 142	Golf Course Design, Construction, and Management	5
EHO 150	Small Gas Engine Repair and Maintenance	5
EHO 151	Seasonal Color Management	5
EHO 169	Horticulture Spanish	5
EHO 172	Floral Design	4
EHO 175	Interiorscaping	5
GCM 201	Fundamentals of Golf Rules, History, and Culture	4
GCM 211	Turf Management I	4
GCM 212	Golf Course Management	4

\*Effective Winter quarter 2006.

## LANDSCAPE SPECIALIST TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta and Thomson campuses*

Entrance Dates: Fall and Spring - Augusta  
Fall, Winter, Spring, Summer - Thomson  
Length of Program: Three Quarters  
Credit Hours Required for Graduation: 29

**Program Description:** The Landscape Specialist program is a three-quarter evening program. The program builds a foundation needed in horticulture science and plant identification as well as concentrating on landscape construction and installation. The program also emphasizes landscape management and pest control. All courses offered in this evening program are transferable to the Environmental Horticulture diploma program. Graduates may transfer credits from the Landscape Specialist program into the Environmental Horticulture program and continue their education.

**Employment Opportunities:** The need for commercial and residential landscape management is one of the fastest growing segments of the service industry. In the commercial landscape management industry, image enhancement is key in attracting new business. In the residential landscape management industry, homeowners are sometimes lacking the skills and time it requires to keep their landscape investment well maintained.

Landscape installation is also a possible area of employment for graduates. As communities within the Augusta area continue to grow, qualified individuals will continue to be needed for proper installation of plant and non-plant materials.

### Curriculum Outline

### Credits

#### Occupational Courses

#### 29

EHO 100	Horticulture Sciences	5
EHO 101	Woody Ornamental Plant Identification	6
EHO 107	Landscape Installation	3
EHO 108	Pest Management	5
EHO 112	Landscape Management	5
XXX XXX	Elective	5

# Programs of Study

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## PLANT PRODUCTION SPECIALIST TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Thomson campus*

Entrance Dates: Fall, Winter, Spring, and Summer  
Length of Program: Three Quarters  
Credit Hours Required for Graduation: 26

**Program Description:** The Plant Production Specialist technical certificate of credit provides entry-level skills in plant production. Topics include: horticulture science, plant identification, greenhouse operations and plant production.

**Employment Opportunities:** The Plant Production Specialist program provides learning opportunities and development of occupational skills enabling one to be employed in a nursery or greenhouse operation with entry-level skills, reducing training time by employers and enhancing advancement possibilities.

### Curriculum Outline

### **Credits**

<b>Occupational Courses</b>	<b>26</b>
EHO 100 Horticulture Science	5
EHO 101 Woody Ornamental Plant Identification	6
EHO 102 Herbaceous Plant Identification	5
EHO 103 Greenhouse Operations	3
EHO 105 Nursery Production	4
XXX xxx Elective	3

# Programs of Study

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## GOLF COURSE MANAGEMENT ASSOCIATE OF APPLIED SCIENCE DEGREE

*Offered at the Augusta campus*

Entrance Dates: Fall and Spring  
Length of Program: Six Quarters  
Credit Hours Required for Graduation: 98

**Program Description:** The Golf Course Management, Degree program is a sequence of courses designed to prepare students for varied careers in the golf industry. Learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes the combination of managerial theory and practical application necessary for successful employment in the three general industry fields of Golf Operations Management, Turfgrass Management, and Non-traditional Golf Outlet Operations. Program graduates receive a Golf Course Management degree which qualifies them as assistants in any of the three listed fields. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** The Golf Course Management program is a sequence of courses that prepares the student for a career in the golf industry in turf management, pro shop management and sales, equipment representative, or equipment sales and/or servicing. The graduate may work at a golf course caring for the turf, working behind the counter in the pro shop or working at a retail outlet away from a course. The program is designed for the individual who wishes to work toward the position of golf course superintendent, assistant superintendent, head or assistant pro.

### Curriculum Outline

### Credits

<b>General Core Courses</b>		<b>30</b>
ENG 1101	Composition and Rhetoric	5
MAT 1101	Mathematical Modeling (or)	
MAT 1111	College Algebra	5
ENG 1102	Literature and Composition (or)	
HUM 1101	Introduction to Humanities (or)	
ART 1101	Art Appreciation (or)	
MUS 1101	Music Appreciation	5
SPC 1101	Public Speaking	5
PSY 1101	Introduction to Psychology	5
ECO 1101	Principles of Economics (or)	
ECO 2106	Principles of Microeconomics (or)	
ECO 2105	Principles of Macroeconomics	5
<b>Occupational Courses</b>		<b>68</b>
ACC 101	Principles of Accounting I	6
EHO 100	Horticulture Science	5
EHO 108	Pest Management	5
GCM 100	Swing Dynamics	5
GCM 201	Fundamentals of Golf, Rules, History and Culture	4
GCM 203	Merchandising/Golf Shop Operations	3
GCM 204	Tournament Operations	5
GCM 205	Club Repair/Club Fitting	4
GCM 206	Cart Fleet Management	4
GCM 211	Turf Management	4
GCM 212	Golf Course Maintenance	4
MKT 100	Introduction to Marketing	5
MKT 106	Fundamentals of Selling	5
SCT 100	Introduction to Microcomputers	3
XXX xxx	Electives	6

### **Degree Electives**

*(A minimum of 6 credit hours from the following list is required)*

ACC 102	Principles of Accounting II	6
GCM 101	Intermediate Golf Swing Dynamics	5
GCM 102	Advanced Golf Swing Dynamics	5
MKT 101	Principles of Management	5
MKT 110	Entrepreneurship	8
MSD 101	Organizational Behavior	5
MSD 103	Leadership	5

# Programs of Study

## GOLF COURSE MANAGEMENT DIPLOMA

*Offered at the Augusta campus*

Entrance Dates: Fall and Spring  
 Length of Program: Four Quarters  
 Credit Hours Required for Graduation: 70

**Program Description:** The Golf Course Management, Diploma program is a sequence of courses designed to prepare students for varied careers in the golf industry. Learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes the combination of managerial theory and practical application necessary for successful employment in the three general industry fields of Golf Operations Management, Turfgrass Management, and Non-traditional Golf Outlet Operations. Program graduates receive a Golf Course Management diploma which qualifies them as entry level jobs assistants in any of the three listed fields. High school graduation or GED is required for graduation from this program

**Employment Opportunities:** The Golf Course Management program is a sequence of courses that prepares the student for a career in the golf industry in turf management, pro shop management and sales, equipment representative, or equipment sales and/or servicing. The graduate may work at a golf course caring for the turf, working behind the counter in the pro shop, or working at a retail outlet away from a course.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>General Core Courses</b>	<b>13</b>
ENG 1010 Fundamentals of English I	5
MAT 1012 Foundations of Mathematics	5
EMP 1000 Interpersonal Relations and Professional Development	3
<b>Occupational Courses</b>	<b>57</b>
ACC 101 Principles of Accounting I	6
EHO 100 Horticulture Science	5
EHO 108 Pest Management	5
GCM 100 Swing Dynamics	5
GCM 201 Fundamentals of Golf, Rules, History and Culture	4
GCM 205 Club Repair/Club Fitting	4
GCM 206 Cart Fleet Management	4
GCM 211 Turf Management	4
GCM 212 Golf Course Maintenance	4
MKT 100 Introduction to Marketing	5
MKT 106 Fundamentals of Selling	5
SCT 100 Introduction to Microcomputers	3
XXX xxx Electives	3
<b>Diploma Electives</b>	
<i>(A minimum of 3 credit hours from the following list is required.)</i>	
EHO 131 Irrigation	5
EHO 142 Golf Course Design, Construction, and Management	5
GCM 101 Intermediate Golf Swing Dynamics	5
GCM 102 Advanced Golf Swing Dynamics	5

## GOLF COURSE TECHNICIAN TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta and Thomson campuses*

Entrance Dates: Fall, Winter, Spring and Summer  
 Length of Program: Three Quarters  
 Credit Hours Required for Graduation: 23

**Program Description:** The Golf Course Technician Technical Certificate of Credit is to provide employees that meet the staffing needs of the local golf course industry. The Golf Course Technician TCC provides a course of study for learning golf skills and knowledge needed to perform the correct maintenance tasks on the golf course and the grounds adjacent to the course. The technicians will become familiar with golf course design, construction, and maintenance. Soil preparation, fertilization application, pest management, irrigation techniques, and mowing techniques are additional skill the technicians will gain in the program. Graduates may transfer credits from the Golf Course Technician program into the Golf Course Management program and continue their education. High school graduation or GED is required for admission into this program.

**Employment Opportunities:** Students that complete the Golf Course Technician TCC may find employment with a golf course maintaining and managing areas that consist of turf and also working with aspects of ornamental horticulture that are present on the grounds of a course.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>Occupational Courses</b>	<b>23</b>
GCM 211 Turf Management	4
GCM 212 Golf Course Maintenance	4
EHO 100 Horticulture Science	5
EHO 108 Pest Management	5
EHO 142 Golf Course Design, Construction, and Management	5

# Programs of Study

## MANAGEMENT AND SUPERVISORY DEVELOPMENT ASSOCIATE OF APPLIED SCIENCE DEGREE

*Offered at the Augusta, Waynesboro, and Thomson campuses*

Entrance Dates: Fall, Winter, Spring, and Summer  
Length of Program: Seven Quarters  
Credit Hours Required for Graduation: 107

**Program Description:** The Management and Supervisory Development program at Augusta Technical College is a sequence of courses designed to prepare students to work in management or supervision positions in businesses and industries. Students are provided with learning opportunities that introduce, develop, and reinforce academic and occupational knowledge, skills, and attitudes required for job acquisition, retention, and advancement. Program graduates who are experienced workers are prepared to perform management and supervisory functions such as employee training, employee evaluation, employee counseling and disciplinary action. Graduates of the program receive a Management and Supervisory Development Associate of Applied Science degree. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Management and supervision is an exciting and growing field that provides a challenging and rewarding career. A degree in Management and Supervisory Development will prepare you for a career in management or supervision in a variety of businesses and industries.

### Curriculum Outline

	<b>Credits</b>
<b>General Core Courses</b>	<b>30</b>
ENG 1101 Composition and Rhetoric I	5
MAT 1101 Mathematical Modeling (or)	
MAT 1111 College Algebra	5
ENG 1102 Literature and Composition (or)	
HUM 1101 Introduction to Humanities (or)	
ART 1101 Art Appreciation (or)	
MUS 1101 Music Appreciation	5
SPC 1101 Public Speaking	5
PSY 1101 Introduction to Psychology	5
ECO 1101 Principles of Economics (or)	
ECO 2106 Principles of Microeconomics (or)	
ECO 2105 Principles of Macroeconomics	5
<b>Occupational Courses</b>	<b>57</b>
ACC 101 Principles of Accounting I	6
MSD 100 Management Principles (or)	
MKT 101 Principles of Management	5
MSD 101 Organizational Behavior	5
MSD 102 Employment Law (or)	
MKT 103 Business Law	5
MSD 103 Leadership	5
MSD 104 Human Resource Management	5
MSD 106 Performance Management	5
MSD 113 Business Ethics	5
MSD 114 Management Communication Technologies	5
MSD 210 Team Project	5
MSD 220 Management Occupation Based Instruction I	3
SCT 100 Introduction to Microcomputers	3

(Completion of one of the following specializations is required)

### Human Resource Management

<b>Specific Occupational Courses</b>		<b>20</b>
MSD 105 Labor Management Relations		5
MSD 107 Employee Training and Development		5
MSD 205 Service Sector Management (or)		
MSD 206 Project Management		5
XXX xxx Elective		5

### Human Resource Management Electives

*(A minimum of 5 credit hours from the following list is required.)*

ACC 102 Principles of Accounting II	6
BUS 1130 Document Processing	6
BUS 105 Database Applications	3
BUS 108 Word Processing	5
BUS 202 Spreadsheet Fundamentals	3
ENG 1105 Technical Communications	5
MKT 100 Introduction to Marketing	5
MKT 106 Fundamentals of Selling	5

### OR

### Operations Management

<b>Specific Occupational Courses</b>		
MSD 107 Employee Training and Development		5
MSD 202 Product/Operations Management		5
MSD 206 Project Management		5
XXX xxx Elective		5

### Operations Management Electives

*(A minimum of 5 credit hours from the following list is required.)*

MSD 105 Labor Management Relations	5
MSD 205 Service Sector Management	5
ACC 102 Principles of Accounting II	6
BUS 1130 Document Processing	6
BUS 105 Database Applications	3
BUS 108 Word Processing	5
BUS 202 Spreadsheet Fundamentals	3
ENG 1105 Technical Communications	5
MKT 100 Introduction to Marketing	5
MKT 106 Fundamentals of Selling	5

### OR

### Mining Management

MSD 234 Introduction to Mining Management	5
MSD XXX Elective	5
MSD XXX Elective	5
XXX XXX Elective	5

### Mining MSD Electives

*(A minimum of 10 credit hours from the following is required.)*

MSD 105 Labor Management Relations	5
MSD 107 Employee Training and Development	5
MSD 206 Project Management	5

### Mining Electives

*(A minimum of 5 credit hours from the following is required.)*

ACC 102 Principles of Accounting II	8
BUS 1130 Document Processing	6
BUS 105 Database Applications	3
BUS 108 Word Processing	5
BUS 202 Spreadsheet Fundamentals	3
ENG 1105 Technical Communications	5
MKT 100 Introduction to Marketing	5
MKT 106 Fundamentals of Selling	5

# Programs of Study

**MANAGEMENT AND SUPERVISORY DEVELOPMENT  
TECHNICAL SPECIALIST  
ASSOCIATE OF APPLIED SCIENCE  
DEGREE**

*Offered at the Augusta, Waynesboro, and Thomson campuses*

Entrance Dates: Fall, Winter, Spring, Summer  
 Length of Program: Varies depending on Occupational Field  
 Credit Hours Required for Graduation: 111

**Program Description:** The Management and Supervisory Development Technical Specialist associate degree program prepares experienced workers for entry into management or supervisory occupations in a variety of businesses and industries. Students are provided with learning opportunities that introduce, develop, and reinforce academic and occupational knowledge, skills, and attitudes required for job acquisition, retention, and advancement. Program graduates who are experienced workers are prepared to perform management and supervisory functions such as employee training, labor relations, employee evaluation, and employee counseling and disciplinary action. Graduates of the program receive a Management and Supervisory Development Associate of Applied Science Degree. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Management and supervision is an exciting and growing field that provides a challenging and rewarding career. A Technical Specialist degree in Management and Supervisory Development will prepare you for a career in management or supervision in a variety of businesses and industries.

## Curriculum Outline

<b>General Core Courses</b>		<b>30</b>
ENG 1101	Composition and Rhetoric I	5
MAT 1101	Mathematical Modeling <b>(or)</b>	
MAT 1111	College Algebra	5
ENG 1102	Literature and Composition <b>(or)</b>	
HUM 1101	Introduction to Humanities <b>(or)</b>	
ART 1101	Art Appreciation <b>(or)</b>	
MUS 1101	Music Appreciation	5
SPC 1101	Public Speaking	5
PSY 1101	Introduction to Psychology	5
ECO 1101	Principles of Economics <b>(or)</b>	
ECO 2106	Principles of Microeconomics <b>(or)</b>	
ECO 2105	Principles of Macroeconomics	5

<b>Occupational Courses</b>		<b>81</b>
SCT 100	Introduction to Microcomputers	3
ACC 101	Principles of Accounting I	6
MSD 100	Management Principles <b>(or)</b>	
MKT 101	Principles of Management	5
MSD 101	Organizational Behavior	5
MSD 102	Employment Law <b>(or)</b>	
MKT 103	Business Law	5
MSD 104	Human Resource Management	5
MSD xxx	Management Electives	15
XXX xxx	General Elective	5
XXX xxx	Departmentally Directed Electives	32
<i>(Departmental Electives transfer from the student's occupational field of study)</i>		

<b>Management Electives (15 hours needed)</b>		
MSD 103	Leadership	5
MSD 106	Performance Management	5
MSD 113	Business Ethics	5
MSD 114	Management Communication Technologies	5
MSD 210	Team Project	5
MSD 105	Labor Management Relations	5
MSD 107	Employee Training and Development	5
MSD 205	Service Sector Management	5
MSD 206	Project Management	5

<b>General Electives (5 hours needed)</b>		
ACC 102	Principles of Accounting II	6
BUS 1130	Document Processing	6
BUS 105	Database Applications	3
BUS 108	Word Processing	5
BUS 202	Spreadsheet Fundamentals	3
ENG 1105	Technical Communications	5
MKT 100	Introduction to Marketing	5
MKT 106	Fundamentals of Selling	5

# Programs of Study

## MANAGEMENT AND SUPERVISORY DEVELOPMENT DIPLOMA

*Offered at the Augusta and Thomson campuses*

Entrance Dates: Fall, Winter, Spring, and Summer  
 Length of Program: Day - 6 quarters  
 Evening – varies, 9-11 quarters  
 Credit Hours Required for Graduation: 90

**Program Description:** The Management and Supervisory Development program at Augusta Technical College is a sequence of courses designed to prepare students to work in first level managerial and supervisory positions in businesses and industry. Students are provided with learning opportunities that introduce, develop, and reinforce academic and occupational knowledge, skills, and attitudes required for job acquisition, retention, and advancement. Graduates of the program receive a Management and Supervisory Development diploma. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Management and supervision is an exciting and growing field that provides a challenging and rewarding career. A diploma in Management and Supervisory Development prepares the experienced worker entry into managerial or supervisory positions in a variety of businesses and industries.

### CURRICULUM OUTLINE:

<b>General Core Courses</b>	<b>18</b>
ENG 1010 Fundamentals of English I	5
ENG 1012 Fundamentals of English II	5
MAT 1011 Business Mathematics (or)	5
MAT 1012 Foundations of Mathematics	
EMP 1000 Interpersonal Relations and Professional Development	3
<b>Fundamental Occupational Courses</b>	<b>72</b>
ACC 101 Principles of Accounting I	6
MSD 100 Management Principles (or)	5
MKT 101 Principles of Management	
MKT 104 Principles of Economics	5
MSD 102 Employment Law (or)	
MKT 103 Business Law	5
MSD 104 Human Resource Management	5
MSD 106 Performance Management	5
SCT 100 Introduction to Microcomputers	3
MSD 101 Organizational Behavior	5
MSD 103 Leadership	5
MSD 113 Business Ethics	5
MSD 114 Management Communications Technology	5
MSD 210 Team Project	5
MSD 220 Management Occupation Based Instruction I	3
MSD XXX Electives in area of concentration	10
<b>MSD Electives</b>	
(A minimum of 10 credit hours from the following list is required)	
MSD 105 Labor Management Relations	5
MSD 107 Employee Training and Development	5
MSD 205 Service Sector Management	5
MSD 206 Project Management	5

### **Note:**

- MAT 111 will substitute for MAT 1011.

## SUPERVISOR/MANAGER SPECIALIST TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta, Waynesboro, and Thomson campuses*

Entrance Dates: Fall, Winter, Spring, and Summer  
 Length of Program: Day - varies  
 Evening – varies  
 Credit Hours Required for Graduation: 20

**Program Description:** This specialized technical certificate program of study is designed to develop and improve the skills required to manage a work group or labor force. The program includes management strategy for hiring, training, and retaining good employees as well as learning how to motivate, lead, and evaluate individuals and groups in the workplace. This technical certificate is designed to meet the needs of employers and their managers by offering needed training that does not conflict with work schedules. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** This TCC will allow for newly promoted supervisors to attain training in decision making, personnel relations, and performance evaluation – three significant areas necessary for manager supervisors. It would also act as a feeder to encourage further education and training provided in the Management and Supervision diploma and degree programs..

### CURRICULUM OUTLINE:

MSD 100 Management Principles (or)	5
MKT 101 Principles of Management	5
MSD 103 Leadership	5
MSD 104 Human Resource Management	5
MSD 102 Employment Law (or)	
MKT 103 Business Law (or)	
MSD 105 Labor Management Relations	5

# Programs of Study

## MARKETING MANAGEMENT ASSOCIATE OF APPLIED SCIENCE DEGREE

*Offered at the Augusta campus*

Entrance Dates: Fall, Winter, Spring, and Summer  
Length of Program: Eight Quarters  
Credit Hours Required for Graduation: 98

**Program Description:** The Marketing Management associate degree program is designed to prepare students for employment in a variety of positions in today's marketing and management fields. The Marketing Management program provides learning opportunities that introduce, develop, and reinforce academic and occupational knowledge, skills, and attitudes required for job acquisition, retention, and advancement. Additionally, the program provides opportunities to upgrade present knowledge and skills or to retrain in the area of marketing management. Graduates of the program receive a Marketing Management Associate of Applied Science degree with a specialization in marketing administration or entrepreneurship. High school graduation or GED is required for admission into this program.

**Employment Opportunities:** Marketing Management graduates are qualified to pursue careers with companies in sales, customer service, and management positions. Entrepreneurial opportunities are also pursued by graduates.

### Curriculum Outline

### Credits

#### General Core Courses

30

ENG 1101	Composition and Rhetoric I	5
MAT 1101	Mathematical Modeling (or)	
MAT 1111	College Algebra	5
ENG 1102	Literature and Composition (or)	
HUM 1101	Introduction to Humanities (or)	
ART 1101	Art Appreciation (or)	
MUS 1101	Music Appreciation	5
SPC 1101	Public Speaking	5
PSY 1101	Introduction to Psychology	5
ECO 1101	Principles of Economics (or)	
ECO 2106	Principles of Microeconomics (or)	
ECO 2105	Principles of Macroeconomics	5

#### Occupational Courses

23

MKT 100	Introduction to Marketing	5
MKT 101	Principles of Management (or)	5
MSD 100	Management Principles	
MKT 103	Business Law	5
MKT 106	Fundamentals of Selling	5
SCT 100	Introduction to Microcomputers	3

(Completion of one of the following specializations is required)

### Marketing Administration

#### Specific Occupational Courses

45

ACC 101	Principles of Accounting I	6
MKT 108	Advertising	4
MKT 109	Visual Merchandising	4
MKT 110	Entrepreneurship	8
MKT 122	Buying and Merchandise Management	5
MKT 130	Marketing Administration O.B.I. I	3
MKT 131	Marketing Administration O.B.I. II	3
XXX xxx	Electives	12

#### Marketing Administration Electives

(A minimum of 12 credit hours from the following is required for the Marketing Administration specialization.)

ACC 102	Principles of Accounting II	6
BUS 1130	Document Processing	5
BUS 105	Database Applications	6
BUS 202	Spreadsheet Fundamentals	3
BUS 108	Word Processing	5
BUS 161	Desktop Publishing I	3
MKT 123	Small Business Management	5
MSD 101	Organizational Behavior	5
MSD 103	Leadership	5
MSD 104	Human Resource Management	5
PSY 151	Master Student Techniques	3

### OR

### Entrepreneurship

#### Specific Occupational Courses

45

ACC 101	Principles of Accounting I	6
ACC 102	Principles of Accounting II	6
MKT 108	Advertising	4
MKT 110	Entrepreneurship	8
MKT 122	Buying and Merchandise Management	5
MKT 123	Small Business Management	5
MKT 134	Entrepreneurship O.B.I. I	3
MKT 135	Entrepreneurship O.B.I. II	3
XXX xxx	Electives	5

#### Entrepreneurship Electives

(A minimum of 5 credit hours from the following is required for the Entrepreneurship specialization.)

BUS 1130	Document Processing	6
BUS 105	Database Applications	3
BUS 202	Spreadsheet Fundamentals	3
BUS 108	Word Processing	5
BUS 161	Desktop Publishing I	3
MKT 109	Visual Merchandising	4
MSD 101	Organizational Behavior	5
MSD 103	Leadership	5
MSD 104	Human Resource Management	5
PSY 151	Master Student Techniques	3

# Programs of Study

## MARKETING MANAGEMENT DIPLOMA

*Offered at the Augusta campus*

Entrance Dates: Fall, Winter, Spring, and Summer  
 Length of Program: Five Quarters  
 Credit Hours Required for Graduation: 85

**Program Description:** The Marketing Management program is designed to prepare students for employment in a variety of positions in today's marketing and management fields. The Marketing Management program provides learning opportunities that introduce, develop, and reinforce academic and occupational knowledge, skills, and attitudes required for job acquisition, retention, and advancement. Additionally, the program provides opportunities to upgrade present knowledge and skills or to retrain in the area of marketing management. Graduates of the program receive a Marketing Management diploma with a specialization in marketing administration or entrepreneurship. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Marketing Management graduates are qualified to pursue career opportunities with companies in sales, customer service, and management training positions. Entrepreneurial opportunities are also pursued by graduates.

### Curriculum Outline

### Credits

#### General Core Courses

18

ENG 1010	Fundamentals of English I	5
ENG 1012	Business Communications	5
MAT 1011	Business Mathematics	5
MAT 1012	Foundations of Mathematics	5
EMP 1000	Interpersonal Relations and Professional Development	3

#### Occupational Courses

28

MKT 100	Introduction to Marketing	5
MKT 101	Principles of Management (or)	5
MSD 100	Management Principles	5
MKT 103	Business Law	5
MKT 104	Principles of Economics	5
MKT 106	Fundamentals of Selling	5
SCT 100	Introduction to Microcomputers	3

#### Note:

- MAT 111 will substitute for MAT 1011.

(Completion of one specialization is required)

## MARKETING ADMINISTRATION

### Credits

#### Specific Occupational Courses

39

ACC 101	Principles of Accounting I	6
MKT 122	Buying and Merchandise Management	5
MKT 108	Advertising	4
MKT 109	Visual Merchandising	4
MKT 110	Entrepreneurship	8
MKT 130	Marketing Administration O.B.I. I	3
MKT 131	Marketing Administration O.B.I. II	3
XXX xxx	Electives	6

#### Marketing Administration Electives

(A minimum of 6 credit hours from the following is required for the Marketing Administration specialization.)

ACC 102	Principles of Accounting II	6
BUS 1130	Document Processing	6
BUS 105	Database Applications	3
BUS 202	Spreadsheet Fundamentals	3
BUS 108	Word Processing	5
BUS 161	Desktop Publishing I	3
MKT 123	Small Business Management	5
MSD 101	Organizational Behavior	5
MSD 103	Leadership	5
PSY 151	Master Student Techniques	3

### OR

## ENTREPRENEURSHIP

#### Specific Occupational Courses

39

ACC 101	Principles of Accounting I	6
ACC 102	Principles of Accounting II	6
MKT 108	Advertising	4
MKT 110	Entrepreneurship	8
MKT 122	Buying and Merchandise Management	5
MKT 123	Small Business Management	5
MKT 134	Entrepreneurship O.B.I. I	3
XXX xxx	Electives	2+

#### Entrepreneurship Electives

(A minimum of 2 credit hours from the following is required for the Entrepreneurship specialization.)

BUS 1130	Document Processing	6
BUS 105	Database Applications	3
BUS 202	Spreadsheet Fundamentals	3
BUS 108	Word Processing	7
BUS 161	Desktop Publishing I	3
MKT 109	Visual Merchandising	4
MKT 135	Entrepreneurship O.B.I. II	3
MSD 101	Organizational Behavior	5
MSD 103	Leadership	5
PSY 151	Master Student Techniques	3

# Programs of Study

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## ENTREPRENEURSHIP STUDIES TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Thomson campus*

Entrance Dates: Summer, Fall, Winter, and Spring  
Length of Program: One Quarter  
Credit Hours Required for Graduation: 15

**Program Description:** The Entrepreneurship program is designed to provide learning opportunities for students that have a desire to become entrepreneurs and attain self-sufficiency. The Entrepreneurship program provides learning opportunities that will assist in planning as it relates to owning and operating a business, marketing concepts, licensing, financing, accounting, record keeping systems, and the legal aspects of owning and operating a business. High school graduation or GED is required for graduation from this program.

**Employment Opportunities:** The Entrepreneurship program prepares the student for self-sufficiency as related to owning and operating one's own business.

### Curriculum Outline

### **Credits**

<b>Occupational Courses</b>		<b>15</b>
SMB 101	Planning for Success	5
SMB 102	Business Startup Fundamentals	5
SMB 103	Legal Environment for Small Business	5

# Programs of Study

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## PARALEGAL STUDIES ASSOCIATE OF APPLIED SCIENCE DEGREE

*Offered at the Augusta campus*

Entrance Dates: Fall and Spring  
Length of Program: Eight Quarters  
Credit Hours Required for Graduation: 115

**Program Description:** The Paralegal Studies program is a sequence of courses that prepares students for positions in the paralegal profession. Learning opportunities develop academic, technical and professional knowledge and skills required for job acquisition, retention, and advancement. The knowledge and skills emphasized in this program include ethical obligations; research state and federal law; legal correspondence preparation; family law matters; basic concepts of real property law, criminal law and procedure, civil litigation, tort law, and substantive contract law; and wills, trusts, and probate. The program of study emphasizes opportunities that provide students with specialized legal knowledge and skills required to aid lawyers in the delivery of legal services. Program graduates receive a Paralegal Studies Associate of Applied Science degree. High school graduation or GED is required for admission into this program.

**Employment Opportunities:** Graduates of the Paralegal Studies Program can find employment opportunities in corporate legal departments, government agencies, and law firms specializing in areas of law such as real property law; criminal law; civil litigation; tort law; contract law; and probate law. Independent contracting opportunities with legal entities are also pursued by graduates. Students learn the skills necessary to aid in the delivery of legal services.

### Electives

(A minimum of 10 credit hours from the following is required.)

ACC 101	Principles of Accounting I	6
BUS 100	Introduction to Keyboarding	3
BUS 1130	Document Processing	6
BUS 108	Word Processing	5
BUS 202	Spreadsheet Applications	3
BUS 261	Presentation Applications	3
CRJ 104	Principles of Law Enforcement	5
CRJ 162	Methods of Criminal Investigation	5
MSD 102	Employment Law	5

<u>Curriculum Outline</u>	<u>Credits</u>
<b>General Core Courses</b>	<b>30</b>
ENG 1101 Composition and Rhetoric	5
MAT 1101 Mathematical Modeling (or)	
MAT 1111 College Algebra	5
ENG 1102 Literature and Composition (or)	
HUM 1101 Introduction to Humanities (or)	
ART 1101 Art Appreciation (or)	
MUS 1101 Music Appreciation	5
SPC 1101 Public Speaking	5
PSY 1101 Introduction to Psychology	5
ECO 1101 Principles of Economics (or)	
SOC 1101 Introduction to Sociology	5
<b>Occupational Courses</b>	<b>85</b>
SCT 100 Introduction to Microcomputers	3
PLS 101 Introduction to Law and Ethics	5
PLS 102 Legal Research	5
PLS 103 Legal Writing	5
PLS 104 Family Law	5
PLS 105 Real Estate Law	5
PLS 108 Criminal Law and Criminal Procedure	5
PLS 109 Civil Litigation	5
PLS 110 Wills, Trusts, Probate, and Administration	5
PLS 111 Tort Law	5
PLS 112 Law Office Management	5
PLS 116 Contracts and Commercial Law	5
PLS 117 Advanced Research and Writing	5
PLS 118 Paralegal O.B.I.	12
XXX xxx Electives	10

# Programs of Study

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## INFORMATION AND ENGINEERING TECHNOLOGY

### CISCO NETWORK SPECIALIST (CCNA) TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta and Thomson campuses*

Entrance Dates: Summer and Winter  
 Length of Program: Four Quarters  
 Credit Hours Required for Graduation: 24

**Program Description:** The purpose of this Cisco Network Specialist certificate is to teach students the skills needed to design, build, and maintain small to medium-size networks. This provides opportunity to enter the workforce and/or further their education and training in the computer networking field. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** According to the Information Technology Association of America (ITAA) employers will create a demand in this country for roughly 1.6 million IT workers this year. With demand for appropriately skilled people far exceeding supply, half of these positions--843,328--will likely go unfilled. In a total U.S. IT workforce of 10 million, that shortfall means one job in every dozen will be vacant.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>Occupational Courses</b>	<b>24</b>
CIS 2321 Introduction to LAN and WAN	6
CIS 2322 Introduction to WANs and Routing	6
CIS 276 Advanced Routers and Switches	6
CIS 277 WAN Design	6

**Notes:**

A grade of "C" or higher is required for all courses with the prefixes CIS.

### CISCO CCNP SPECIALIST TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta Campus*

Entrance Dates: Summer  
 Length of Program: Four Quarters  
 Credit Hours Required for Graduation: 24

Students must have received their CCNA Certification or have completed the courses in the Cisco CCNA Specialist technical certificate program.

**Program Description:** The Cisco CCNP Specialist certificate program is designed to prepare the experienced LAN & WAN technician to take the four Cisco Certified Networking Professional (CCNP) exams. In addition to preparing students for the exams, the curriculum provides the skill sets preparation that will enable students to perform associated tasks. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** According to the Information Technology Association of America (ITAA) employers will create a demand in this country for roughly 1.6 million IT workers this year. With demand for appropriately skilled people far exceeding supply, half of these positions will likely go unfilled. In a total U.S. IT workforce of 10 million, that shortfall means one job in every dozen will be vacant.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>Occupational Courses</b>	<b>24</b>
CIS 2501 Building Scalable Cisco Networks	6
CIS 2502 Building Cisco Remote Access Networks	6
CIS 2503 Building Cisco Multilayer Switched Networks	6
CIS 2504 Cisco Internetworking Troubleshooting	6

**Notes:**

A grade of "C" or higher is required for all courses with the prefixes CIS.

# Programs of Study

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## PC REPAIR AND NETWORK TECHNICIAN TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta, Waynesboro, and Thomson Campuses*

Entrance Dates: Fall and Spring  
Length of Program: Two Quarters  
Credit Hours Required for Graduation: 27

**Program Description:** The objective of this 18-hour certificate program is providing students with the following CompTIA certification objectives: High school graduation or GED is required for admission to this program.

**A+ Service Technician:** Installation, configuration, and upgrading, diagnosing and troubleshooting, safety and preventive maintenance, motherboard/processors/memory, printers, portable systems, introduction to basic networking.

**Network+:** Basic networking knowledge (OSI Model), physical layer, data link layer, network layer, transport layer, TCP/IP fundamentals, TCP/IP Suite: utilities, remote connectivity, security, implementing the installation of the network, maintaining and supporting the network, and troubleshooting the network. This program defines network architecture, identifies infrastructure components, monitors and analyzes network performance, and design and management of Enterprise TCP/IP networks.

**Employment Opportunities:** The purpose of the PC Repair and Network Technician program is to prepare the student to attain CompTIA, A+ and Network+ industry certification for entry-level microcomputer and networking support positions in the field of Information Technology.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>Occupational Courses</b>	<b>27</b>
CIS XXX A Microcomputer Operation System Course	6
CIS 106 Computer Concepts	5
CIS 1140 Networking Fundamentals (or)	
CIS 2321 Introduction to LAN and WAN	6
CIS 122 Microcomputer Installation and Maintenance (A+)	7
SCT 100 Introduction to Microcomputers	3

### Notes:

A grade of "C" or higher is required for all courses with the prefixes CIS

# Programs of Study

## COMPUTER PROGRAMMING ASSOCIATE OF APPLIED SCIENCE DEGREE

*Offered at the Augusta Campus*

Entrance Dates: Fall, Winter, Spring and Summer  
Length of Program: Eight Quarters  
Credit Hours Required for Graduation: 110

**Program Description:** The Computer Programming associate degree program consists of courses designed to provide students with an understanding of the concepts, principles, and techniques required in processing business data. Those interested in a Computer Programming Associate of Applied Science degree should be highly motivated individuals who are interested in becoming an information technology professional. Program graduates are to be competent in programming languages such as PHP, Python, COBOL, RPG, and Visual BASIC; specific areas of data base management, systems analysis and design, and networking concepts; and the general areas of humanities or fine arts, social or behavioral sciences, and natural sciences or mathematics. Recommended electives include courses in Java, Java Script, HTML, SQL, microcomputer hardware and software courses, and additional accounting courses. A high school diploma or GED is required for admission to this program.

**Employment Opportunities:** According to Bureau of Labor Statistics Office of Employment Projections, the need for computer programmers/systems analysts is expected to increase by 94% by the year 2008. Program graduates receive a Computer Programming Associate of Applied Science degree and are qualified for jobs as entry-level business applications programmers.

### Curriculum Outline

### Credits

General Core Courses		30
ENG 1101	Composition and Rhetoric I	5
ENG 1102	Literature and Composition (or)	
HUM 1101	Introduction to Humanities (or)	
ART 1101	Art Appreciation (or)	
MUS 1101	Music Appreciation	5
SPC 1101	Public Speaking (or)	
ENG 1105	Technical Communications	5
MAT 1101	Mathematical Modeling (or)	
MAT 1111	College Algebra	5
PSY 1101	Introduction to Psychology	5
ECO xxx	An economics course	5
Occupational Courses		25
CIS xxxx	An Operating Systems Course	6
CIS 105	Program Design and Development	5
CIS 106	Computer Concepts	5
SCT 100	Introduction to Microcomputers	3
CIS 1140	Networking Fundamentals (or)	
CIS 2321	Introduction to LAN and WAN	6

### Specific Occupational Courses

47

ACC 101	Principles of Accounting I	6
CIS 112	Systems Analysis and Design	6
CIS 214	Database Management	6
CIS XXX	**Programming Language Courses (5)	35
CIS 2201	*HTML (or)	
CIS 2202	*XHTML (or)	
CIS 122	*Microcomputer Installation and Maintenance (or)	
CIS 2191	*Internet Fundamentals (or)	
CIS 2200	*XML	
CIS XXX	*Programming Language Course	

\*Students must take one of these electives:

\*\*Students must complete a minimum of 35 credit hours from the following programming language courses (see language courses below), with a mandatory 14 credit hours in the same language.

### Beginning Programming Language Courses

CIS 157	Introduction to Visual Basic	7
CIS 250	Introduction to RPG Programming	7
CIS 252	Introduction to Java Programming	7
CIS 260	Introduction to Fourth Generation Languages	7
CIS 282	Introduction to C++ Programming	7
CIS 1513	Beginning COBOL	7
CIS 2161	SQL Programming	7
CIS 2511	Beginning Python Programming	7
CIS 2451	Introduction to PHP Programming	7
CIS 2710	Midrange Programming I	7

### Intermediate and Advanced Programming Language Courses

CIS 149	Advanced C++ Programming	7
CIS 251	Advanced RPG Programming	7
CIS 280	Advanced Systems Project	7
CIS 282	Introduction to C++ Programming	7
CIS 2421	Intermediate Java Programming	7
CIS 2431	Advanced Java Programming	7
CIS 2441	Advanced Programming Topics	7
CIS 2513	Advanced COBOL	7
CIS 2570	Advanced Visual BASIC Programming	7
CIS 2512	Advanced Python Programming	7
CIS 2452	Advanced PHP Programming	7
CIS 2711	Midrange Programming II	7

### Notes:

CIS 2201 or CIS 2202 is a prerequisite for several programming language courses. A grade of "C" or higher is required for MAT 1101/1111, ENG 1101, and all courses with the prefixes CIS and ACC. MAT 1101/1111 is a prerequisite for all CIS courses.

# Programs of Study

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## COMPUTER PROGRAMMING Diploma

Offered at the Augusta Campus

Entrance Dates: Fall, Winter, Spring, and Summer  
 Length of Program: Six Quarters  
 Credit Hours Required for Graduation: 90

**Program Description:** The Computer Programming diploma program consists of courses designed to provide students with an understanding of the concepts, principles, and techniques required in processing business data. Those interested in a Computer Programming diploma program should be highly motivated individuals who are interested in becoming an information technology professional. Program graduates are to be competent in programming languages such as PHP, Python, COBOL, RPG, and Visual BASIC; specific areas of data base management, systems analysis and design, and networking concepts; and the general areas of humanities or fine arts, social or behavioral sciences, and natural sciences or mathematics. Additional programming language electives include Java and SQL. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** According to Bureau of Labor Statistics Office of Employment Projections, the need for computer programmers/systems analysts is expected to increase by 94% by the year 2008. Program graduates receive a Computer Programming diploma and are qualified for jobs as entry-level business applications programmers.

### Curriculum Outline

### Credits

<b>General Core Courses</b>		<b>18</b>
EMP 1000	Interpersonal Relations & Professional Development	3
ENG 1010	Fundamentals of English I	5
ENG 1012	Fundamentals of English II	5
MAT 1013	Algebraic Concepts	5
<b>Occupational Courses</b>		<b>25</b>
CIS xxxx	An Operating Systems Course	6
CIS 105	Program Design and Development	5
CIS 106	Computer Concepts	5
SCT 100	Introduction to Microcomputers	3
CIS 1140	Networking Fundamentals <b>(or)</b>	
CIS 2321	Introduction to LAN and WAN	6
<b>Specific Occupational Courses</b>		<b>47</b>
CIS 112	Systems Analysis and Design	6
CIS 214	Database Management	6
CIS XXX	**Programming Language Courses (5)	35

\*\*Students must complete a minimum of 35 credit hours from the following programming language courses (see language courses below), with a mandatory 14 credit hours in the same language:

### **Beginning Programming Language Courses**

CIS 157	Introduction to Visual Basic	7
CIS 250	Introduction to RPG Programming	7
CIS 252	Introduction to Java Programming	7
CIS 260	Introduction to Fourth Generation Languages	7
CIS 282	Introduction to C++ Programming	7
CIS 1513	Beginning COBOL	7
CIS 2161	SQL Programming	7
CIS 2511	Beginning Python Programming	7
CIS 2451	Introduction to PHP Programming	7
CIS 2710	Midrange Programming I	7

### **Intermediate and Advanced Programming Language Courses**

CIS 149	Advanced C++ Programming	7
CIS 251	Advanced RPG Programming	7
CIS 280	Advanced Systems Project	7
CIS 282	Introduction to C++ Programming	7
CIS 2421	Intermediate Java Programming	7
CIS 2431	Advanced Java Programming	7
CIS 2441	Advanced Programming Topics	7
CIS 2513	Advanced COBOL	7
CIS 2570	Advanced Visual BASIC Programming	7
CIS 2512	Advanced Python Programming	7
CIS 2452	Advanced PHP Programming	7
CIS 2711	Midrange Programming II	7

NOTE: CIS 2201 or CIS 2202 is a prerequisite for several programming language courses. A grade of "C" or higher is required for all courses with the prefix "CIS".

# Programs of Study

## E-COMMERCE WEB PROGRAMMING ASSOCIATE OF APPLIED SCIENCE DEGREE

*Offered at the Augusta Campus*

Entrance Dates: Fall, Winter, Spring and Summer  
Length of Program: Eight Quarters  
Credit Hours Required for Graduation: 110

**Program Description:** E-Commerce Web Programming will prepare students for entry-level positions in the field of E-Commerce Web Programming & Development. Major emphasis is on creating database-driven web pages for client-server based intranets and the Web. Skills include programming techniques in HTML, JavaScript, Perl and CGI, Visual Basic, Active-X, ADO, ODBC, SQL, and JAVA. This program focuses on the basic skills needed to do the actual programming that will integrate web pages and programs with a database. Graduates of the program will receive an E-Commerce Web Programming Associate of Applied Science degree. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** As companies grow, so do their networks. They need computer programs that access their databases and that will run on a server to save the need to install programs on every computer. These programs may be run from a Web Browser and will be accessible from any computer on a network or the World Wide Web. The demand for e-commerce web programmers will continue to increase as more and more companies turn to e-commerce solutions for both internal transactions and World Wide Web business. The demand for e-commerce web programmers exceeds supply now and should continue for some time.

### Curriculum Outline

**Credits**

#### **General Core Courses**

**30**

ENG 1101	Composition and Rhetoric I	5
MAT 1101	Mathematical Modeling (or)	
MAT 1111	College Algebra	5
ENG 1102	Literature and Composition (or)	
HUM 1101	Introduction to Humanities (or)	
ART 191	Art Appreciation (or)	
MUS 1101	Music Appreciation	5
ENG 1105	Technical Communications (or)	
SPC 1101	Public Speaking	5
PSY 1101	Introduction to Psychology	5
ECO xxx	An economics course	5

#### **Occupational Courses**

**25**

CIS 105	Program Design and Development	5
CIS 106	Computer Concepts	5
CIS 1140	Networking Fundamentals (or)	6
CIS 2321	Introduction to LAN and WAN	
CIS xxxx	An operating systems course	6
SCT 100	Introduction to Microcomputers	3

#### **Specific Occupational Courses**

**55**

ACC 101	Principles of Accounting I	6
CIS 157	Introduction to Visual Basic	7
CIS 214	Database Management	6
CIS 252	Introduction to Java Programming	7
CIS 2201	HTML Fundamentals (or)	3
CIS 2202	XHTML Fundamentals	3
CIS 2261	JavaScript	4
CIS 2271	Perl and CGI Programming	4
CIS 2421	Intermediate Java Programming	7
CIS 2570	Advanced Visual Basic	7
CIS xxxx	*Occupationally Related Elective(s)	4

\*Students must take one of the following Occupational Related Electives.

#### **Occupational Related Electives**

CIS 2202	*XHTML	7
CIS 2200	*XML	6
CIS 2431	Advanced JAVA Programming	7
CIS 112	Systems Analysis and Design	6
CIS 250	Introduction to RPG Programming	7
CIS 251	Advanced RPG Programming	7
CIS 1513	Beginning COBOL	7
CIS 2191	Internet Business Fundamentals	5
CIS 2513	Advanced COBOL	7
CIS 2511	Introduction to Python Programming	7
CIS 2451	Introduction to PHP Programming	7
CIS 2512	Advanced Python Programming	7
CIS 2452	Advanced PHP Programming	7
CIS 2161	SQL Programming	7
CIS 2710	Midrange Programming I	7
CIS 2711	Midrange Programming II	7

#### **Notes:**

A grade of "C" or higher is required for MAT 1101/1111, ENG 1101, and all courses with the prefixes CIS and ACC. MAT 1101 or 1111 is a prerequisite for all CIS courses.

# Programs of Study

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## COMPUTER DESIGN DRAFTING DIPLOMA

*Offered at the Augusta campus*

Entrance Dates: Fall and Spring  
 Length of Program: Five Quarters  
 Credit Hours Required for Graduation: 65

**Program Description:** The Computer Design Drafting program at Augusta Technical College is a sequence of specific discipline courses designed to prepare students to become Drafters for the Architectural or Mechanical Engineering Technology disciplines. Core classes provide the student with background and skills in mathematics, communications, computer skills, engineering materials, interpersonal relations and professional development. This program of study emphasizes expertise in computer-aided drafting while creating working drawings for commercial buildings and mechanical designs. High school graduation or GED is required for admission to this program.

Instruction is delivered through a combination of lecture and laboratory work to provide students with both theory and application in Computer Design Drafting relating to the Architectural or Mechanical Engineering Technology disciplines.

**Employment Opportunities:** Job skills in the engineering technology disciplines are increasing. Within the engineering technology disciplines, support jobs such as computer-aided drafting (CAD) will also be increasing. These support jobs require the technician to have the latest training in CAD and technical design techniques. These training skills and techniques may be acquired in Computer Design Drafting. Computer Design Drafting is a one-year technical diploma program offering the latest skills in the area of Architectural or Mechanical computer-aided drafting. As students graduate, they may find work with Architects, Engineers, and industry as a Design Drafter. As a Design Drafter, the technician will produce engineering drawings necessary for the construction of buildings and consumer products.

### Curriculum Outline

**Credits**

<b>General Core Courses</b>		<b>23</b>
ENG 1010	Fundamentals of English I	5
ENG 1012	Fundamentals of English II	5
MAT 1013	Algebraic Concepts	5
MAT 1015	Geometry and Trigonometry	5
EMP 1000	Interpersonal Relations and Professional Development	3

<b>Occupational Courses</b>		<b>23</b>
DDF 191	Engineering Graphics	3
EGT 100	Fundamentals of Engineering Technology	4
TDG 110	Statics and Strength of Materials	5
TDG 114	Computer-aided System Customizing	4
SCT 100	Introduction to Microcomputers	3
XXX xxx	Occupational Elective	4

### **AND one of the Following Specializations**

#### **Specific Occupational Courses** **19**

<b>Architectural Specialization</b>		
TDG 111	Architectural Site, Floor Plan Graphics	4
TDG 112	Arch, Mech, and Electrical Planning and Drawing	4
TDG 113	Architectural Materials and Specifications	4
TDG 116	Architectural Presentation	4
TDG 121	Major Project	3

**OR**

<b>Mechanical Specialization</b>		
MET 204	Computer-aided Drafting	4
MET 215	Solids Modeling	4
MET 207	(CAD/CAM) Computer-Aided Design and Manufacturing	4
TDG 120	Manufacturing Processes	4
TDG 121	Major Project	3

<b>Suggested Occupational Electives</b>		
AMF 150	Manufacturing Quality Control	4
MET 204	Computer-aided Drafting	4
TDG 111	Architectural Site, Floor Plan Graphics	4
MET 215	Solids Modeling	4

# Programs of Study

## ELECTRONICS AND COMPUTER ENGINEERING TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE DEGREE

Offered at the Augusta campus

Entrance Dates: Fall and Spring  
Length of Program: Eight Quarters  
Credit Hours Required for Graduation: 117

**Program Description:** The Electronics and Computer Engineering Technology program is a planned sequence of carefully developed college-level courses designed to prepare students to work in the field of engineering technology. The program of study emphasizes the application of scientific methods, and mathematical knowledge in support of engineering practices. Program graduates are qualified as engineering technicians with a specialization in, computer engineering technology, electronics engineering technology, or instrumentation and control engineering technology. High school graduation or GED is required for admission to this program.

**Program Objectives:** Graduates of the program will:

- Demonstrate entry-level skills to be successfully employed in an industrial environment.
- Demonstrate a sound understanding of scientific principles and engineering practices governing electrical/electronic systems and processes.
- Demonstrate an ability to solve technical problems by applying academic, analytical, team building and communication skills effectively.
- Possess a comprehensive understanding of workplace ethics, societal issues and the need to continuously learn adapt and improve one's skills.

**Employment Opportunities:** The increasing complexity of modern technology has resulted in an increased demand for engineering technicians. Graduates will be qualified to work with engineers and scientists in developing, producing and maintaining technically advanced products and processes. High placement rates, outstanding starting salaries and potential for career advancement are strengths of the program.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>General Core Courses</b>	<b>40</b>
ENG 1101 Composition and Rhetoric I	5
MAT 1111 College Algebra	5
MAT 1113 Precalculus	5
ENG 1102 Literature and Composition (or)	
HUM 1101 Introduction to Humanities (or)	
ART 1101 Art Appreciation (or)	
MUS 1101 Music Appreciation	5
ENG 1105 Technical Communications (or)	
SPC 1101 Public Speaking	5
SOC 1101 Introduction to Sociology (or)	
PSY 1101 Introduction to Psychology (or)	5
ECO xxx Economics Course	
PHY 1111 Mechanics	
PHY 1112 Electricity and Magnetism (or)	5
CHM 1213 Inorganic Chemistry	5
<b>Fundamental Occupational Courses</b>	<b>32</b>
DDF 191 Engineering Graphics I	3
EGT 100 Fundamentals of Engineering Technology	4
EET 101 D.C. Circuit Analysis	5
EET 102 A.C. Circuit Analysis I	5
EET 191 Computer Programming Fundamentals	5
MAT 1131 Differential Calculus	5
PHY 1113 Fluids, Heat, Sound, and Light	5

### AND

(Students must choose one of the following areas of specialization)

<b>Computer Engineering Technology Specialization Courses</b>			<b>45</b>
EET	103	A.C. Circuit Analysis II	5
EET	105	Electronic Devices	5
EET	201	Digital Fundamentals	5
EET	203	Microcomputer Fundamentals	5
EET	206	Computer Systems and Applications	5
EET	251	Networking Systems*	5
EET	256	Advanced Networking Applications**	5
XXX	xxx	Occupational Elective(s) (minimum of one course in Network System Design)	10

### OR

<b>Electronics Engineering Technology Specialization Courses</b>			<b>45</b>
EET	103	A.C. Circuit Analysis II	5
EET	105	Electronic Devices	5
EET	201	Digital Fundamentals	5
EET	203	Microcomputer Fundamentals	5
EET	204	Linear Integrated Circuits	5
EET	206	Computer Systems and Applications	5
EET	251	Networking Systems*	5
ICT	201	Electromechanical Devices	5
XXX	xxx	Occupational Elective(s)	5

### OR

<b>Instrumentation and Control Specialization Courses</b>			<b>45</b>
EET	103	A.C. Circuit Analysis II	5
EET	105	Electronic Devices	5
EET	201	Digital Fundamentals	5
EET	203	Microcomputer Fundamentals	5
EET	206	Computer Systems and Applications	5
ICT	201	Electromechanical Devices	5
ICT	202	Control Systems	5
ICT	203	Programmable Logic Controllers	5
XXX	xxx	Occupational Elective(s)	5

### **Suggested Occupational Elective Courses**

EET	202	Semiconductor Analysis	5
EET	252	Electro/Fiberoptics Communications	5
EET	254	Industrial Electronics	5
EET	255	Advanced Microcomputer Interfacing	5
ICT	250	Control Systems II	5
ICT	252	Programmable Controllers II	5
ICT	253	Motor Controls	5
ICT	255	Industrial Distribution and Illumination	5
MET	204	Computer Aided Drafting	4

### **Notes:**

A grade of "C" or higher is required for all courses with the following prefixes: DDF, EET, ICT, MAT, CHM, and PHY. Technical electives that are not in the list of Suggested Elective Courses need to be approved by the Program Advisor.

\*May be substituted by CIS 2321.

\*\*May be substituted by CIS 2322.

# Programs of Study

## MECHANICAL ENGINEERING TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE DEGREE

*Offered at the Augusta campus*

Entrance Dates: Fall, Winter, and Spring  
Length of Program: Eight Quarters  
Credit Hours Required for Graduation: 120

**Program Description:** The Mechanical Engineering Technology program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology. It consists of a planned sequence of carefully developed college-level courses designed to prepare students to work in the field of mechanical engineering technology. Graduates will receive an associate degree with a major in Mechanical Engineering Technology with emphasis in manufacturing and design. The program of study requires the application of scientific, mathematical, and engineering knowledge and methods combined with the technical skills required for the support of engineering activities. High school graduation or GED is required for admission to this program.

### Program Objectives:

- Provide MET graduates that have an academic foundation in communication, math, science, and social sciences appropriate for a two year program at the associate degree level.
- Place MET graduates who are grounded in the underlying fundamentals of mechanical engineering technology and are well prepared for employment in technical fields and subsequent upward mobility.
- Graduates understand the operation and functionality of a variety of industrial equipment components and processes, and can apply critical thinking, problem solving techniques, and assemble data created in an industrial work environment.
- Utilize partnerships with local industry to incorporate the educational needs for MET graduates in the program content, provide internships or cooperative work experiences, involve industry in MET program advisory committee activities including classroom project work, and arrange visits to industrial plants that reinforce the technical principles learned in the classroom.
- Place MET graduates who are able perform as a team player; work well with others from diverse cultures and practice ethical behaviors in the workplace.
- Develop the skills and abilities for MET graduates to make a seamless transfer or advancement to higher level mechanical engineering or related educational programs.
- Incorporate the latest technologies in the educational process that produces graduates that are able to utilize these technologies in their job junctions and can adapt easily to changes in technology.
- Promote the MET program and opportunities for graduates within the local and surrounding communities to increase enrollment to 100 students by the year 2011.
- Place MET graduates who understand quality assurance concepts in manufacturing and can apply continuous improvement techniques to industrial plant operations.

**Employment Opportunities:** The increasing complexity of modern technology results in an increased demand for engineering technicians. Graduates will work with engineers and scientists in developing, manufacturing, distributing, and marketing new technically advanced designs and other world-class quality products in a global market. To successfully compete in this market requires all engineering technology graduates to be thoroughly knowledgeable of and skilled in computer-aided technologies such as computer-aided design, and manufacturing.

### Curriculum Outline

Credits

<b>General Core Courses</b>		<b>40</b>
ENG 1101	Composition and Rhetoric I	5
ENG 1105	Technical Communications ( <b>or</b> )	5
SPC 1101	Public Speaking	
MAT 1111	College Algebra	5
MAT 1113	Precalculus	5
ENG 1102	Literature and Composition ( <b>or</b> )	
HUM 1101	Introduction to Humanities ( <b>or</b> )	
ART 1101	Art Appreciation ( <b>or</b> )	
MUS 1101	Music Appreciation	5
PHY 1111	Mechanics	5
PSY 1101	Introductory Psychology ( <b>or</b> )	5
SOC 1101	Introduction to Sociology ( <b>or</b> )	
ECO XXX	Economics	
CHM 1213	Inorganic Chemistry	5
<b>Occupational Courses</b>		<b>27</b>
MET 191	Computer Applications for MET	4
DDF 191	Engineering Graphics I	3
EET 101	D.C. Circuit Analysis	5
EET 102	A.C. Circuit Analysis I	5
MAT 1131	Differential Calculus	5
PHY 1113	Fluids, Heat, Sound, and Light	5
<b>Specific Occupational Courses</b>		<b>53</b>
EGT 100	Fundamentals of Engineering Technology	4
MET 101	Manufacturing Processes	5
MET 202	Engineering Materials	5
MET 203	Statics	5
MET 204	Computer Aided Drafting	4
MET 208	Strength of Materials	5
MET 209	Machine Design	5
MET 210	Manufacturing Quality Control	4
MET 215	Solids Modeling	4
MET 226	Fluid Power	4
MET 260	Final Projects	4
XXX xxx	Electives	4
<b>Suggested Occupational Elective Courses</b>		
MET 207	CAD/CAM Computer Aided Design & Manufacturing	4
MET 216	Presentation Graphics & Animation	4
MET 250	Thermodynamics and Heat Transfer	4
MET 251	Dynamics	5
PHY 1112	Electricity and Magnetism	5

### Notes:

A grade of "C" or higher is required for courses with prefixes: AMF, EGT, CHM, DDF, MAT, MET, and PHY.

# Programs of Study

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## VIDEOGRAPHER/STUDIO CAMERA OPERATOR TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta campus*

Entrance Dates:	Fall
Length of Program:	Four Quarters
Credit Hours Required for Graduation:	22

### **Program Description:**

The purpose of this program is to provide learning opportunities for students in our community that have a desire to learn the skills needed for a videographer/studio camera operator for a television station. Graduates will be able to operate a broadcast video camera, studio cameras, and edit videotape. Students will have learning opportunities in the television studio operating the cameras for live broadcasts, videotaping a wide variety of news stories from distance locations, and video editing. High school graduation or GED is required for admission to this program.

### **Employment Opportunities:**

The objectives of this program are to provide the knowledge and skills necessary for an entry level job of videographer/studio camera operator and the provide learning experiences of this job including the ability to work quickly with flexible hours, working well with others in stressful situations under multiple deadlines, accountability for expensive broadcast equipment, and exercising good judgment in ethical situations.

### **Curriculum Outline**

### **Credits**

<b>General Core Courses</b>	<b>22</b>
VID 100 Television Production I	5
VID 101 Television Production II	5
VID 103 Digital Post-Production	5
VID 104 Broadcast Law and Ethics	2
VID 205 Field Video Production	5

# Programs of Study

## COMPUTER SUPPORT SPECIALIST ASSOCIATE OF APPLIED SCIENCE DEGREE

Offered at the Augusta and Thomson Campuses

Entrance Dates: All quarters  
Length of Program: Eight Quarters  
Credit Hours Required for Graduation: 110

**Program Description:** The Computer Information Systems - Computer Support Specialist associate degree program is a sequence of courses designed to provide students with an understanding of the concepts, principles, and techniques required in computer information processing. Program graduates are to be competent in the general areas of humanities or fine arts, social or behavioral sciences, and natural sciences or mathematics, as well as the technical areas of computer support of the desktop work environment, including terminology and concepts, program design and development, and computer networking. Program graduates receive a Computer Information Systems - Computer Support Specialist Associate of Applied Science degree and are qualified for employment as computer support specialists. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Today, the majority of service and industrial companies uses standalone and networked computing systems. Computers are sophisticated and require highly trained technicians to install, troubleshoot and support desktop work environments. The demand for technicians with computer skills to meet business needs is expected to continue to grow according to U.S. Bureau of Labor Statistics.

### Curriculum Outline

	<b>Credits</b>
<b>General Core Courses</b>	<b>30</b>
ENG 1101 Composition and Rhetoric I	5
MAT 1101 Mathematical Modeling (or)	
MAT 1111 College Algebra	5
ENG 1102 Literature and Composition (or)	
HUM 1101 Introduction to Humanities (or)	
ART 1101 Art Appreciation (or)	
MUS 1101 Music Appreciation	5
ENG 1105 Technical Communications (or)	
SPC 1101 Public Speaking	5
PSY 1101 Introduction to Psychology (or)	5
SOC 1101 Introduction to Sociology	
ECO XXX An Economic Course	5
<b>Occupational Courses</b>	<b>26</b>
CIS XXX A Microcomputer Operating Systems Course	6
CIS 105 Program Design and Development	5
CIS 106 Computer Concepts	5
SCT 100 Introduction to Microcomputers	3

### AND

#### **Completion of one of the following is required:**

CIS 157 Visual Basic	7
CIS 250 RPG Programming	7
CIS 252 Introduction to Java Programming	7
CIS 2511 Beginning Python Programming	7
CIS 2161 Structured Query Language (SQL)	7
CIS 2451 Introduction to PHP Programming	7

<b>Specific Occupational Courses</b>	<b>54</b>
CIS 122 Microcomputer Installation and Maintenance	7
CIS 2229 Advanced Database Techniques	6
CIS 2228 Advanced Spreadsheet Techniques	6
CIS 127 Advanced Word Processing and Desktop Publishing Techniques	6
CIS 1140 Networking Fundamentals (or)	6
CIS 2321 Introduction to LAN and WAN	

### AND

Students must take an additional **23** credit hours of occupational electives: (*students must meet prerequisites for electives or advisor approval*)

ACC 101, CIS 155, CIS 157, CIS 160, CIS 282, CIS 1115, CIS 1131, CIS 2202, CIS 2441, CIS 2149, CIS 2150, CIS 2161, CIS 2191, CIS 2261, CIS 1140 or CIS 2321, CIS 173, CIS 224, CIS 225, DIS 150.

### **Notes:**

Additional Electives are available upon advisor approval.

A grade of "C" or higher is required for SCT 100, MAT1101, MAT 1111, ENG 1101, and all courses with the prefixes CIS.

# Programs of Study

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## COMPUTER SUPPORT SPECIALIST DIPLOMA

*Offered at the Augusta, Waynesboro, and Thomson campuses*

Entrance Dates: All Quarters: Augusta  
Fall: Waynesboro  
All Quarters: Thomson  
Length of Program: Five Quarters  
Credit Hours Required for Graduation: 90

**Program Description:** The Computer Information Systems - Computer Support Specialist diploma program is designed to provide students with an understanding of the technical areas of computer support of the desktop work environment, including terminology and concepts, program design and development, and computer networking. Program graduates receive a Computer Information Systems - Computer Support Specialist diploma and are qualified for employment as computer support specialists. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Today, the majority of service and industrial companies uses standalone and networked computing systems. Computers are sophisticated and require highly trained technicians to install, troubleshoot and support desktop work environments. The demand for technicians with computer skill to meet business needs is expected to continue to grow according to U.S. Bureau of Labor Statistics.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>General Core Courses</b>	<b>18</b>
ENG 1010 Fundamentals of English I	5
ENG 1012 Fundamentals of English II	5
MAT 1013 Algebraic Concepts	5
EMP 1000 Interpersonal Relations and Professional Development	3
<b>Occupational Courses</b>	<b>26</b>
CIS xxx A microcomputer operating system course	6
CIS 105 Program Design and Development	5
CIS 106 Computer Concepts	5
SCT 100 Introduction to Microcomputers	3

### AND

**Completion of one of the following is required:**

CIS 157 Visual Basic	7
CIS 250 RPG Programming	7
CIS 252 Introduction to Java Programming	7
CIS 2511 Beginning Python Programming	7
CIS 2161 Structured Query Language (SQL)	7
CIS 2451 Introduction to PHP Programming	7

<b>Specific Occupational Courses</b>	<b>31</b>
CIS 122 Microcomputer Installation and Maintenance	7
CIS 2229 Advanced Database Techniques	6
CIS 2228 Advanced Spreadsheet Techniques	6
CIS 127 Advanced Word Processing and Desktop Publishing Techniques	6
CIS 1140 Networking Fundamentals (or)	6
CIS 2321 Introduction to LAN and WAN	

### AND

Students must take an additional **23** credit hours of occupational electives: (*students must meet prerequisites for electives or advisor approval*) ACC 101, CIS 155, CIS 157, CIS 160, CIS 282, CIS 1115, CIS 1131, CIS 2202, CIS 2441, CIS 2149, CIS 2150, CIS 2161, CIS 2191, CIS 2261, CIS 1140 or CIS 2321, CIS 173, CIS 224, CIS 225.

**Notes:** Additional Electives are available upon advisor approval.  
A grade of "C" or higher is required for SCT 100, MAT 1013, and all courses with the prefixes CIS and ENG.

# Programs of Study

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## MICROSOFT MCSA SPECIALIST TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta and Waynesboro campuses*

Entrance Dates: Spring and Fall  
 Length of Program: Three Quarters  
 Credit Hours Required for Graduation: 24

### Program Description:

The MCSA TCC program provides students with hands on and technical training in the concepts, principles, and techniques required to successfully design and implement computer networked services in a typically complex computing environment of medium to large sized business. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Networking Specialist Program graduates are in high demand by businesses with planned or existing networked computer infrastructures. Additional demand is created by the training our graduates have in specialized server skills, applications, and hardware maintenance. Bureau of Labor statistics indicate that computer networking skills will be in high demand for the foreseeable future.

**Successful competition or exemption of courses in the CompTIA A+ and Network+ Certified Professional Preparation Technical Certificate of Credit Program is required.**

<u>Curriculum Outline</u>	Credits
<b>General Core Courses</b>	<b>24</b>
CIS 2149 Implementing Windows Professional	6
CIS 2150 Implementing MS Windows Server	6
CIS 2153 Implementing MS WIN Network Infrastructure	6
CIS xxx Microsoft Networking Elective	6
<b>Electives</b>	
CIS 2160 Microsoft Exchange Server (or)	6
CIS 2162 Microsoft SQL Server (or)	
CIS 1118 Implementing Network Security	

### Notes:

**A grade of "C" or higher is required for all courses with the prefixes CIS**

## MICROSOFT ADVANCED NETWORKING TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta campus*

Entrance Dates: Summer and Winter  
 Length of Program: Three Quarters  
 Credit Hours Required for Graduation: 18

**Program Description:** The MCSE TCC program provides students with hands on and technical training in the concepts, principles, and techniques required to successfully design and implement computer networked services in a typically complex computing environment of medium to large sized business.

**This program is designed to be a continuation from the Microsoft Certified System Administrator Technical Certificate of Credit Program for those who desire the highest Microsoft networking credential, the MCSE.**

**Employment Opportunities:** Networking Specialist Program graduates are in high demand by businesses with planned or existing networked computer infrastructures. Additional demand is created by the training our graduates have in specialized server skills, applications, and hardware maintenance. Bureau of Labor statistics indicate that computer networking skills will be in high demand for the foreseeable future.

**Successful competition or exemption of courses in the CompTIA A+ and Network+ Certified Professional Preparation Technical Certificate of Credit Program and the Microsoft Certified System Administrator Technical Certificate of Credit Program are required for admission to this program.**

<u>Curriculum Outline</u>	Credits
<b>General Core Courses</b>	<b>18</b>
CIS 2154 Implementing Microsoft Windows Network Directory	6
CIS 2156 Designing a Secure Windows Network	6
CIS 2158 Designing a Windows Network Infrastructure	6

### Notes:

**A grade of "C" or higher is required for all courses with the prefixes CIS**

# Programs of Study

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## NETWORKING SPECIALIST ASSOCIATE OF APPLIED SCIENCE DEGREE

*Offered at the Augusta Campus*

Entrance Dates: Spring and Fall  
 Length of Program: Seven Quarters  
 Credit Hours Required for Graduation: 111

**Program Description:** The Networking Specialist program provides students with hands on and technical training in the concepts, principles, and techniques required to successfully design and implement computer networked services. The student will study the elements of Cisco, Microsoft, and associated technologies necessary to create these networks. The successful student will be qualified to join a networking team as a productive entry level specialist. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Networking Specialist Program graduates are in high demand by businesses with planned or existing networked computer infrastructures. Additional demand is created by the training our graduates have in specialized server skills, applications, and hardware maintenance. Bureau of Labor statistics indicate that computer networking skills will be in high demand in the foreseeable future.

### Curriculum Outline

### Credits

<b>General Core Courses</b>	<b>30</b>
ENG 1101 Composition and Rhetoric I	5
MAT 1101 Mathematical Modeling (or)	
MAT 1111 College Algebra	5
ENG 1102 Literature and Composition (or)	
HUM 1101 Introduction to Humanities (or)	
ART 1101 Art Appreciation (or)	
MUS 1101 Music Appreciation	5
ENG 1105 Technical Communications (or)	
SPC 1101 Public Speaking	5
PSY 1101 Introductory Psychology	5
ECO xxx Economics Course	5
 <b>Occupational Courses</b>	 <b>81</b>
CIS 105 Program Design and Development	5
CIS 106 Computer Concepts	5
CIS 122 Microcomputer Installation and Maintenance	7
CIS 2321 Introduction to LAN and WAN	6
CIS 2149 Implementing Microsoft Windows Professional	6
CIS 2322 Introduction to WANs and Routing	6
SCT 100 Introduction to Microcomputers	3
CIS xxx Programming Language Elective	7
CIS 276 Advanced Routers and Switches	6
CIS 277 WAN Design	6
CIS 2150 Implementing Microsoft Windows Server	6
CIS 2153 Implementing Windows Network Infrastructure	6
CIS 1114 Fundamentals of Wireless LANS	6
CIS 1118 Implementing Network Security	6

### Programming Language Electives

CIS 157	Intro to Visual BASIC Programming	7
CIS 252	Introduction to Java Programming	7
CIS 260	Introduction to Fourth Generation Languages	7
CIS 282	Introduction to C++ Programming	7
*CIS 2161	Structured Query Language	7

\*CIS 2161 is recommended as programming language elective.

### Notes:

For the program, students must take general core courses, occupational courses and complete Specific Occupational Courses.

A grade of "C" or higher is required for MAT 1101/1111, ENG 1101, and all courses with the prefixes CIS.

# Programs of Study

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## NETWORKING SPECIALIST DIPLOMA

*Offered at the Augusta Campus*

Entrance Dates: Spring and Fall  
 Length of Program: Six Quarters  
 Credit Hours Required for Graduation: 87

**Program Description:** The Networking Specialist program is designed to provide students with an understanding of the concepts, principles, and techniques required in information technology. Program graduates receive a Networking Specialist diploma and are qualified for employment as networking specialists. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Networking Specialist Program graduates are in high demand by businesses with planned or existing networked computer infrastructures. Additional demand is created by the training our graduates have in specialized server skills, applications, and hardware maintenance. Bureau of Labor statistics indicate that computer networking skills will be in high demand in the foreseeable future.

### Curriculum Outline

### **Credits**

#### **General Core Courses**

**18**

EMP 1000	Interpersonal Relations and Professional Dev	3
ENG 1010	Fundamentals of English I	5
ENG 1012	Fundamentals of English II	5
MAT 1013	Algebraic Concepts	5

#### **Occupational Courses**

**69**

CIS 105	Program Design and Development	5
CIS 106	Computer Concepts	5
CIS 122	Microcomputer Installation and Maintenance	7
CIS 2149	Implementing Microsoft Windows Professional	6
CIS 2150	Implementing Microsoft Windows Server	6
CIS 2153	Implementing Microsoft Windows Networking Infrastructure	6
CIS 2321	Introduction to LAN and WAN	6
CIS 2322	Introduction to WANs and Routing	6
CIS 276	Advanced Routers and Switches	6
CIS 277	WAN Design	6
CIS xxx	Language elective course approved by advisor	7
SCT 100	Introduction to Microcomputers	3

### Language Electives

CIS 157	Introduction to Visual BASIC Programming	7
CIS 252	Introduction to Java Programming	7
CIS 260	Introduction to Fourth Generation Languages	7
CIS 282	Introduction to C++ Programming	7
*CIS 2161	Query Language	7

**\*CIS 2161 is recommended as a programming language elective.**

### **Notes:**

A grade of "C" or higher is required for all courses with the prefixes CIS.

# Programs of Study

## MEDIA COMMUNICATIONS TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE DEGREE

Offered at the Augusta Campus

Entrance Dates: Fall  
Length of Program: Six Quarters  
Credit Hours Required for Graduation: 110-113

**Program Description:** The Media Communication program is designed to educate the student of the knowledge and skill sets needed to have a successful and rewarding career in Graphic Design, Illustration, Web Design and Animation. Designed with the artistic and imaginative student in mind, the program will train you in the foundations needed to solve complex design problems. The student will learn to merge aesthetics with the practical applications of design that will create meaningful design solutions. Students are educated with a comprehensive working knowledge of visual expression as a means of developing and then communicating ideas. These include classes in color, the principles of design, drawing, typography and computer graphics applications. In today's design industry the boundaries between visual communication disciplines are blurring. High school graduation or GED is required for admission to this program:

**Employment Opportunities:** Opportunities for employment as a media communications specialist are available in small and large companies throughout the country. An individual with a Media communication degree may pursue career opportunities in print media production, commercial as well as private, newspapers, advertising firms, television production media, and web based media. The jobs an individual with this certificate may pursue could be one of many such as, graphic designer, graphic artist, graphic typographer, web designer, printed media production, cost estimator, or advertising assistant. Graphic design is an ever changing industry. Due to the high growth area of the Web, many of the jobs of the future have yet to be defined. Students may specialize in the following areas:

**Printing Specialization** covers traditional print operations. Students will learn image assembly, darkroom procedures, offset print production, and finishing. Upon completion of this specialization the student will have created a professional portfolio.

**Graphics Specialization** covers traditional print application as well as retail/advertising design. The student will learn to design logos, stationary, posters, billboards, signage, packaging, advertising, corporate identity and campaigns. Upon completion of this specialization the student will have created a professional portfolio.

**Web Design Specialization** is a concentration which is a web design based discipline specializing in multimedia applications for web presentation. The student will learn web design techniques as well as Web language.

Graphic & Web Design Specialization classes may be taken **ONLY** after Printing Diploma is completed.

### Curriculum Outline

Credits

<b>General Core Courses</b>		<b>30</b>
ENG 1101	Composition and Rhetoric I	5
MAT 1101	Mathematical Modeling (or)	
MAT 1111	College Algebra	5
ENG 1102	Literature and Composition (or)	
HUM 1101	Introduction to Humanities (or)	
ART 1101	Art Appreciation (or)	
MUS 1101	Music Appreciation	5
ENG 1105	Technical Communications (or)	
SPC 1101	Public Speaking	5
PSY 1101	Introduction to Psychology	5
ECO xxx	An economics course	5

<b>Fundamental Occupational Courses</b>		<b>38</b>
BUS 100	Introduction to Keyboarding	3
PGT 102	Basic Publications Design	6
PGT 103	Advanced Publications Design	6
PGT 107	Color Photo Manipulation and Scanning	6
PGT 109	Color Digital Production	6
PGT 128	Black and White Photo Manipulation and Scanning	6
SCT 100	Introduction to Microcomputers	3

Students must take at least one of the following specializations:

<b>Printing Specialization</b>		<b>45</b>
PGT 101	Introduction to the Printing Industry	8
PGT 111	Basic Press Operator I	8
PGT 110	Practicum/Internship	12
PGT 115	Image Output and Preflight	6
VCM 240	Portfolio	3
PGT xxx	Elective	8

OR

<b>Graphics Specialization</b>		<b>43</b>
MCM 201	Introduction to Graphics Design	8
MCM 202	Advanced Graphic Design	6
MCM 203	Graphic Layout and Production	6
MCM 204	Retail Graphics/Advertising Design	4
MCM 205	Multimedia for Graphic Design	4
PGT 110	Practicum/Internship	12
VCM 240	Portfolio	3

OR

<b>Web Design Specialization</b>		<b>45</b>
CIS 2202	XHTML Fundamentals	5
CIS 2261	Javascript Fundamentals	4
CIS 2271	CGI/PERL Fundamentals	4
PGT 110	Practicum/Internship	12
VCM 224	Web Graphics	4
VCM 227	Introduction to Web Design	4
VCM 230	Web Animation	4
VCM 233	Advanced Web Design	4
VCM 240	Portfolio	3

### Electives

PGT 150	Directed Independent Study (or)	6
PGT 120	Basic Offset Press I (or)	8
PGT 122	Basic Offset Press II (or)	8
PGT 124	Advanced Offset Press	8

# Programs of Study

## PRINTING/GRAPHICS TECHNOLOGY DIPLOMA

*Offered at the Augusta campus*

Entrance Dates: Fall  
 Length of Program: Six Quarters  
 Credit Hours Required for Graduation: 83

**Program Description:** The Printing/Graphics Technology program prepares students for employment in a variety of positions in today's modern printing industry. The Printing/Graphics Technology program provides learning opportunities, which introduce, develop, and reinforce knowledge, skills, and attitudes required for getting a job, keeping it, and being promoted. Additionally, the program provides opportunities to upgrade current knowledge and skills or to retrain in the area of Printing/Graphics Technology. Graduates of the program receive a Printing/Graphics Technology diploma, which prepares a student to become an entry-level typesetter, graphic artist, graphic designer, desktop publisher, camera operator, stripper, press operator, or bindery worker. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Numerous opportunities are available in small and large companies throughout the country. Over 50,000 commercial graphic arts facilities are located in the United States. Major companies, which print books and popular magazines, are concentrated in metropolitan areas. Also, most counties have newspaper and related commercial printing plants. Commercial printing plants do printing jobs for large numbers of outside customers producing items ranging from books and business cards to invitations and brochures. There are also thousands of in-plant printing departments that perform varied printing and duplicating jobs for companies not involved in the printing business. The printing industry employs over one million people with an average employment growth of 4 percent per year placing it sixth in the top ten manufacturing industries. The Augusta area currently has the second largest concentration of commercial printers in the state.

<u>Curriculum Outline</u>		<b>Credits</b>
<b>General Core Courses</b>		<b>13</b>
ENG 1010	Fundamentals of English I	5
MAT 1012	Foundations of Mathematics	5
EMP 1000	Interpersonal Relations and Professional Development	3
<b>Occupational Courses</b>		<b>68</b>
BUS 100	Introduction to Keyboarding	3
PGT 101	Introduction to the Printing Industry	8
PGT 102	Basic Publications Design	6
PGT 110	Practicum/Internship	12
PGT 111	Basic Press Operations I	8
PGT 115	Image Output and Preflight	6
PGT 128	Black and White Photo Manipulation and Scanning	6
SCT 100	Introduction to Microcomputers	3
PGT xxx	Electives	16
<u>Electives</u>		
PGT 103	Advanced Publications Design	6
PGT 107	Color Photo Manipulation and Scanning	6
PGT 109	Color Digital Production	6
PGT 150	Directed Independent Study	6

## GRAPHIC ARTS TECHNOLOGY TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta campus*

Entrance Dates: Fall  
 Length of Program: Four Quarters  
 Credit Hours Required for Graduation: 38

**Program Description:** The Graphic Arts Technician certificate program is designed to provide learning opportunities, which introduce, develop, and reinforce occupational knowledge, skills, and attitudes required for job acquisition, job retention, and job mobility. The program emphasizes skills in introductory level Graphic Arts processes. The first quarter exposes the student to an overall picture of the Graphic Arts Industry as well as Industry Health and Safety Practices. Throughout the second quarter the student will learn design and typography skills. The third quarter is basic reproduction, darkroom photography and image assembly. Upon completion of this 9 month certificate program the student should have a strong understanding of the Graphic Arts Industry. All of the courses in the certificate program are also required in Printing/Graphic Technology Diploma program. Graduates of the Graphic Arts Technician Program may transfer credit from the Graphic Arts Technician program into the Printing/Graphic Technology program and continue their education. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Opportunities for employment as a Graphic Arts Technician are available in small and large companies throughout the country. An individual with a Graphic Arts Technician certificate may pursue career opportunities in print media production, commercial as well as private, newspapers, advertising firms, television production media, and web based media. The jobs an individual with this certificate may pursue could be one of many such as, Graphic Designer, Graphic Artist, Graphic Typographer, Copy Editor, Copy Writer, Print Purchaser, Web Designer, Printed Media Production, Dark Room Technician, Image Assembler, Color Assembler, Cost Estimator, or Advertising Assistant. Graphic Design is an ever changing industry. Due to the high growth area of the Web, many of the jobs of the future have yet to be defined. This industry is wide open for the future.

<u>Curriculum Outline</u>		<b>Credits</b>
<b>Occupational Courses</b>		<b>38</b>
PGT 101	Introduction to the Printing Industry	8
PGT 102	Basic Publications Design	6
PGT 103	Advanced Publications Design	6
PGT 107	Color Photo Manipulation and Scanning	6
PGT 109	Color Digital Production	6
PGT 115	Image Output and Preflight	6

# Programs of Study

## INDUSTRIAL TECHNOLOGY

### ASSOCIATE OF APPLIED SCIENCE - TECHNICAL STUDIES DEGREE

*Offered at the Augusta, Waynesboro, and Thomson campuses*

Entrance Dates: Fall, Winter, Spring, Summer  
 Length of Program: Four Quarters  
 Credit Hours Required for Graduation: 90

**Program Description:** The Associate of Applied Science in Technical Studies degree program is a sequence of college-level courses that are designed to enhance students' career advancement opportunities in the field of industry. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Graduates of this program can obtain employment in public, private, and government facilities.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>General Core Courses</b>	<b>30</b>
ENG 1101 Composition and Rhetoric I	5
MAT 1111 College Algebra	5
ENG 1102 Literature and Composition (or)	
HUM 1101 Introduction to Humanities (or)	
ART 1101 Art Appreciation (or)	
MUS 1101 Music Appreciation	5
SPC 1101 Public Speaking (or)	
ENG 1105 Technical Communications	5
SOC 1101 Introduction to Sociology (or)	
PSY 1101 Introduction to Psychology	5
ECO 1101 Principles of Economics (or)	
ECO 2106 Principles of Microeconomics (or)	
ECO 2105 Principles of Macroeconomics	5
<b>Occupational Courses</b>	<b>60</b>
SCT 100 Introduction to Microcomputers	3
XXX xxx Completion of required courses for a Diploma (must be taught by an instructor credentialed to teach in a AAS program)	57

**Notes:**

- This degree is awarded in conjunction with approved courses for a diploma or degree in technical programs.
- The program must include a minimum of 60-quarter credit hours of occupational preparation courses. In most cases, completion of the requirements of a diploma program will meet this requirement, but, in addition, in all cases the following requirements must be met.
- These courses must include a course providing computer literacy (normally SCT 100).
- All courses counting towards the 60 credit minimum must be taught by an instructor credentialed at a level qualifying him or her to teach in an AAS program (normally an associate degree).
- Courses beyond the 60 credit minimum necessary to fulfill the requirement of completion of the diploma program may be taught by instructors credentialed only at the diploma program level, but will not be transferred into the degree program. Diploma level English, mathematics, science, psychology, and employment courses (TCSG courses not numbered in the 190s or 290s) may count toward the 60-credit minimum for occupational preparation courses but will not be applicable to the general education requirement above, regardless of the credentials of the instructor.

### AIR CONDITIONING TECHNOLOGY DIPLOMA

*Offered at the Augusta and Thomson campuses*

Entrance Dates: Fall and Spring  
 Length of Program: Four Quarters  
 Credit Hours Required for Graduation: 85

**Program Description:** The Air Conditioning Technology program is a sequence of courses that prepares students for careers in the air conditioning industry. Learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of air conditioning theory and practical application necessary for successful employment. Program graduates receive an Air Conditioning Technology diploma and have the qualifications of an air conditioning technician. High school graduation or GED is required for graduation from this program.

**Employment Opportunities:** Since air conditioning has become standard in homes, businesses, and many industries, the need for craftsmen in this field will continue to increase. Many program graduates eventually open their own businesses.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>General Core Courses</b>	<b>13</b>
ENG 1010 Fundamentals of English I	5
MAT 1012 Foundations of Mathematics	5
EMP 1000 Interpersonal Relations and Professional Development	3
<b>Occupational Courses</b>	<b>72</b>
ACT 100 Refrigeration Fundamentals	4
ACT 101 Principles and Practices of Refrigeration	7
ACT 102 Refrigeration Systems Components	7
ACT 103 Electrical Fundamentals	7
ACT 104 Electric Motors	4
ACT 105 Electrical Components	5
ACT 106 Electric Control Systems and Installation	4
ACT 107 Air Conditioning Principles	8
ACT 108 Air Conditioning Systems and Installation	3
ACT 109 Troubleshooting Air Conditioning Systems	7
ACT 110 Gas Heating Systems	5
ACT 111 Heat Pumps and Related Systems	6
IFC 100 Industrial Safety Procedures	2
SCT 100 Introduction to Microcomputers	3

# Programs of Study

## AUTOMOTIVE TECHNOLOGY DIPLOMA

*Offered at the Augusta and Waynesboro campuses*

Entrance Dates: Fall and Spring: Augusta  
Fall, Winter, Spring, and Summer: Waynesboro  
Length of Program: Seven Quarters  
Credit Hours Required for Graduation: 103

**Program Description:** The Automotive Technology program is a sequence of courses designed to prepare students for careers in the automotive service and repair profession. Learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of automotive technology theory and practical application necessary for successful employment. Program graduates receive an Automotive Technology diploma which qualifies them as automotive technicians. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** The need for qualified automobile and truck technicians increases with each auto model year. Matchless opportunities exist for trained technicians with automobile dealers, independent garages, automobile and truck fleet owners, governmental transportation agencies, and similar businesses.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>General Core Courses</b>	<b>13</b>
ENG 1010 Fundamentals of English I	5
MAT 1012 Foundations of Mathematics	5
EMP 1000 Interpersonal Relations and Professional Development	3
<b>Occupational Courses</b>	<b>51</b>
AUT 120 Introduction to Automotive Technology	3
AUT 122 Electrical and Electronic Systems	6
AUT 124 Battery, Starting and Charging	4
AUT 126 Engine Principles of Operation and Repair	6
AUT 128 Fuel, Ignition and Emission Systems	7
AUT 130 Automotive Brake Systems	4
AUT 132 Suspension and Steering System	4
AUT 134 Drivelines	4
AUT 142 Climate Control Systems	6
AUT 144 Introduction to Automatic Transmissions	4
SCT 100 Introduction to Microcomputers	3
<b>Specific Occupational Courses</b>	<b>39</b>
AUT 138 Manual Transmission/Transaxle	4
AUT 140 Electronic Engine Control Systems	7
AUT 210 Automatic Transmission Repair	7
AUT 212 Advanced Electronic Transmission Diagnosis	3
AUT 214 Advanced Electronic Controlled Brake Sys Diagnosis	4
AUT 216 Advanced Electronic Controlled Susp. & Steering Sys	4
AUT 218 Advanced Electronic Engine Control Systems	4
AUT 220 Automotive Technology Internship (or)	6
<b>Occupational Electives</b>	<b>6</b>
AUT 250 Advanced Electronics Training	4
AUT 252 Computer Controlled Automatic Transmissions	3
AUT 253 Emerging Technology in Automotive Service	3

## AUTOMOTIVE AUTOMATIC TRANSMISSION/TRANSAXLE TECHNICIAN TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta and Waynesboro campuses*

Entrance Dates: Departmental Approval  
Length of Program: Three Quarters  
Credit Hours Required for Graduation: 23

**Program Description:** This certificate is designed to give specific instruction in the repair and maintenance of automatic transmissions and transaxles. The courses contained in this certificate can be used for initial training, updating of skills, or for advanced career preparation. Topics include Electrical and Electronic Systems, Intro to Automatic Transmissions, Automatic Transmission Repair, and Advanced Electronic Transmission Diagnosis. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Given the need for highly trained technicians to troubleshoot and repair the sophisticated systems available on today's automobiles, the knowledge and skills provided through this certificate is invaluable to the student. The hands on work experience gained in this program using state-of-the-art equipment in an industry environment will give the graduate an advantage over other less qualified employees.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>Occupational Courses</b>	<b>23</b>
AUT 120 Intro to Automotive Technology	3
AUT 122 Electrical and Electronic Systems	6
AUT 144 Intro to Automatic Transmissions	4
AUT 210 Automatic Transmission Repair	7
AUT 212 Advanced Electronic Transmission Diagnosis	3

# Programs of Study

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## AUTOMOTIVE DRIVABILITY TECHNICIAN TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta and Waynesboro campus*

Entrance Dates: Winter and Summer  
 Length of Program: Two Quarters  
 Credit Hours Required for Graduation: 24

**Program Description:** This certificate is designed to prepare students for careers in the automotive service industry with advanced training in electrical and electronic systems. With the advancement of technology in the automotive industry, continual and recurrent training is vital to both the technician and the employer. Topics include Engine Principles of Operation and Repair, Ignition, Fuel, and Emission Systems, Electronic Engine Controls, and Advanced Electronic Engine Control Systems. Completion of the Basic Maintenance and Light Duty Technician certificate.

**Employment Opportunities:** Given the need for highly trained technicians to troubleshoot and repair the sophisticated systems available on today's automobiles, the knowledge and skills provided through this certificate is invaluable to the student. The hands on work experience gained in this program using state-of-the-art equipment in an industry environment will give the graduate an advantage over other less qualified employees.

<u>Curriculum Outline</u>	<b>Credits</b>
<b>Occupational Courses</b>	<b>24</b>
AUT 126 Engine Principles of Operation and Repair	6
AUT 128 Fuel, Ignition, and Emission Systems	7
AUT 140 Electronic Engine Control Systems	7
AUT 218 Advanced Electronic Engine Control Systems	4

## BASIC MAINTENANCE AND LIGHT DUTY TECHNICIAN TECHNICAL CERTIFICATE OR CREDIT

*Offered at the Augusta and Waynesboro campus*

Entrance Dates: Fall and Spring  
 Length of Program: Two Quarters  
 Credit Hours Required for Graduation: 15

**Program Description:** This certificate program prepares the student for entry level careers in the automotive service and repair profession. The program emphasizes a combination of automotive technology theory and practical application necessary for successful employment. Program graduates receive a Technical Certificate of Credit which qualifies them as entry level automotive technicians. High school graduation or GED required for admission to this program.

**Employment Opportunities:** This certificate prepares students to work at any automotive service facility in an entry level capacity. Given the need for highly trained technicians, it is anticipated that the entry level technician will experience a high job placement rate upon graduation.

<u>Curriculum Outline</u>	<b>Credits</b>
<b>Occupational Courses</b>	<b>15</b>
AUT 120 Introduction to Automotive Technology	3
AUT 130 Automotive Brake Systems	4
AUT 132 Suspension and Steering Systems	4
AUT 134 Drivelines	4

# Programs of Study

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## CHEMICAL OPERATIONS TECHNOLOGY DIPLOMA

*Offered at the Augusta campus*

Entrance Dates: Fall, Winter, Spring, Summer  
Length of Program: Five to Ten Quarters  
Credit Hours Required for Graduation: 76

**Program Description:** The Chemical Operations Technology diploma program is designed to provide learning experiences for the development of skills, knowledge and attitudes necessary for employment as a Chemical Operator. The Chemical Operations Technology curriculum emphasizes the operations, processes and safety aspects of chemical manufacturing. The student will be exposed to basic chemistry, work place skills, and production requirements. Classroom and laboratory instruction focuses on chemical process manufacturing utilizing computer simulation and bench top demonstrations. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** The successful graduate from the Chemical Operations Technology diploma program will find increasing career opportunities with chemical producing companies.

### Curriculum Outline

### Credits

<b>General Core Courses</b>			<b>25</b>
ENG 1010	Fundamentals of English I		5
ENG 1012	Fundamentals of English II		5
MAT 1012	Foundations of Mathematics		5
MAT 1013	Algebraic Concepts		5
EMP 1000	Interpersonal Relations and Personal Dev		3
<b>Occupational Courses</b>			<b>49</b>
SCT 100	Introduction to Microcomputers		3
CPT 150	Introduction to Chemical Operations		3
CPT 151	Introduction to Chemistry		5
CPT 152	Chemical Plant Safety		5
CPT 153	Process Unit Operations		5
CPT 155	Chemical Plant Operations		5
CPT 159	Chemical Manufacturing Process		5
CPT 156	Piping and Instrumentation Diagrams		5
CPT 157	Process Instrumentation		5
IDS 215	Industrial Mechanics		6
IDS 231	Pumps & Piping Systems		2
CPT 158	Directed Study		2
IFC 100	Industrial Safety Procedures		2

### **Note:**

Prior to the beginning of the laboratory rotation in CPT 158, all students must submit an application for a Criminal Background records check and present a satisfactory records check and a negative drug test to the instructor for the student file. The chemical plants will not allow students in for laboratory or practicum experiences without these documents on file. To be considered for employment, the graduate must have a satisfactory records check and negative drug test.

A grade of "C" or higher is required for all courses with the following prefixes: ENG, MAT, CPT, IDS, IFC.

# Programs of Study

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## ELECTRICAL CONSTRUCTION AND MAINTENANCE DIPLOMA

*Offered at the Augusta campus*

Entrance Dates: Fall, Winter, Spring, and Summer  
 Length of Program: Four Quarters  
 Credit Hours Required for Graduation: 72

**Program Description:** The Electrical Construction and Maintenance program is a sequence of courses designed to prepare students for careers in residential and commercial electrical industries. Learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of theory and practical application necessary for successful employment. Program graduates receive an Electrical Construction and Maintenance diploma. High school graduation or GED is required for graduation from this program.

**Employment Opportunities:** The Electrical Construction and Maintenance graduate will be employable as an apprentice maintenance and construction electrician.

### Curriculum Outline

	<b>Credits</b>
<b>General Core Courses</b>	<b>13</b>
ENG 1010 Fundamentals of English I	5
MAT 1012 Foundations of Mathematics	5
EMP 1000 Interpersonal Relations and Professional Development	3
<b>Occupational Courses</b>	<b>56</b>
ELT 106 Electrical Prints, Schematics, and Symbols	4
ELT 107 Commercial Wiring I	5
ELT 108 Commercial Wiring II	5
ELT 109 Commercial Wiring III	5
ELT 111 Single-Phase and Three-Phase Motors	5
ELT 112 Variable Speed/Low Voltage Controls	3
ELT 118 Electrical Controls	5
ELT 119 Electricity Principles II	4
ELT 120 Residential Wiring I	5
ELT 121 Residential Wiring II	6
IFC 100 Industrial Safety Procedures	2
IFC 101 Direct Current Circuits I	4
SCT 100 Introduction to Microcomputers	3
<b>Technical Electives</b>	<b>3</b>
ELT 151 Grounding and Bonding	3
ELT 115 Diagnostic Troubleshooting I	3

## ELECTRICAL CONTRACTING TECHNICIAN TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta campus*

Entrance Dates: Fall, Winter, Spring, and Summer  
 Length of Program: Three to Four Quarters  
 Credit Hours Required for Graduation: 53

### **Program Description:**

The Electrical Contracting Technician Technical Certificate of Credit is a sequence of courses designed to prepare students for careers in residential and commercial electrical industries. Learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of theory and practical application necessary for successful employment. Program graduates receive an Electrical Contracting Technician Technical Certificate of Credit. High school graduation or GED is required for graduation from this program.

### **Employment Opportunities:**

The Electrical Contracting Technician program graduate will be employable as an apprentice maintenance and construction electrician.

### Curriculum Outline

	<b>Credits</b>
<b>Curriculum Outline</b>	<b>53</b>
ELT 106 Electrical Prints, Schematics, and Symbols	4
ELT 107 Commercial Wiring I	5
ELT 108 Commercial Wiring II	5
ELT 109 Commercial Wiring III	5
ELT 111 Single-Phase and Three Phase Motors	5
ELT 112 Variable Speed/Low Voltage Controls	3
ELT 118 Electrical Controls	5
ELT 119 Electricity Principles II	4
ELT 120 Residential Wiring I	5
ELT 121 Residential Wiring II	6
IFC 100 Industrial Safety Procedures	2
IFC 101 Direct Current Circuits I	4

# Programs of Study

## INDUSTRIAL ELECTRICAL TECHNOLOGY DIPLOMA

*Offered at the Augusta campus*

Entrance Dates: Fall, Winter, Spring and Summer  
 Length of Program: Five Quarters  
 Credit Hours Required for Graduation: 88

**Program Description:** The Industrial Electrical Technology program is a sequence of courses designed to prepare students for careers in industry. Learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of theory and practical application necessary for successful employment. Program graduates receive an Industrial Electrical Technology diploma. High school graduation or GED is required for graduation from this program.

**Employment Opportunities:** The Industrial Electrical Technology graduate will be employable as an apprentice industrial maintenance and wiring electrician.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>General Core Courses</b>	<b>13</b>
ENG 1010 Fundamentals of English I	5
MAT 1012 Foundations of Mathematics	5
EMP 1000 Interpersonal Relations and Professional Development	3
<b>Occupational Courses</b>	<b>70</b>
ELT 106 Electrical Prints, Schematics, and Symbols	4
ELT 107 Commercial Wiring I	5
ELT 108 Commercial Wiring II	5
ELT 109 Commercial Wiring III	5
ELT 111 Single-Phase and Three-Phase Motors	5
ELT 112 Variable Speed/Low Voltage Controls	3
ELT 116 Transformers	4
ELT 117 National Electrical Code Industrial Applications	4
ELT 118 Electrical Controls	5
ELT 119 Electricity Principles II	4
ELT 120 Residential Wiring I	5
ELT 121 Residential Wiring II	6
ELT 122 Industrial PLC's	6
IFC 100 Industrial Safety Procedures	2
IFC 101 Direct Current Circuits I	4
SCT 100 Introduction to Microcomputers	3
<b>Technical Electives</b>	<b>5</b>
ELT 126 Wire Pulling/Codes	5
ELT 110 State License Preparation	7

## GENERAL MAINTENANCE MECHANIC TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta campus*

Entrance Dates: Fall  
 Length of Program: Three Quarters  
 Credit Hours Required for Graduation: 32

**Program Description:** The General Maintenance Mechanic certificate program provides the student with the fundamental skills necessary to maintain and repair building systems of public and private facilities. Students will gain the knowledge and skills needed to perform preventative maintenance and repair functions as they relate to the building's structure, plumbing, electrical wiring and lighting, and heating and air conditioning systems. Safety practices are also emphasized. High school graduation or GED is required for graduation from this program.

**Employment Opportunities:** The need for entry level maintenance personnel is substantiated by local business and industry requests for Augusta Technical College to train applicants in more than one specialized area. This certificate presents the opportunity for those desiring to obtain a marketable skill in a minimum amount of time. With the industrial base that exists in the CSRA, it is estimated that there will be more jobs available than qualified applicants.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>Occupational Courses</b>	<b>32</b>
MAT 1012 Foundations of Mathematics	5
IFC 100 Industrial Safety Procedures	2
ACT 100 Refrigeration Principles	4
ACT 103 Electrical Fundamentals	5
ACT 104 Electric Motors	3
ELT 107 Commercial Wiring I	4
BFM 103 Fundamentals of Structural Maintenance	6
BFM 105 Fundamentals of Plumbing	3

# Programs of Study

## ELECTRONICS TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE DEGREE

*Offered at the Augusta Campus*

Entrance Dates: Fall and Spring  
Length of Program: Six Quarters  
Credit Hours Required for Graduation: 102

**Program Description:** The Electronics Technology Associate Degree program is sequence of courses designed to prepare students for careers in electronics technology professions. Learning opportunities develop academic, technical and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of electronics technology theory and practical application necessary for successful employment using both manual and computerized electronics systems. Program graduates receive an Electronics Technology Associate of Applied Science Degree which qualifies them as electronics technicians with a specialization in biomedical instrumentation, communications electronics, computer electronics, general electronics, industrial electronics, or telecommunications electronics. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** The U.S. Department of Labor and other groups predict a growing need for computer systems servicing and troubleshooting technicians. Graduates may seek employment with telecommunications, manufacturing, and communications companies, and other industrial and commercial electronic sales and service outlets. With minimal systems training, the graduate is expected to perform proficiently in industrial organizations or computer networking facilities.

### Curriculum Outline

Credit Hours

#### **General Core Courses**

**30**

ENG 1101 Composition and Rhetoric I 5  
ENG 1105 Technical Communications 5  
ENG 1102 Literature and Composition (or)  
HUM 1101 Introduction to Humanities (or)  
ART 1101 Art Appreciation (or)  
MUS 1101 Music Appreciation 5  
MAT 1111 College Algebra 5  
MAT 1113 Precalculus 5  
PSY 1101 Introduction to Psychology 5

**OR**

ECO 1101 Principles of Economics 5

#### **Occupational Courses**

**47**

ELC 104 Soldering Technology 2  
ELC 108 Direct Current Circuits II 4  
ELC 110 Alternating Current II 4  
ELC 115 Solid State Devices II 4  
ELC 117 Linear Integrated Circuits 4  
ELC 118 Digital Electronics I 4  
ELC 119 Digital Electronics II 4  
ELC 120 Microprocessors Fundamentals 4  
IFC 100 Industrial Safety Procedures 2  
IFC 101 Direct Current Circuits I 4  
IFC 102 Alternating Current I 4  
IFC 103 Solid State Devices I 4  
SCT 100 Intro to Microcomputers 3

**AND**

### Telecommunications Electronics Technology Specialization

#### **Specific Occupational Courses**

**25**

ELC 217 Computer Hardware 7  
ELC 219 Networking I 4  
ELC 259 Fiber Optic Systems 4  
ELC 260 Telecommunication and Data Cabling 4  
ELC 261 Telecommunications Systems Installation and Programming 3  
ELC 262 Telecommunications and Data Transmission Concepts 3

#### **Note:**

CIS 1140 Networking Fundamentals may be substituted for ELC 219 Networking I as required. This option will increase the credit hours required for graduation to 104.

**OR**

### Industrial Electronics Technology Specialization

#### **Specific Occupational Courses**

**25**

ELC 211 Process Control 6  
ELC 212 Motor Controls 6  
ELC 213 Programmable Controllers 5  
ELC 214 Mechanical Devices 3  
ELC 215 Fluid Power 3  
ELC 216 Robotics 2

#### **Note:**

ELT 122 Industrial PLCs may be substituted for ELC 213 Programmable Controllers, IDS 215 Industrial Mechanics may be substituted for ELC 214 Mechanical Devices, and IDS 221 Industrial Fluid Power may be substituted for ELC 215 Fluid Power. This option will increase the credit hours required for graduation to 110.

# Programs of Study

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## ELECTRONICS TECHNOLOGY DIPLOMA

*Offered at the Augusta campus*

Entrance Dates: Fall and Spring  
 Length of Program: Six Quarters  
 Credit Hours Required for Graduation: 90

**Program Description:** The Electronics Technology program is a sequence of courses designed to prepare students for careers in electronics technology professions. Learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. Program graduates are to be competent in the general areas of communications, mathematics, computer literacy, and interpersonal relations. The program emphasizes a combination of electronics technology theory and practical application necessary for successful employment using both manual and computerized electronics systems. Program graduates receive an Electronics Technology Diploma, which qualifies them as electronics technicians with a specialization in biomedical instrumentation, communications electronics, computer electronics, general electronics, industrial electronics, or telecommunications electronics. After completing the Electronics Technology Diploma program, students who desire to obtain an associate degree may enroll in the Associate of Applied Science in Industrial Technology program, and complete the requirements for an associate degree with the addition of 30 credit hours. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** The U.S. Department of Labor and other groups predict a growing need for computer systems servicing and troubleshooting technicians. Graduates may seek employment with telecommunications, manufacturing, and communications companies, and other industrial and commercial electronic sales and service outlets. With minimal systems training, the graduate is expected to perform proficiently in industrial organizations or computer networking facilities.

### Curriculum Outline

**Credits**

<b>General Core Courses</b>		<b>18</b>
ENG 1010	Fundamentals of English I	5
MAT 1013	Algebraic Concepts	5
MAT 1015	Geometry and Trigonometry (or)	
MAT 1017	Trigonometry	5
EMP 1000	Interpersonal Relations and Professional Development	3
<b>Occupational Courses</b>		<b>47</b>
ELC 104	Soldering Technology	2
ELC 108	Direct Current Circuits II	4
ELC 110	Alternating Current II	4
ELC 115	Solid State Devices II	4
ELC 117	Linear Integrated Circuits	4
ELC 118	Digital Electronics I	4
ELC 119	Digital Electronics II	4
ELC 120	Microprocessors Fundamentals	4
IFC 100	Industrial Safety Procedures	2
IFC 101	Direct Current Circuits I	4
IFC 102	Alternating Current I	4
IFC 103	Solid State Devices I	4
SCT 100	Introduction to Microcomputers	3

**AND**

### Telecommunications Electronics Technology Specialization

<b>Specific Occupational Courses</b>		<b>25</b>
ELC 217	Computer Hardware	7
ELC 219	Networking I	4
ELC 259	Fiber Optic Systems	4
ELC 260	Telecommunication and Data Cabling	4
ELC 261	Telecommunications Systems Installation and Program	3
ELC 262	Telecommunications and Data Transmission Concepts	3

#### **Note:**

CIS 1140 Networking Fundamentals may be substituted for ELC 219 Networking I as required. This option will increase the credit hours required for graduation to 92.

**OR**

### Industrial Electronics Technology Specialization

<b>Specific Occupational Courses</b>		<b>25</b>
ELC 211	Process Control	6
ELC 212	Motor Controls	6
ELC 213	Programmable Controllers	5
ELC 214	Mechanical Devices	3
ELC 215	Fluid Power	3
ELC 216	Robotics	2

#### **Note:**

ELT 122 Industrial PLCs may be substituted for ELC 213 Programmable Controllers, IDS 215 Industrial Mechanics may be substituted for ELC 214 Mechanical Devices, and IDS 221 Industrial Fluid Power may be substituted for ELC 215 Fluid Power. This option will increase the credit hours required for graduation to 98.

# Programs of Study

## ELECTRONICS FUNDAMENTALS DIPLOMA

*Offered at the Augusta campus*

Entrance Dates: Fall and Spring  
 Length of Program: Five Quarters  
 Credit Hours Required for Graduation: 65

**Program Description:** The Electronics Fundamentals program is designed to prepare students for careers in electronics professions. Learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of electronics theory and practical application necessary for successful employment. Program graduates receive an Electronics Fundamentals diploma, which prepares them for entry-level positions in the electronics field and qualifies them for admission to the Electronics Technology program. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** The U.S. Department of Labor and other groups predict a growing need for computer systems servicing and troubleshooting technicians. Graduates may seek employment with telecommunications, manufacturing, and communications companies, and other industrial and commercial electronic sales and service outlets. With minimal systems training, the graduate is expected to perform proficiently in industrial organizations or computer networking facilities.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>General Core Courses</b>	<b>18</b>
ENG 1010 Fundamentals of English I	5
MAT 1013 Algebraic Concepts	5
MAT 1015 Geometry and Trigonometry (or)	
MAT 1017 Trigonometry	5
EMP 1000 Interpersonal Relations and Professional Development	3
<b>Occupational Courses</b>	<b>47</b>
ELC 104 Soldering Technology	2
ELC 108 Direct Current Circuits II	4
ELC 110 Alternating Current II	4
ELC 115 Solid State Devices II	4
ELC 117 Linear Integrated Circuits	4
ELC 118 Digital Electronics I	4
ELC 119 Digital Electronics II	4
ELC 120 Microprocessors Fundamentals	4
IFC 100 Industrial Safety Procedures	2
IFC 101 Direct Current Circuits I	4
IFC 102 Alternating Current I	4
IFC 103 Solid State Devices I	4
SCT 100 Introduction to Microcomputers	3

## MOBILE ELECTRONICS TECHNICIAN TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta campus*

Entrance Dates: Fall and Spring  
 Length of Program: Two Quarters  
 Credit Hours Required for Graduation: 20

**Program Description:** The Mobile Electronics Technician Technical Certificate of Credit is designed to provide students with short term training to prepare them for entry level employment in the field of car audio systems installation. Topics include direct and alternating current principles, soldering techniques, and system installation procedures.

**Employment Opportunities:** Local business owners/managers of car audio installations have expressed an increasing demand for entry level car audio and video systems technicians with a greater knowledge in the fundamentals of electronics. The reason for this demand is primarily due to the advanced technology and complexity of design found in later model vehicles. This certificate will offer students the opportunity to obtain a marketable skill in a short period of time. Students who complete the program and later desire to expand their education can transfer 10 (ten) of the credit hours received in the TCC toward a diploma or degree in Electronics Technology.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>Occupational Courses</b>	<b>20</b>
IFC 101 Direct Current Circuits I	4
IFC 102 Alternating Current I	4
ELC 104 Soldering Technology	2
ELC 130 Mobile Audio and Video Systems	5
ELC 131 Mobile Security, Remote Start, and Navigational Systems	5

# Programs of Study

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## INDUSTRIAL SYSTEMS TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE DEGREE

*Offered at the Augusta and Thomson campuses*

Entrance Dates: Fall and Spring  
 Length of Program: Seven Quarters  
 Credit Hours Required for Graduation: 107

**Program Description:** The Industrial Systems Technology associates degree program is designed for the student who wishes to prepare for a career in industrial systems technology. The associates degree program builds upon the diploma program in Industrial Systems Technology, providing background skills in several areas of industrial maintenance and control systems. The program provides learning opportunities that introduce, develop, and reinforce academic and technical knowledge, skills, and attitudes required for job acquisition, retention, and advancement. Additionally, the program provides opportunities to retrain or upgrade present knowledge and skill. Graduates of the program receive an Industrial Systems Technology Associates Degree in Applied Technology that qualifies them for employment as industrial electricians or industrial systems technicians or I and E technicians with opportunities to move into management positions. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** The strengths of the program include a potential of high placement rates for graduates, above average starting salaries, and potential for career advancement and growth. Graduates are qualified for positions as engineering assistants, programmable control specialists, automation specialists, industrial electronics specialists, and a wide variety of industrial management positions. The associate degree program provides for continuing career mobility and facilitates continuing educational opportunities.

### Curriculum Outline

**Credits**

#### **General Core Courses**

**30**

ENG 1101	Composition and Rhetoric I	5
MAT 1111	College Algebra	5
MAT 1113	Precalculus <b>(or)</b>	
PHY 1110	Introductory Physics	5
ENG 1102	Literature and Composition <b>(or)</b>	
HUM 1101	Introduction to Humanities <b>(or)</b>	
ART 1101	Art Appreciation <b>(or)</b>	
MUS 1101	Music Appreciation	5
ENG 1105	Technical Communications <b>(or)</b>	
SPC 1101	Public Speaking	5
ECO 1101	Principles of Economics <b>(or)</b>	
SOC 1101	Introduction to Sociology <b>(or)</b>	
PSY 1101	Introduction to Psychology	5

#### **Occupational Courses**

**77**

IFC 100	Industrial Safety Procedures	2
IFC 101	Direct Current Circuits I	4
IFC 102	Alternating Current I	4
IFC 103	Solid State Devices	4
IDS 103	Industrial Wiring	6
IDS 105	DC and AC Motors	3
IDS 101	Industrial Computer Applications <b>(or)</b>	
IDS 107	Basic Mechanics	5
IDS 110	Fundamentals of Motor Controls	3
IDS 113	Magnetic Starters and Braking	3
IDS 115	Two-Wire Control Systems	2
IDS 121	Advanced Motor Controls	2
IDS 131	Variable Speed Motor Control	3
IDS 141	Basic Industrial PLC's	6
IDS 142	Industrial PLC's	6
IDS 209	Industrial Instrumentation	6
IDS 215	Industrial Mechanics	6
IDS 221	Industrial Fluidpower	7
IDS 231	Pumps and Piping Systems	2
SCT 100	Introduction to Microcomputers	3

#### **Notes:**

A grade of "C" or higher is required for all courses.

# Programs of Study

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## ELECTRICAL CONTROL SYSTEMS DIPLOMA

*Offered at the Augusta and Thomson campuses*

Entrance Dates: Fall & Spring  
Length of Program: Five Quarters  
Credit Hours Required for Graduation: 78

**Program Description:** The Electrical Control Systems program is a sequence of courses designed to prepare students in the field of electrical control systems. Learning opportunities develop academic and professional knowledge, along with skills required for job acquisition, retention, and advancement. The program emphasizes specialized training in PLC's, electrical controls, and instrumentation. Graduates of the program receive an Electrical Control Systems diploma that qualifies them for employment as industrial electricians or industrial control technicians. High school graduation or GED is required for graduation from this program.

**Employment Opportunities:** Graduates in the Electrical Control Systems program are prepared for employment as entry-level electrical maintenance technicians. Program graduates are to be competent in the technical areas of electrical wiring, motors, motor controls, programmable logic controllers, and electrical troubleshooting. Graduates are competent in industrial electrical equipment and electrical systems maintenance, direct and alternating current principles, and electrical troubleshooting.

### Curriculum Outline

**Credits**

#### **General Core Courses**

**13**

ENG 1010 Fundamentals of English I 5  
MAT 1013 Algebraic Concepts 5  
EMP 1000 Interpersonal Relations and Professional Development 3

#### **Occupational Courses**

**62**

IFC 100 Industrial Safety Procedures 2  
IFC 101 Direct Current Circuits I 4  
IFC 102 Alternating Current I 4  
IFC 103 Solid State Devices I 4  
IDS 103 Industrial Wiring 6  
IDS 105 DC and AC Motors 3  
IDS 101 Industrial Computer Applications (or) 5  
IDS 107 Basic Mechanics 3  
IDS 110 Fundamentals of Motor Controls 2  
IDS 113 Magnetic Starters and Braking 2  
IDS 115 Two-Wire Control Systems 3  
IDS 121 Advanced Motor Controls 6  
IDS 131 Variable Speed Motor Control 6  
IDS 141 Basic PLC's 6  
IDS 142 Industrial PLC's 6  
IDS 209 Industrial Instrumentation 3  
SCT 100 Introduction to Microcomputers 3

#### **Occupational Electives**

**3**

WLD 133 Metal Welding and Cutting Techniques (or) 3  
IDS 215 Industrial Mechanics (or) 6  
IDS 231 Industrial Fluidpower (or) 6  
IDS 109 Mechanical Laws and Principles 7

#### **Notes:**

A grade of "C" or higher is required for all courses with the following prefixes: IDS, IFC, and MAT.

# Programs of Study

## INDUSTRIAL MECHANICAL SYSTEMS DIPLOMA

*Offered at the Augusta, Waynesboro, and Thomson campuses*

Entrance Dates:  
 Augusta Fall  
 Waynesboro Fall, Winter, Spring, Summer  
 Thomson Fall, Winter, Spring, Summer  
 Length of Program: Four to Nine Quarters  
 Credit Hours Required for Graduation: 76

**Program Description:** The Industrial Mechanical Systems Diploma program provides instruction to prepare students for employment in a variety of positions within the industrial production equipment maintenance field. The program provides learning opportunities that introduce, develop and reinforce academic and technical knowledge, skills, and attitudes required for job acquisition, retention, and advancement. Additionally, the program provides opportunities to retrain or upgrade present knowledge and skills. Graduates of the program receive a Industrial Mechanical Systems diploma that qualifies them for employment as industrial millwright or industrial maintenance mechanics. High school graduation or GED is required for graduation from this program.

**Employment Opportunities:** Industrial Mechanical Systems graduates are in demand more and more as the competition for business in the market place increases. Graduates in the Industrial Mechanical Systems program are prepared for employment as entry-level maintenance mechanics. Program graduates are to be competent in the technical areas of direct current, alternating current, industrial mechanics, industrial hydraulics, industrial pneumatics, milling operations, lathe operations, welding, and have a basic understanding of the fundamentals of refrigeration. Employment opportunities for the multi-skilled technician are increasing as technology advances.

### Curriculum Outline

**Credits**

<b>General Core Courses</b>		<b>13</b>
ENG 1010	Fundamentals of English I	5
MAT 1012	Foundations of Mathematics	5
EMP 1000	Interpersonal Relations and Professional Development	3
<b>Occupational Courses</b>		<b>46</b>
IFC 100	Industrial Safety Procedures	2
IDS 102	Print Reading and Problem Solving	4
IDS 107	Basic Mechanics	5
IDS 109	Mechanical Laws and Principles	7
IDS 215	Industrial Mechanics	6
IDS 221	Industrial Fluidpower	7
IDS 231	Pumps and Piping Systems	2
IDS 241	Maintenance for Reliability	7
SCT 100	Introduction to Microcomputers	3
WLD 133	Metal Welding and Cutting Techniques	3
<b>Track A</b>		<b>11</b>
IDS 104	Applied Electricity AC/DC	7
XXX xxx	Elective	4
<b>OR</b>		
<b>Track B</b>		<b>11</b>
IFC 101	Direct Current Circuits I	4
IFC 102	Alternating Current I	4
IDS 105	DC and AC Motors	3
<b>AND</b>		
<b>Track C</b>		<b>6</b>
MCH 109	Lathe Operations I	6
<b>OR</b>		
<b>Track D</b>		<b>7</b>
IDS 110	Fundamentals of Motor Controls	3
IDS 225	Advanced Pneumatics	4
<b>Occupational Electives</b>		<b>4</b>
MCH 102	Blueprint Reading for Machine Tool	5
ACT 100	Refrigeration Principles	4
IDS 103	Industrial Wiring	6

### **Notes:**

- A grade of "C" or higher is required for all courses with the following prefixes: IDS, IFC, and MAT.
- Students must complete Track A or Track B, in addition to completing Track C or Track D.

# Programs of Study

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## ELECTRICAL MAINTENANCE BASIC TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Thomson campus*

Entrance Dates: Fall, Winter, Spring, Summer  
 Length of Program: Two Quarters  
 Credit Hours Required for Graduation: 17

**Program Description:** The Electrical Maintenance Basic Technical Certificate of Credit provides training to improve the quality of existing maintenance technicians in existing industry so they may specifically interact with programmable controllers and electrical maintenance projects found in the industrial setting which includes industrial wiring, AC & DC motors, motor controls, and magnetic starters and braking. High school graduation or GED is required for entrance into this program.

**Employment Opportunities:** Graduates of this Technical Certificate of Credit will improve the quality of their existing electrical maintenance skills in the areas dealing with wiring, motors, motor controls, magnetic starters and braking.

### Curriculum Outline

### **Credits**

#### **Occupational Courses**

IFC 100 Industrial Safety Procedures	2
IDS 103 Industrial Wiring	6
IDS 105 DC & AC Motors	3
IDS 110 Fundamentals of Motor Controls	3
IDS 113 Magnetic Starters & Braking	3

## ELECTRICAL MAINTENANCE INTERMEDIATE TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Thomson campus*

Entrance Dates: Fall, Winter, Spring, Summer  
 Length of Program: Two Quarters  
 Credit Hours Required for Graduation: 16

**Program Description:** The Electrical Maintenance Intermediate Technical Certificate of Credit provides training to improve the quality of existing maintenance technicians in existing industry so they may specifically interact with programmable controllers and electrical maintenance projects found in the industrial setting which includes two wire control circuits, advanced motor controls, industrial instrumentation, and basic industrial PLC's. High school diploma or GED is required for entrance into this program.

**Employment Opportunities:** Graduates of this Technical Certificate of Credit will improve the quality of their existing electrical maintenance skills in the areas dealing with two wire control circuits, advanced motor controls, industrial instrumentation, and basic industrial PLC's.

### Curriculum Outline

### **Credits**

#### **Occupational Courses**

IDS 115 Two Wire Control Circuits	2
IDS 121 Advanced Motor Controls	2
IDS 141 Basic Industrial PLC	6
IDS 209 Industrial Instrumentation	6

# Programs of Study

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## ELECTRICAL MAINTENANCE ADVANCED TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Thomson campus*

Entrance Dates: Fall, Winter, Spring, Summer  
Length of Program: Two Quarters  
Credit Hours Required for Graduation: 17

**Program Description:** This Technical Certificate of Credit is designed to provide a solid foundation of knowledge, skills, attitudes, and techniques that will improve the quality of existing electrical maintenance technicians in existing industry. Through the coursework in the program, students will be provided with the guidelines, information, responsibilities, and techniques necessary to successfully interact in the environment of working in the electrical maintenance environment specifically with programmable controllers and electrical maintenance projects found in the industrial setting.

**Employment Opportunities:** Graduates of this Technical Certificate of Credit will improve the quality of their existing electrical maintenance skills in the areas dealing with industrial fluidpower, pneumatics, and PLC's.

### Curriculum Outline

### **Credits**

#### **Occupational Courses**

IDS 221 Industrial Fluidpower	7
IDS 225 Advanced Pneumatics	4
IDS 142 Industrial PLC's II	6

# Programs of Study

## MANUFACTURING MAINTENANCE FUNDAMENTALS TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta and Thomson campuses*

Entrance Dates: Fall, Winter, Spring, Summer  
 Length of Program: Two to Five Quarters  
 Credit Hours Required for Graduation: 37

**Program Description:** The Manufacturing Maintenance Fundamentals Technical Certificate of Credit provides training to assist students employed in a variety of positions within the industrial production equipment maintenance field. The program provides learning opportunities that introduce, develop, and reinforce academic, technical knowledge, skills, and attitudes required for job acquisition, retention, and advancement. Additionally, the program provides opportunities to retrain or upgrade present knowledge and skills. Graduates of the program receive a Manufacturing Maintenance Fundamentals Technical Certificate of Credit that verifies the training received in certain mechanical maintenance competencies. High school graduation or GED is required for graduation from this program.

**Employment Opportunities:** Manufacturing Maintenance Fundamentals graduates are in demand more and more as the competition for business in the market place increases. Graduates in the Manufacturing Maintenance Fundamentals program are prepared for employment as entry-level maintenance technicians. Program graduates are to be competent in the technical areas of safety, direct current, alternating current, industrial mechanics, industrial hydraulics, industrial pneumatics, and blueprint reading. Employment opportunities for the multi-skilled technician are increasing as technology advances.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>Occupational Courses</b>	<b>33</b>
MAT 1012 Foundations of Mathematics	5
IFC 100 Industrial Safety Procedures	2
IFC 101 Direct Current Circuits I	4
IFC 102 Alternating Current I	4
IDS 215 Industrial Mechanics	6
IDS 221 Industrial Fluidpower	7
MCH 102 Blueprint Reading	5
<b>Occupational Electives</b>	<b>4</b>
IDS 102 Print Reading and Problems Solving	4
IDS 107 Basic Mechanics	5
MCH 109 Lathe Operations	6

## MACHINE TOOL TECHNOLOGY DIPLOMA

*Offered at the Augusta campus*

Entrance Dates: Fall, Winter, Spring, and Summer  
 Length of Program: Five to Eight Quarters  
 Credit Hours Required for Graduation: 85

**Program Description:** The Machine Tool Technology program is a sequence of courses that prepares students for careers in the machine tool technology field. This program provides learning opportunities to develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of machine tool theory and practical application necessary for successful employment. Program graduates receive a Machine Tool Technology diploma and have the qualifications of a machine tool technician. High school graduation or GED is required for graduation from this program.

**Employment Opportunities:** Skilled machinists are always in demand and will be as long as there is a machine to provide a product to assist in agriculture, to construct homes and buildings, to save time and energy, to produce energy, and to provide recreation. The machinist is the person who builds and maintains these products (machines). Students completing the Machine Tool Technology program may find employment as machinists, machine operators, or in machine maintenance repair in numerous industrial plants in the area.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>General Core Courses</b>	<b>13</b>
ENG 1010 Fundamentals of English I	5
MAT 1012 Foundations of Mathematics	5
EMP 1000 Interpersonal Relations and Professional Development	3
<b>Occupational Courses</b>	<b>25</b>
MCH 101 Introduction to Machine Tool	6
MCH 102 Blueprint Reading for Machine Tool	5
MAT 1013 Algebraic Concepts	5
MAT 1015 Geometry and Trigonometry	5
MCH 107 Characteristics of Metals/Heat Treatment I	4
<b>Specific Occupational Courses</b>	<b>42</b>
MCH 109 Lathe Operations I	6
MCH 110 Lathe Operations II	6
MCH 112 Surface Grinder Operations	3
MCH 114 Blueprint Reading II	5
MCH 115 Mill Operations I	6
MCH 116 Mill Operations II	6
MCA 211 CNC Fundamentals	7
SCT 100 Introduction to Microcomputers	3
<b>Occupational Electives</b>	<b>5</b>
MCH 152 Industrial Machine Applications	6
MCA 201 Advanced Milling I	7
MCA 205 Advanced Lathe Operations I	7

# Programs of Study

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## CNC SPECIALIST TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta campus*

Entrance Dates: Fall, Winter, Spring, and Summer  
 Length of Program: Two to Three Quarters  
 Credit Hours Required for Graduation: 41

**Program Description:** The CNC Specialist certificate program is designed for anyone possessing experience in the Machine Tool field to quickly gain the skills necessary for upgrading to the CNC job market. This program will provide knowledge of Computer Numerical Control basics, fundamentals, programming, and operation as well as, CAD/CAM programming. Successful completion of the Machine Tool Technology diploma or High School or GED graduation with a minimum of 3 years machinist's level experience is required for admission to this program.

**Employment Opportunities:** Graduates are employable as CNC machine operators. Opportunities are numerous for this field in the CRSA. This program is a result of the increasing demand for skilled CNC machine operators in manufacturing and the metal working industry. Most jobs in this field provide security, excellent pay, and benefits.

<u>Curriculum Outline</u>	<b>Credits</b>
<b>Occupational Courses</b>	<b>36</b>
MCA 211 CNC Fundamentals	7
MCA 213 Mill Manual	8
MCA 215 CNC Lathe Manual Programming	8
MCA 217 CNC Practical Applications	6
MCA 219 CAD/CAM Programming	7
<b>Occupational Electives</b>	<b>5</b>
MCH 109 Lathe Operations I	6
MCH 115 Mill Operations II	6
MCH 152 Industrial Machine Applications	6

## BASIC MACHINING TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta campus*

Entrance Dates: Fall, Winter, Spring, and Summer  
 Length of Program: One Quarter  
 Credit Hours Required for Graduation: 16

**Program Description:** The Basic Machine Operator certificate program is designed for anyone interested in employment in the Machine Tool field to quickly gain the basic skills necessary for entering the job market. It will provide knowledge in blueprint reading, basic machine tools, hand and power tools, precision and semi-precision measuring tools, metal cutting, and general math. After completion of this program, if the student wishes to enter the Machine Tool Technology diploma program, course credit is transferable. Program graduates receive a certificate of credit. High school or GED graduation is required for graduation from this program.

**Employment Opportunities:** Graduates are employable as machine operators or quality control inspectors. Opportunities are numerous for this field in the CRSA. This program is a result of the increasing demand for machine operators in manufacturing, assembly, and the metal working industry. Most jobs in this field provide security, good pay, and benefits.

<u>Curriculum Outline</u>	<b>Credits</b>
<b>Occupational Courses</b>	<b>16</b>
MAT 1012 Foundations of Mathematics	5
MCH 101 Introduction to Machine Tool	6
MCH 102 Blueprint Reading for Machine Tool	5

# Programs of Study

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## WELDING AND JOINING TECHNOLOGY DIPLOMA

*Offered at the Augusta and Waynesboro campuses*

Entrance Dates: Fall, Winter, Spring, and Summer  
 Length of Program: Four Quarters  
 Credit Hours Required for Graduation: 75

**Program Description:** The Welding and Joining Technology program is designed to prepare students for careers in the welding industry. Program learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes welding theory and practical application necessary for successful employment. Program graduates receive a Welding and Joining Technology Diploma and are prepared to take qualification tests. High school or GED graduation is required for graduation from this program.

**Employment Opportunities:** The Welding and Joining Technology graduate will be employable as a construction welder, industrial welder, or special purpose welder. Graduates readily find employment in the many welding, steel fabrication, railroad repair and rebuilding, and heavy construction industries in the area.

### Curriculum Outline

### Credits

#### General Core Courses

ENG 1010	Fundamentals of English I	5
MAT 1012	Foundations of Mathematics	5
EMP 1000	Interpersonal Relations and Professional Development	3

#### Occupational Courses

WLD 100	Introduction to Welding Technology	6
WLD 101	Oxyfuel Cutting	4
WLD 103	Blueprint Reading I	3
WLD 104	Shielded Metal Arc Welding I	6
WLD 105	Shielded Metal Arc Welding II	6
WLD 106	Shielded Metal Arc Welding III	6
WLD 107	Shielded Metal Arc Welding IV	6
WLD 108	Blueprint Reading II	3
WLD 109	Gas Metal Arc Welding	6
WLD 110	Gas Tungsten Arc Welding	4
WLD 112	Preparation for Industrial Qualification	4
SCT 100	Introduction to Microcomputers	3

#### Occupational Electives

WLD 150	Advanced Gas Tungsten Arc Welding	5
WLD 152	Pipe Welding	5
WLD 153	Flux Cored Arc Welding	5

## ADVANCED PIPE WELDING TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta campus*

Entrance Dates: Fall, Winter, Spring, and Summer  
 Length of Program: One Quarter  
 Credit Hours Required for Graduation: 15

**Program Description:** The Advanced Pipe Welding program is designed to take the graduate of Augusta Technical College Welding program to the next level of welding in the pipe field. Program learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes welding theory and practical application necessary for successful employment. The student will weld pipe of various sizes in the 2g-5g-and 6g positions using the SMAW and GTAW process. Program graduates receive an Advanced Pipe Welding certificate and are prepared to take a qualification test. Completion of the Welding and Joining Technology diploma program with a 3.0 GPA is required for admission to this program.

**Employment Opportunities:** The graduate of the Advanced Pipe Welding program will be employable as a pipe construction welder, using the SMAW and GTAW process to weld various sizes of pipe. Other Jobs include industrial welder, steel fabricator, and heavy construction industries. Graduates readily find employment in these fields in the area.

### Curriculum Outline

### Credits

#### Occupational Courses

WLD 201	Advanced Pipe Welding	15
XXX xxx	Elective	5

### Notes:

Completion of the Welding and Joining Technology Diploma Program with a 3.0 GPA and the completion of WLD 152 Pipe Welding with a 3.0 or better is required for admission to this program.

# Programs of Study

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## **GAS METAL ARC WELDER TECHNICAL CERTIFICATE OF CREDIT**

*Offered at the Augusta and Waynesboro campuses*

Entrance Dates: Fall, Winter, Spring, and Summer  
Length of Program: Three Quarters  
Credit Hours Required for Graduation: 19

**Program Description:** The Basic Gas Metal Arc Welding certificate program is designed to provide knowledge of theory, safety practices, equipment and techniques required for metal heating, oxyfuel cutting, and basic gas metal arc welding. Program learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. Program graduates receive a Basic Gas Metal Arc Welding certificate.

**Employment Opportunities:** The Basic Gas Metal Arc Welding graduate will be employable as a special purpose welder. Graduates readily find employment as an entry level welder in the Steel Fabrication Industry.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>Occupational Courses</b>	<b>19</b>
WLD 100 Introduction to Welding Technology	6
WLD 101 Oxyfuel Cutting	4
WLD 109 Gas Metal Arc Welding (GMAW/MIG)	6
XXX xxx Program Electives	3

## **FLAT SHIELDED METAL ARC WELDER TECHNICAL CERTIFICATE OF CREDIT**

*Offered at the Augusta and Waynesboro campuses*

Entrance Dates: Fall, Winter, Spring, and Summer  
Length of Program: Three Quarters  
Credit Hours Required for Graduation: 16

**Program Description:** The Flat Shielded Metal Arc Welder certificate program is designed to provide knowledge of theory, safety practices, equipment and techniques required to perform shielded metal arc welding. Program learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. Program graduates receive a Flat Shielded Metal Arc Welder certificate.

**Employment Opportunities:** The Flat Shielded Metal Arc Welder graduate will be employable as a special purpose welder. Graduates readily find employment as an entry level welder in the Steel Fabrication Industry.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>Occupational Courses</b>	<b>16</b>
WLD 100 Introduction to Welding Technology	6
WLD 101 Oxyfuel Cutting	4
WLD 104 Shielded Metal Arc Welding I	6

# Programs of Study

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## OVERHEAD SHIELDED METAL ARC WELDER TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta and Waynesboro campuses*

Entrance Dates: Fall, Winter, Spring, and Summer  
Length of Program: Three Quarters  
Credit Hours Required for Graduation: 18

**Program Description:** The Overhead Shielded Metal Arc Welder certificate program is designed to provide knowledge of theory, safety practices, equipment and techniques required to perform shielded metal arc welding overhead. Program learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. Program graduates receive a Overhead Shielded Metal Arc Welder certificate.

**Employment Opportunities:** The Overhead Shielded Metal Arc Welder graduate will be employable as a special purpose welder. Graduates readily find employment as an entry level welder in the Steel Fabrication Industry.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>Occupational Courses</b>	<b>18</b>
WLD 105 Shielded Metal Arc Welding II	6
WLD 106 Shielded Metal Arc Welding III	6
WLD 107 Shielded Metal Arc Welding IV	6

**Note:**

- Prerequisite: Students must complete Flat Shielded Metal Arc Welder TCC program.

# Programs of Study

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## CERTIFIED PROGRAMS

### CERTIFIED CONSTRUCTION WORKER TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta and Thomson campuses*

Entrance Dates: Fall, Winter, Spring, and Summer  
Length of Program: One Quarter  
Credit Hours Required for Graduation: 16

**Program Description:** The Certified Construction Worker certificate program is a sequence of courses designed to prepare students for a career in the construction industry. Program graduates will be competent in the general areas of math and safety. The program of study emphasizes the areas of print reading, use of hand and power tools, and construction techniques. High school graduation or GED is required for graduation from this program.

**Employment Opportunities:** Certified Construction Worker graduates can find a variety of employment opportunities in residential building, construction companies and contractors.

#### Curriculum Outline

Occupational Courses	Credits
CFC 100 Safety	2
CFC 101 Introduction to Construction	2
CFC 102 Professional Tool Use and Safety	4
CFC 103 Materials and Fasteners	3
CFC 105 Construction Print Reading	5

### CERTIFIED CUSTOMER SERVICE SPECIALIST TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Waynesboro, and Thomson campuses*

Entrance Dates: Fall, Winter, Spring, and Summer  
Length of Program: One Quarter  
Credit Hours Required for Graduation: 15

**Program Description:** The age of service has arrived. People are experiencing rapid changes in technology information processing, career ladders, lifestyles and services. Companies are faced with the challenges to provide the best customer service and excellent quality standards possible. Total service assurance is the goal of many service providers today. Service jobs are increasing at a rapid rate in Georgia. The Technical College System of Georgia has designed a program to produce highly skilled employees for the service industry. Designed by service training professionals, the Certified Customer Service Specialist (CCSS) program will help provide a skilled workforce for Georgia's service, hospitality, medical, retail and other industries in which customer contact is a vital operation. The CCSS program provides training in the core interpersonal and technical skills required to deliver exceptional service in a broad range of customer contact jobs. High school graduation or GED is required for graduation from this program.

**Employment Opportunities:** Entry-level service industry/customer contact jobs.

#### Curriculum Outline

Occupational Courses	Credits
MKT 161 Service Industry Business Environment	2
MKT 162 Customer Contact Skills	6
MKT 163 Computer Skills	3
MKT 164 Business Skills	3
MKT 165 Personal Effectiveness	1

# Programs of Study

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## CERTIFIED MANUFACTURING SPECIALIST TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta, Thomson, Waynesboro campuses*

Entrance Dates: Fall, Winter, Spring, and Summer  
 Length of Program: One Quarter  
 Credit Hours Required for Graduation: 15

**Program Description:** Throughout America, changing technology and work methods have created a shortage of workers who are ready to fill the needs of business and industry. In Georgia, strong economic growth and numerous new plant locations, relocations, and expansions mean an even greater demand for skilled workers. The Technical College System of Georgia can meet this need. Designed by industry-training professionals, the Certified Manufacturing Specialist program will help provide Georgia's manufacturing companies with a skilled workforce. Topics covered in the curriculum will include manufacturing organization principles, introduction to business principles, workplace success skills, computers and automation principles, quality and productivity, basic manufacturing skills, and manufacturing skills. High school graduation or GED is required for graduation from this program.

**Employment Opportunities:** Entry level manufacturing jobs.

### Curriculum Outline

<u>Curriculum Outline</u>	<u>Credits</u>
<b>Occupational Courses</b>	<b>15</b>
AMF 152 Manufacturing Organizational Principles	2
AMF 154 Manufacturing Workplace Skills	3
AMF 156 Manufacturing Production Requirements	1
AMF 158 Automated Manufacturing Skills	3
AMF 160 Representative Manufacturing Skills	6

## CERTIFIED WAREHOUSING AND DISTRIBUTION SPECIALIST TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta, Thomson, Waynesboro campuses*

Entrance Dates: Fall, Winter, Spring, and Summer  
 Length of Program: One Quarter  
 Credit Hours Required for Graduation: 15

**Program Description:** The Certified Warehousing and Distribution Specialist technical certificate of credit program has been designed by the Technical College System of Georgia to respond to the needs of employers in the State's rapidly growing warehousing industries. Business leaders in these industries have identified the need for a highly skilled warehousing and distribution workforce to effectively meet the business needs. These employers have requested a program to be offered through Georgia's technical colleges that will train participants in basic technical and interpersonal skills required to perform a wide variety of warehousing jobs. High school graduation or GED is required for graduation from this program.

**Employment Opportunities:** Warehouse and distribution facility employment and advancement.

### Curriculum Outline

<u>Curriculum Outline</u>	<u>Credits</u>
<b>Occupational Courses</b>	<b>15</b>
DMM 154 Working in a Warehousing Environment	2
DMM 156 Warehousing and Workplace Practices	2
DMM 158 Warehousing and Distribution Processes	3
DMM 160 Core Warehousing Skills	4
DMM 162 Warehousing Technology Skills	4

# Programs of Study

## PERSONAL SERVICES

### COSMETOLOGY DIPLOMA

*Offered at the Augusta and Waynesboro campuses*

Entrance Dates: Winter and Summer: Augusta  
Fall: Waynesboro  
Length of Program: Five Quarters  
Credit Hours Required for Graduation: 82

**Program Description:** The Cosmetology program is a sequence of courses that prepares students for careers in the field of cosmetology. Learning opportunities develop academic and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes training in safety, sanitation, product knowledge, hair and scalp treatments, skin and nail care, haircutting, styling, chemical relaxing, permanent waving, hair tinting and bleaching, chemistry, anatomy and physiology, business information, salon management, and preparation for state licensing exams. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** The cosmetology graduate will be employable as a cosmetology sales person, beauty operator, salon manager, or a salon owner. After additional experience/training, a graduate may become an instructor, platform artist, color technician, make-up artist or may work in another specialized area within the cosmetology field.

#### Curriculum Outline

#### Credits

##### General Core Courses

13

ENG 1010	Fundamentals of English I	5
MAT 1012	Foundations of Mathematics	5
EMP 1000	Interpersonal Relations and Professional Development	3

##### Occupational Courses

69

COS 100	Introduction to Cosmetology Theory	5
COS 101	Introduction to Permanent Waving and Relaxing	4
COS 103	Basic Creative Treatment of Hair, Scalp, and Skin	3
COS 105	Introduction to Shampooing and Styling	4
COS 106	Introduction to Haircutting	3
COS 107	Advanced Haircutting	2
COS 108	Permanent Waving and Relaxing	3
COS 109	Hair Color	6
COS 110	Skin, Scalp, and Hair	3
COS 111	Styling	3
COS 112	Manicuring and Pedicuring	3
COS 113	Cosmetology Practicum I	5
COS 114	Cosmetology Practicum II	8
COS 115	Cosmetology Practicum III	5
COS 116	Cosmetology Practicum IV	5
COS 117	Salon/Shop Management	4
SCT 100	Introduction to Microcomputers	3

#### Note:

A grade of "C" or higher is required for all courses with a COS prefix.

## COSMETOLOGY INSTRUCTOR TRAINING TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta campus*

Entrance Dates: Fall  
Length of Program: 4 quarters  
Credit Hours Required for Graduation: 56

**Program Description:** The Cosmetology Instructor trainee Technical Certificate of Credit provides a course of study for learning the skills needed to teach the theory and practice of skills in cosmetology as required by the Technical College System of Georgia. Course work includes requirements for becoming an instructor; introduction to teaching theory, methods and aids; practice teaching; and development of evaluation instruments. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Graduates of the Cosmetology Instructor Training TCC may be employed as cosmetology instructors in public or private education and business in Georgia and many other states.

#### Curriculum Outline

##### Occupational Courses

56

COS 201	Theory of Instruction	3
COS 202	Cosmetology Record Keeping	3
COS 203	Salon Management	5
COS 204	Principles of Teaching	5
COS 205	Lesson Plans	5
COS 206	Classroom Management	5
COS 207	Lecturing	5
COS 208	Testing	5
COS 209	Practicum I	5
COS 210	Practicum II	5
COS 211	Practicum III	5
COS 212	Practicum IV	5

#### Note:

- Applicants must have a current Georgia Master of Cosmetology license.

# Programs of Study

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## NAIL TECHNICIAN TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta and Waynesboro campuses*

Entrance Dates: Fall  
Length of Program: Two Quarters  
Credit Hours Required for Graduation: 28

**Program Description:** The purpose of the Nail Technician certificate is to provide instruction in basic cosmetology theory and in techniques of manicuring and pedicuring. Learning opportunities develop academic and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes specialized training in safety, sanitation, state laws, rules and regulations, nail diseases and disorders, skin and nail care, and work ethics. The curriculum meets state licensing requirements of the State Board of Cosmetology. Program graduates receive a Nail Technician certificate and are employable as Nail Technicians. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Nail Technician certificate graduates will be eligible to obtain the State Board Occupational license that will enable them to work anywhere in the state of Georgia. If students are South Carolina residents, the hours may be transferred to the South Carolina State Board enabling them to obtain the State Board Occupational license for the state. Employment opportunities include salon employee, salon manager and salon owner.

<u>Curriculum Outline</u>	<u>Credits</u>
<b>Occupational Courses</b>	<b>28</b>
COS 100 Introduction to Cosmetology Theory	5
COS 112 Manicuring and Pedicuring	3
COS 117 Salon/Shop Management	4
COS 118 Nail Care I	7
COS 119 Nail Care II	9

**Note:**

A grade of "C" or higher is required for all courses with a COS prefix.

# Programs of Study

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## BARBERING DIPLOMA

*Offered at the Augusta campus*

Entrance Dates: Fall  
 Length of Program: Five Quarters  
 Credit Hours Required for Graduation: 81

**Program Description:** The Barbering program is a sequence of courses that prepares students for careers in the field of barbering. Learning opportunities develop academic and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes specialized training in safety, sanitation, hair treatments and manipulations, haircutting techniques, shaving, skin care, reception, sales, and management. The curriculum meets state licensing requirements of the Georgia State Board of Barbering. The program graduate receives a Barbering diploma. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Graduates of the Barbering program will be eligible to sit for the State Board barbering license that will allow them to work anywhere in the State of Georgia. If graduates are South Carolina residents, the hours may be transferred to the South Carolina State Board allowing them to obtain the South Carolina State Board Barbering license. Job opportunities include employment as a barber, salon/shop manager, or a salon/shop owner.

### Curriculum Outline

<b>General Core Courses</b>		<b>13</b>
ENG 1010	Fundamentals of English I	5
MAT 1012	Foundations of Mathematics	5
EMP 1000	Interpersonal Relations and Professional Development	3
<b>Occupational Courses</b>		<b>68</b>
BAR 100	Introduction to Barber/Styling	3
BAR 101	Introduction to Barber/Styling Implements	2
BAR 102	Science: Sterilization, Sanitation, and Bacteriology	3
BAR 103	Introduction to Haircutting	7
BAR 104	Shampooing	2
BAR 105	Haircutting/Introduction to Styling	4
BAR 106	Shaving	3
BAR 107	Science: Anatomy and Physiology	5
BAR 108	Color Theory	4
BAR 109	Chemical Restructuring of Hair I	2
BAR 110	Haircutting/Styling	5
BAR 112	Chemical Restructuring of Hair II	7
BAR 113	Structure of Skin, Scalp, and Hair	2
BAR 114	Skin, Scalp, Hair, and Facial Treatments	3
BAR 116	Advanced Haircutting/Styling	4
BAR 118	Color Application	2
BAR 120	Barber/Styling Practicum/Internship	3
BAR 121	Shop Management/Ownership	4
SCT 100	Introduction to Microcomputers	3

## BARBERING FOR COSMETOLOGISTS TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta campus*

Entrance Dates: Winter  
 Length of Program: Two Quarters  
 Credit Hours Required for Graduation: 23

**Program Description:** The purpose of the Barbering for Cosmetologists Technical Certificate is to broaden career opportunities for existing cosmetologists by offering them specialized courses that concentrate on barbering practices. This program will allow students who hold a current Master Cosmetology license to receive additional training that will qualify them to take the barbering exam. Learning opportunities develop academic and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes specialized training in safety, sanitation, hair treatment and manipulations, haircutting techniques, shaving, skin care, reception, sales, and management. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Graduates of the Barbering for Cosmetologists certificate will be eligible to obtain the State Board Barbering license that will allow them to work anywhere in the state of Georgia. If graduates are South Carolina residents, the hours may be transferred to the South Carolina State Board allowing them to obtain the South Carolina State Board Barbering license. Employment opportunities include salon employee, salon management, and salon ownership.

### Curriculum Outline

<b>Curriculum Outline</b>		<b>Credits</b>
<b>Occupational Courses</b>		<b>23</b>
BAR 100	Introduction to Barbering/Styling	3
BAR 101	Introduction to Barbering/Styling Implements	2
BAR 102	Science: Sterilization, Sanitation & Bacteriology	3
BAR 103	Introduction to Hair Cutting	7
BAR 106	Shaving	3
BAR 113	Structure of Skin, Scalp, and Hair	2
BAR 114	Skin, Scalp, Hair, and Facial Treatments	3

### **Note:**

- Applicants must have a current Master of Cosmetology license.

# Programs of Study

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## CULINARY ARTS DIPLOMA

*Offered at the Augusta campus*

Entrance Dates: Fall and Spring  
Length of Program: Six Quarters  
Credit Hours Required for Graduation: 92

### Notes:

Culinary Arts students must submit a health card prior to registration for lab/internship courses and provide documentation concerning their ability to lift up to fifty pounds. Academic advisors will provide information to students concerning application procedures for health cards.

**Program Description:** The Culinary Arts program is a sequence of courses that prepare students for the culinary profession. Learning opportunities develop academic, occupational, and professional knowledge and the skills for job acquisition, retention, and advancement. The program emphasizes a combination of culinary theory and practical application necessary for successful employment. Program graduates receive a Culinary Arts Diploma. Graduates who are current practitioners will benefit through enhancement of career potential. Entry-level persons will be prepared to pursue diverse opportunities in the culinary field as cooks, bakers, caterers, or culinary managers. \*High school graduation or GED is required for admission to this program.

**Employment Opportunities:** Program graduates are prepared for entry-level jobs as cooks, bakers, and managers. Through the American Culinary Federation Educational Institute, program graduates are eligible to become certified cooks/bakers after one year of approved work experience.

Upon completion of the six-quarter program of study, the student is qualified to work in a food preparation, production, or service area in a variety of food service establishments.

### Curriculum Outline

### Credits

<b>General Core Courses</b>	<b>13</b>
ENG 1010 Fundamentals of English I	5
MAT 1012 Foundations of Mathematics	5
EMP 1000 Interpersonal Relations and Professional Development	3
<b>Occupational Courses</b>	<b>79</b>
CUL 100 Professionalism in Culinary Arts	3
CUL 110 Food Service Sanitation and Safety	3
CUL 112 Principles of Cooking	6
CUL 114 American Regional Cuisine	5
CUL 116 Food Service Purchasing and Control	3
CUL 121 Baking Principles I	5
CUL 122 Baking Principles II	5
CUL 127 Banquet Preparation and Presentation	4
CUL 129 Front of the House Services	3
CUL 130 Pantry, Hors D' Oeuvres and Canapés	5
CUL 132 Garde Manager	5
CUL 133 Food Service Leadership and Decision Making (or)	
MSD 103 Leadership	5
CUL 137 Nutritional Food and Menu Development	3
CUL 215 Contemporary Cuisine I	5
CUL 220 Contemporary Cuisine II	5
CUL 216 Practicum/Internship I	11
SCT 100 Introduction to Microcomputers	3

# Programs of Study

## EARLY CHILDHOOD CARE AND EDUCATION ASSOCIATE OF APPLIED SCIENCE DEGREE

*Offered at the Augusta, Thomson, and Waynesboro campuses*

Entrance Dates: Fall and Spring: Augusta  
Fall and Spring: Thomson  
Fall: Waynesboro  
Length of Program: Six Quarters  
Credit Hours Required for Graduation: 110

**Program Description:** The Early Childhood Care and Education associate degree program is a sequence of courses designed to prepare students for careers in child care and related fields. Learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The program emphasizes a combination of early childhood care and education theory and practical application necessary for successful employment. Program graduates receive an Early Childhood Care and Education Associate of Applied Science Degree with a Paraprofessional Specialization. High school graduation or GED is required for admission to this program.

**Employment Opportunities:** The field of Early Childhood Care and Education is diverse and offers numerous career opportunities. Graduates of this program may find employment in the following settings: Child care, Head Start, pre-kindergarten, kindergarten, public and private primary schools, school age child care, programs for individuals with special needs, public school paraprofessionals as defined by NO Child Left Behind Act, child care resource and referral agencies, and early intervention programs.

### Curriculum Outline

	<b>Credits</b>
<b>General Core Courses</b>	<b>30</b>
ENG 1101 Composition and Rhetoric	5
ENG 1102 Literature and Composition (or)	5
HUM 1101 Introduction to Humanities (or)	5
MUS 1101 Music Appreciation	5
ART 1101 Art Appreciation (or)	5
ENG 1105 Technical Communications (or)	5
SPC 1101 Public Speaking	5
MAT 1101 Mathematical Modeling (or)	5
MAT 1111 College Algebra (or)	5
MAT 1100 Contemporary Mathematics Program	5
PSY 1101 Introductory Psychology	5
SOC 1101 Introductory Sociology (or)	5
XXX xxx General Core Elective	5

<b>Occupational Courses</b>		<b>65</b>
ECE 101	Introduction to Early Childhood Care and Education	5
ECE 103	Human Growth and Development I	5
ECE 105	Health, Safety, and Nutrition	5
ECE 112	Curriculum Development	3
ECE 113	Art for Children	3
ECE 114	Music and Movement	3
ECE 115	Language Arts and Literature	5
ECE 116	Math and Science	5
ECE 121	Early Childhood Care and Education Practicum I	3
ECE 122	Early Childhood Care and Education Practicum II	3
ECE 201	Exceptionalities	5
ECE 202	Social Issues and Family Involvement	5
ECE 224	Early Childhood Care and Education Internship	12
SCT 100	Introduction to Microcomputers	3

<b>Paraprofessional Specialization Courses</b>		<b>15</b>
ECE 203	Human Growth and Development II	5
ECE 211	Methods and Materials	5
ECE 212	Professional Practices and Classroom Management	5

### **Notes:**

- The Early Childhood Care and Education Degree program meets the requirement for the 120 clock hours of training required for the CDA (Child Development Associate) credential. After graduation, students may apply for the CDA credential through direct assessment.
- Prior to beginning the laboratory rotation in ECE 101, Early Childhood Care and Education students must have a physical exam and present a complete medical form documenting any special medical conditions, a negative tuberculin test reading, and their decision to take or decline the Hepatitis B vaccine series.
- Students must have the physical stamina to work with young children.
- Prior to beginning the laboratory rotation in ECE 101, students must submit an application for a Criminal Background Records Check and present a satisfactory Records Check as required by the Bright from the Start: Georgia Department of Early Care and Learning Child Care Services Division. No person having an unsatisfactory determination as to his or her criminal record may be a director or employee of a licensed or commissioned child care program, or a public school employee, and thus, he/she would be discouraged from pursuing this program of study. Criminal records checks are good for a 12 month period. Associate degree students must submit a second criminal records check to the department by mid-term fourth quarter. The criminal records check may be done by local law enforcement.
- Additionally, students must be aware that many employers also require drug screening as a condition of employment and practice zero tolerance.
- ECE students completing their internship will be required to take the National Occupational Competency Test.
- The State of Georgia has a law regarding the placement of persons with criminal records in childcare facilities. Anyone who has been convicted of a felony offense or of neglecting or abusing a dependent person, a sexual offense or any other "covered crime" will not be allowed to work in a childcare facility. If you are affected by this law, or think you may be, discuss your situation immediately with your advisor.



# Programs of Study

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## CHILD DEVELOPMENT SPECIALIST TECHNICAL CERTIFICATE OF CREDIT

*Offered at the Augusta, Thomson, and Waynesboro campuses*

Entrance Dates: Fall and Spring: Augusta  
Summer: Thomson  
Fall: Waynesboro  
Length of Program: Two Quarters  
Credit Hours Required for Graduation: 21

**Program Description:** The purpose of this Technical Certificate is to provide the necessary skills for entry-level employment as a Child Development Specialist. Skill areas include planning a safe and healthy learning environment, steps to advance children's physical and intellectual development, positive ways to support children's social and emotional development; strategies to establish productive relationships with families, strategies to manage an effective program operation, professionalism; observing and recording children's behavior, and principles of child growth and development. High school graduation or GED is required for admission to this program

**Employment Opportunities:** Students awarded the Child Development Specialist TCC will find employment as caregivers in for-profit and not-for-profit child care centers, corporate child care centers, family and group day care homes, private homes, children's homes, Early Head Start programs, early intervention programs and pre-kindergarten programs.

### Curriculum Outline

#### **Occupational Courses**

ECE 101	Introduction to Early Childhood Care and Education	5
ECE 103	Human Growth and Development I	5
ECE 105	Health, Safety, and Nutrition	5
ECE 112	Curriculum Development	3
ECE 121	Early Childhood Care and Education Practicum I <b>(or)</b>	
EMP 1000	Interpersonal Relations and Professional Development	3

#### **Notes:**

- The Early Childhood Care and Education Diploma program meets the requirement for the 120 clock hours of training required for the CDA (Child Development Associate) credential. After graduation, students may apply for the CDA credential through direct assessment.
- Prior to beginning the laboratory rotation in ECE 101, Early Childhood Care and Education students must have a physical exam and present a complete medical form documenting any special medical conditions, a negative tuberculin test reading, and their decision to take or decline the Hepatitis B vaccine series.
- Students must have the physical stamina to work with young children.
- Prior to beginning the laboratory rotation in ECE 101, students must submit an application for a Criminal Background Records Check and present a satisfactory Records Check as required by the Georgia Department of Human Resources and Bright from the Start: Georgia Department of Early Care and Learning, Child Care Services Division. No person having an unsatisfactory determination as to his or her criminal record may be a director or employee of a licensed or commissioned child care program, or a public school employee, and thus, he/she would be discouraged from pursuing this program of study.
- Additionally, students must be aware that many employers also require drug screening as a condition of employment and practice zero tolerance.
- The State of Georgia has a law regarding the placement of persons with criminal records in childcare facilities. Anyone who has been convicted of a felony offense or of neglecting or abusing a dependent person, a sexual offense or any other "covered crime" will not be allowed to work in a childcare facility. If you are affected by this law, or think you may be, discuss your situation immediately with your advisor.

## COURSE DESCRIPTIONS

Course descriptions are arranged in alphabetical-numerical order. THREE numbers shown after the course title indicate in sequence: number of hours in class per week; number of hours in demonstration laboratory per week; and number of credit hours for the course. FOUR numbers shown after the course title indicate in sequence: number of hours in class per week; number of hours in demonstration laboratory per week; number of hours in practical performance laboratory and/or occupation-based instruction per week; and number of credit hours for the course. Course prerequisites and corequisites are specified in parentheses. College Credit is designated for developmental courses by the letters I.C. following the number of Credit Hours. Developmental courses cannot be used for elective credit to meet graduation requirements. Unless otherwise specified, regular admission is a prerequisite for registration for all credit courses.

Class is defined as instruction which emphasizes group or individualized classroom learning. Demonstration laboratory is defined as instruction which emphasizes teacher assisted learning activities. Practical performance laboratory is defined as instruction which emphasizes structured activities requiring the application and practice of occupational competencies. Occupation-based instruction is defined as instruction which emphasizes supervised work-experience activities requiring the application of occupational competencies.

**ACC 101, Principles of Accounting I 4-4-6** (Prerequisite: Program admission) Introduces the basic concepts of the complete accounting cycle and provides the student with the necessary skills to maintain a set of books for a sole proprietorship. Topics include: accounting vocabulary and concepts, the accounting cycle and accounting for a personal service business, the accounting cycle and accounting for a merchandising enterprise, and cash control. A grade of "C" or better is required before enrolling in ACC 102.

**ACC 102, Principles of Accounting II 4-4-6** (Prerequisite: ACC 101 with a C) Applies the basic principles of accounting to specific account classifications and subsidiary record accounting. Topics include: receivables, inventory, plant assets, payroll, payables, partnerships, and sales tax returns. Laboratory work demonstrates theory presented in class. A grade of "C" or better is required before enrolling in ACC 103.

**ACC 103, Principles of Accounting III 4-4-6** (Prerequisite: ACC 102 with a C) Emphasizes a fundamental understanding of corporate and cost accounting. Topics include: accounting for a corporation, statement of cash flows, cost accounting, budgeting, and long-term liabilities. Work demonstrates theory presented in class.

**ACC 104, Computerized Accounting 1-4-3** (Prerequisites: ACC 102 and SCT 100) Emphasizes operation of computerized accounting systems from manual input forms. Topics include: equipment use, general ledger, accounts receivable and payable, payroll, cash management, and financial reports. Laboratory work includes theoretical and technical application.

**ACC 105, Database Applications 1-4-3** (Prerequisite: SCT 100) Emphasizes use of database management software packages to access, manipulate, and create file data. Topics include: database concepts, data entry, structuring databases, data access, data manipulation, organizing data, database creation, and file documentation managing databases.

**ACC 106, Spreadsheet Applications 1-4-3** (Prerequisite: SCT 100 and ACC 102). Provides instruction in the use of electronic spreadsheet software in business applications. Students become proficient in creating and modifying spreadsheets in a business environment and in printing files that meet business standards. Topics include: spreadsheet concepts, data entry and modification, analyzing data, charts and graphs; formatting data and content, and managing workbooks.

**ACC 122, Introduction to Governmental and Nonprofit Accounting 5-0-5** (Prerequisites: ACC 103) Provides an

introduction to financial reporting and accounting principles for state/local governments and nonprofit entities.

**ACC 150, Cost Accounting 4-4-6** (Prerequisite: ACC 103) Emphasizes a thorough understanding of cost concepts, cost behavior, and cost accounting techniques as they are applied to manufacturing cost systems. Topics include: job order cost accounting, process cost accounting, and standard cost accounting.

**ACC 151, Individual Tax Accounting 4-2-5** Provides instruction for preparation of both state and federal income tax. Topics include: taxable income, income adjustments, standard deductions, itemized deductions, exemptions, tax credits, and tax calculations.

**ACC 152, Payroll Accounting 4-2-5** (Prerequisite: ACC 101) Provides students with an understanding of the laws that affect a company's payroll structure and practical application skills in maintaining payroll records. Topics include: payroll tax laws, payroll tax forms, payroll and personnel records, computing wages and salaries, taxes affecting employees and employers, and analyzing and journalizing payroll transactions.

**ACC 157, Integrated Accounting Management Systems 2-8-6** (Prerequisites: ACC 103, ACC 104, ACC 106, and SCT 100) This advanced computer course is designed to be taken at the end of the student's program. Emphasizes use of database management packages, electronic spreadsheet packages, and accounting software packages for accounting/financial applications with more advanced systems. Topics include: creation and management of database applications, creation and management of spreadsheet applications, and creation and management of accounting integrated software systems.

**ACC 168, Accounting Internship II 0-36-12** (Prerequisites: All non-elective courses required for program completion and advisor approval.) Provides students with in-depth application and reinforcement of accounting and employability principles in an actual job setting. Allows the student to become involved in intensive on-the-job accounting applications that require full-time concentration, practice, and follow-through. Topics include: appropriate work habits, acceptable job performance, application of accounting knowledge and skills, interpersonal relations, and progressive productivity. The full-time accounting internship is implemented through the use of written individualized training plans, written performance evaluation, weekly documentation or seminars, and/or other projects as required by the instructor.

**ACT 100, Refrigeration Fundamentals 3-2-4** (Prerequisite: Provisional admission) Introduces basic concepts and theories of refrigeration. Topics include: the laws of thermodynamics, pressure and temperature relationships, heat transfer, the refrigeration cycle, and safety.

**ACT 101, Principles and Practices of Refrigeration 5-2-3-7** (Prerequisite: ACT 100) Introduces the use of refrigeration tools, materials and procedures needed to install, repair, and service refrigeration systems. Topics include: refrigeration tools, piping practices, service valves, leak testing, refrigerant recovery, recycling and reclamation, evacuation, charging, and safety.

**ACT 102, Refrigeration Systems Components 5-2-3-7** (Prerequisites: ACT 100 and 101) Provides the student with the skills and knowledge to install, test, and service major components of a refrigeration system. Topics include: compressors, condensers, evaporators, metering devices, service procedures, refrigeration systems, and safety.

**ACT 103, Electrical Fundamentals 5-2-3-7** (Prerequisite: Provisional admission) Introduction to fundamental electrical concepts and theories as applied to the air conditioning industry. Topics include: AC and DC theory, electric meters, electric diagrams, distribution systems, electrical panels, voltage circuits, code requirements, and safety.

**ACT 104, Electric Motors 2-2-3-4** (Prerequisite/Corequisite: ACT 103) Continues the development of skills and knowledge necessary for application and service of electric motors commonly used by the refrigeration and air conditioning industry. Topics include: diagnostic techniques, capacitors, installation procedures, types of electric motors, electric motor service, and safety.

**ACT 105, Electrical Components 3-2-3-5** (Prerequisites/Corequisite: ACT 103) Provides instruction in identifying, installing, and testing commonly used electrical components in an air conditioning system. Topics include: pressure switches, overload devices, transformers, magnetic starters, other commonly used controls, diagnostic techniques, installation procedures, and safety.

**ACT 106, Electric Control Systems and Installation 2-2-3-4** (Prerequisites/Corequisite: ACT 105) Provides instruction on wiring various types of air conditioning systems. Topics include: servicing procedures, solid state controls, system wiring, control circuits, and safety.

**ACT 107, Air Conditioning Principles 6-4-8** (Prerequisites/Corequisite: ACT 102) Introduces fundamental theory and techniques needed to identify major components and functions of air conditioning systems. Instruction is given on types of air conditioning systems and use of instrumentation. Topics include: types of AC systems, heat-load calculation, properties of air, psychometrics, duct design, air filtration, and safety principles.

**ACT 108, Air Conditioning Systems and Installation 2-0-3-3** (Prerequisites/Corequisite: ACT 102 and ACT 106) Provides instruction on the installation and service of residential air conditioning systems. Topics include: installation procedures, service, split-systems, add-on systems, packaged systems, and safety.

**ACT 109, Troubleshooting Air Conditioning Systems 5-2-3-7** (Prerequisites/Corequisite: ACT 108 and ENG 1010) Provides instruction on troubleshooting and repair of major components of a residential air conditioning system. Topics include: troubleshooting techniques, electrical controls, air flow, refrigeration cycle, and safety.

**ACT 110, Gas Heating Systems 2-2-6-5** (Prerequisites: ACT 102, ACT 106, and MAT 1012) Introduces principles of combustion and service requirements for gas heating systems. Topics include: service procedures, electrical controls, piping, gas valves, venting, code requirements, principles of combustion, and safety.

**ACT 111, Heat Pumps and Related Systems 3-4-3-6** (Prerequisites/Corequisite: ACT 102 and ACT 106) Provides instruction on installation and servicing of electric heating systems, heat pumps, and related systems. Topics include: installation procedures, service procedures, troubleshooting, valves, electrical components, safety, geothermal ground source energy supplies, and dual fuels.

**AHS 102, Drug Calculation and Administration 2-2-3** (Prerequisite: Program admission) Uses basic mathematical concepts and includes basic drug administration. Emphasizes critical thinking skills. Topics include: systems of measurement, calculating drug problems, resource materials usage, basic pharmacology, administering medications in a simulated clinical environment, principles of IV therapy techniques, and client education.

**AHS 103, Nutrition and Diet Therapy 2-0-2** (Prerequisite: Program admission) A study of the nutritional needs of the individual. Topics include: nutrients, standard and modified diets, nutrition throughout the lifespan, and client education.

**AHS 104, Introduction to Health Care 2-3-3** (Prerequisite: Program admission) Introduces a grouping of fundamental principles, practices, and issues common to many specializations in the health care profession. In addition to the essential skills, students explore various delivery systems and related issues. Topics include: basic life support/CPR, basic emergency care/first aid and triage, vital signs, infection control, and blood/air-borne pathogens.

**AHS 109, Medical Terminology for Allied Health 3-0-3** (Prerequisite: Provisional admission) Introduces the elements of medical terminology. Emphasis is placed on building familiarity with medical words through knowledge of roots, prefixes, and suffixes. Topics include: origins (roots, prefixes, and suffixes), word building, abbreviations and symbols, terminology related to the human anatomy, reading medical orders and reports, and terminology specific to the student's field of study.

**AHS 1011, Anatomy and Physiology 5-0-5** (Prerequisite: Program admission; Corequisite: AHS 109) Focuses on basic normal structure and function of the human body. Topics include: general plan and function of the human body; integumentary system; skeletal system; muscular system; nervous and sensory systems; endocrine system; cardiovascular system; lymphatic system; respiratory system; digestive system; urinary system; and reproductive system.

**AHS 1015, Basic Inorganic Chemistry 3-2-4** (Prerequisite/Corequisite: MAT 1012) Introduces chemical concept principles, laws, and techniques applicable to the medical laboratory. Topics include: laboratory safety; fundamental principles of chemistry; weight and measures; solutions; and basic laws of chemistry.

**AMF 150, Manufacturing Quality Control 4-3-5** Introduces a variety of basic skills that help improve the quality of outgoing products and services. Topics include: quality assurance, quality control, and inspection practices at the technician level. Course is an effective training aid for ASQC Certified Quality Technician and Certified Mechanical Inspector examinations.

**AMF 152, Manufacturing Organizational Principles 2-0-2** This course provides learners with an overview of the functional and structural composition of organizations. Topics include: supply and demand, product flow, types of manufacturing business principles, employee impact on the bottom line, and workplace ethics.

**AMF 154, Manufacturing Workplace Skills 3-0-3** This course provides the personal and interpersonal effectiveness skills required to succeed in the manufacturing environment. Topics include: listening, communication, team skills, personal wellness, managing change, and creating a positive image.

**AMF 156, Manufacturing Production Requirements 1-0-1** This course provides learners with the knowledge and skills associated with quality and productivity in the manufacturing environment.

**AMF 158, Automated Manufacturing Skills 3-0-3** This course provides learners with an introduction into computerized process control and the operational requirements associated with automated machines in the manufacturing environment.

**AMF 160, Representative Manufacturing Skills 6-0-6** This course provides learners with an introduction to representative manufacturing skills and associated safety requirements. Topics include: plant safety, materials movement equipment, precision measurements for manufacturing, and blueprint reading.

**ART 1101, Art Appreciation 5-0-5** (Prerequisite: ENG 1101 with "C" or better.) Explores the analysis of well-known works of visual arts, their composition, and the relationship to their periods through writing. Students practice various modes of writing, ranging from exposition to argumentation and persuasion. The course includes a brief review of standard grammatical and stylistic usage in proofreading and editing. An introduction to locating, acquiring, and documenting information resources lays the foundation for research. Topics include: the re-creative critical process, the themes of art, the formal elements of design, and the placing of art in the historical context, writing analysis, practice, revision, and research about a work of visual arts.

**AUT 120, Introduction to Automotive Technology 2-3-3** (Prerequisite: Provisional admission) Introduces basic concepts and practices necessary for safe and effective automotive shop operation. Topics include: safety regulations and procedures, legal/ethical responsibilities, shop organization, management, and work flow systems.

**AUT 122, Electrical and Electronic Systems 4-6-6** (Prerequisite/Corequisite: AUT 120) Introduces automotive electricity. Topics include: basic circuit construction, use of electrical measuring devices, function and operation of automotive electrical components, use of services publications, electrical diagnosis and repair, electronic controls systems, components and testing procedures.

**AUT 124, Battery, Starting and Charging Systems 2-6-4** (Prerequisite/Corequisite: AUT 122) Emphasizes the basic principles, diagnosis, and service/repair of batteries, starting systems, starting system components, alternators, and regulators. Topics include: battery diagnosis and service, current and voltage tests, inspection, diagnostic testing, and replacement of starting system components, inspection, diagnostic testing and repair or replacement of starting system components, inspection, diagnostic testing and repair or replacement of regulator and alternator components and systems.

**AUT 126, Engine Principles of Operation and Repair 3-9-6** (Prerequisite/Corequisite: AUT 120) Introduces automotive engine theory and repair, placing emphasis on inspection, testing, and diagnostic techniques. Topics include: general diagnosis of engines, inspection, diagnosis, and repair of cylinder heads, valve trains, engine blocks, lubrication, and cooling systems.

**AUT 128, Fuel, Ignition, and Emission Systems 5-6-7** (Prerequisites: AUT 122, AUT 124 and AUT 126) Introduces fuel, ignition, and exhaust systems theory, diagnosis, repair, and service for vehicles with carburetion and fuel injection systems. Topics include: engine operation and air pressure, chemistry and combustion, airflow requirements, air-fuel ratio, ignition and emission systems theory, concept and controls, repair and replacement of components, and total system performance analysis.

**AUT 130, Automotive Brake Systems 3-3-4** (Prerequisite/Corequisite: AUT 122) Introduces brake systems theory and its application to automotive systems. Topics include: basic fundamentals, hydraulic control devices, system service, power brakes, brake problems and diagnosis, brake service philosophy, and legal and health issues.

**AUT 132, Suspension and Steering Systems 3-3-4** (Prerequisite: AUT 122) Introduces students to principles of steering, suspension, wheel alignment, electronic steering, and electronic active suspension. Topics include: steering systems diagnosis and repair, wheel alignment diagnosis and adjustment, wheel/tire services, and diagnosis of electrical and electronic control steering and suspension systems.

**AUT 134, Drivelines 2-6-4** (Prerequisite: AUT 122) Introduces basics of rear-wheel drive, front-wheel drive, and four-wheel drive driveline related operation, diagnosis, service and related electronic controls. Topics include: drivetrain operation and diagnosis, front-wheel drive, rear-wheel drive, 4x4 operation, modes, and diagnosis, and limited slip differentials.

**AUT 138, Manual Transmission Transaxle 3-3-4** (Prerequisite/Corequisite: AUT 122) Introduces basics of front and rear-wheel drive. Clutch operation, diagnosis and service are included. Electronic controls related to transmission/transaxle operation are discussed. Topics include: fundamentals of manual transmission/transaxle operation, diagnostic techniques, and clutch system operation, diagnosis, and repair.

**AUT 140, Electronic Engine Control Systems 6-3-7** (Prerequisite: AUT 128) Introduces concept of electronic control. Topics include: On-Board Diagnostics I (OBO) to include requirements and monitoring technology, diagnostic trouble code definitions, essentials of drivability diagnosis, and data interpretation using a scanner, internal function of the microprocessor controller, and sensing and controlling devices.

**AUT 142, Climate Control Systems 5-3-6** (Prerequisites: AUT 122 and 138) Introduces the theory and operation of automotive heating and air conditioning systems. Students attain proficiency in inspection, testing, service, and repair of heating and air conditioning systems and related components. Topics include: basic principles of refrigeration/heating/air management and controls, climate control operation, and climate control diagnosis and service.

**AUT 144, Introduction to Automatic Transmissions 3-3-4** (Prerequisite: AUT 122) Introduces students to basic transmission/transaxle theory, inspection, and service procedures. Focuses on minor in-car adjustments, replacements, and repair. Topics include: automatic transmission hydraulic/mechanical theory, automatic transmission service, and exterior adjustments.

**AUT 210, Automatic Transmission Repair 5-6-7** (Prerequisite: AUT 144) Introduces automatic transmission hydraulic/mechanical operations, transmission repair, and automatic transmission hydraulic/mechanical diagnosis. Topics include: automatic transmission hydraulic/mechanical operation, diagnosis of automatic transmission mechanical and hydraulic related problems, and automatic transmission proper repair procedures.

**AUT 212, Advanced Electronic Transmission Diagnosis 2-3-3** (Prerequisite/Corequisite: AUT 210) Introduces automatic transmission hydraulic/mechanical and electronic diagnosis and repair. Topics include: electronically controlled automatic transmission, automatic transmission electrical and electronic problem diagnosis and repair.

**AUT 214, Advanced Electronic Controlled Brake System Diagnosis 3-3-4** (Prerequisite/Corequisite: AUT 130) Introduces anti-lock brake system (ABS) to include ABS components and ABS operation, testing, and diagnosis. Topics include: general brake and anti-lock brake systems diagnosis and testing, light truck rear anti-lock brake systems, four-wheel anti-lock brake system locations, components, and operation.

**AUT 216, Advanced Electronic Controlled Suspension and Steering System 3-3-4** (Prerequisite/Corequisite: AUT 132) Introduces principles of electronic suspension, electronic steering, and electronic active suspension. Topics include: electronic steering systems diagnosis and adjustment/repair, and diagnosis of electronic controlled steering and suspension systems.

**AUT 218, Advanced Electronic Engine Control Systems 3-3-4** (Prerequisite/Corequisite: AUT 140) Introduces On-Board Diagnostics II (OBD II), California Air Research Board (CARB) requirements and monitoring technology, diagnostic trouble code definitions, and essentials of advanced drivability diagnosis and data interpretation using a scanner. Topics include: advanced electronic engine controls, OBD II requirements, OBD II operation and diagnosis/testing, CARB requirements, and test equipment.

**AUT 220, Automotive Technology Internship 0-18-6** (Prerequisite/Corequisite: AUT 128, Departmental approval) Provides student work experience in the occupational environment. Topics include: application of automotive technology knowledge and skills, appropriate employability skills, problem solving, adaptability to job setting, progressive productivity, and acceptable job performance.

**AUT 250, Advanced Electronics Training 3-2-4** Covers advanced applications of electronics to automobiles. Topics include: basic semiconductors and circuits, specialized semiconductors, basic digital theory, and computer theory.

**AUT 252, Computer Controlled Automatic Transmissions 2-3-3** (Department Approval) Continues students' study of automotive automatic transmissions. Emphasis is placed on computer control of transmission operation. Topics include: transmission construction, computer control theory, computer control functions, sensing devices and connections, and troubleshooting

**AUT 253, Emerging Technologies in Automotive Service 1-4-3** (Department Approval) Students are introduced to the trends and principles of automotive servicing. Emphasis is on development and reinforcement of competencies necessary for the servicing and repairing of overhead cam and multiple valve systems. Topics include: automotive technology, contemporary valve systems, and turbochargers and superchargers.

**BAR 100, Introduction to Barbering/Styling 3-0-3** (Prerequisite: Provisional admission) Introduces the fundamental theory and practices of the barber/styling profession. Emphasis will be placed on professional practices and safety. Topics include: barbering history, personality development, professional ethics, professional image, safety, and reception and telephone techniques.

**BAR 101, Introduction to Barber/Styling Implements 1-2-2** (Prerequisite: Provisional admission) Students are taught the fundamentals of each barber/styling implement. Emphasis will be placed on the maintenance and care of each implement. Topics include: nomenclature, types and sizes, proper use and care, and maintenance.

**BAR 102, Science: Sterilization, Sanitation, and Bacteriology 3-0-3** (Prerequisites: BAR 100, BAR 101) Introduces fundamental theories and practices of bacteriology, sterilization, sanitation, safety, and the welfare of the barber/stylist and patron. Topics include: sterilization, sanitation, safety, bacteriology, and Hazardous Duty Standards Act compliance.

**BAR 103, Introduction to Hair Cutting 5-2-3-7** (Prerequisite BAR 102) Introduces the theory and skills necessary to apply basic haircutting techniques. Safe use of haircutting implements will be stressed. Topics include: preparation of patron, haircutting terminology, safety and sanitation, implements, and basic haircutting techniques.

**BAR 104 – Shampooing 1-2-0-2** (Prerequisite Program Admission) Introduces the fundamental theory and skills required to shampoo hair. Laboratory training includes shampooing a live model. Topics include: shampoo chemistry, patron preparation, and shampoo procedures.

**BAR 105 - Haircutting/Introduction to Styling 1-2-6-4** (Prerequisite: BAR 104; Corequisite: BAR 103) Continues the theory and application of haircutting techniques and introduces hairstyling. Topics include: introduction to styling, client consultation, head and hair analysis, style cutting techniques, and implements for style cutting and tapering techniques.

**BAR 106, Shaving 1-2-3-3** (Prerequisite: BAR 103) Introduces the theory and skills necessary to prepare and shave a patron. Simulated shaving procedures will precede practice on live models. Topics include: patron preparation, beard preparation, shaving techniques, once-over shave techniques, and safety precautions.

**BAR 107, Science: Anatomy and Physiology 5-0-5** (Prerequisite: Program Admission) Develops knowledge of the function and care of the scalp, skin, and hair. Emphasis is placed on the function, health, and growth of these areas. Topics include: cells, skeletal system, muscular system, nervous system, circulatory system, and related systems.

**BAR 108 – Color Theory 3-2-0-4** (Prerequisite: MAT 1012; Corequisite: BAR 107) Introduces the fundamental theory of color, predispositions tests, color selection, and color application. Topics include: basic color concepts, skin reactions, the color wheel, and color selection and application.

**BAR 109 - Chemical Restructuring of Hair I 1-2-0-2** (Prerequisites: MAT 1012; Corequisite: BAR 107) Introduces the chemistry and chemical reactions of permanent wave solutions and relaxers. Topics include: permanent wave techniques, safety procedures, chemical relaxer techniques, and permanent wave and chemical relaxer, and application procedures on manikins.

**BAR 110 - Haircutting/Styling 1-2-9-5** (Prerequisite: BAR 105) Continues the theory and application of haircutting and styling techniques. Topics include: elevation and design cutting; introduction to hairpieces, blow-dry styling, thermal waving, and curling; and non-chemical style.

**BAR 112 - Chemical Restructuring of Hair II 4-0-9-7** (Prerequisite: BAR 109) Provides instruction in the application of permanent waves and relaxers. Precautions and special problems involved in applying permanent waves and relaxers will be emphasized. Application of perms and relaxers on live models is included. Topics include: permanent wave application, hair relaxer application, timed permanent wave, timed relaxers application, safety precautions, and Hazardous Duty Standards Act compliance.

**BAR 113, Structure of Skin, Scalp, and Hair 2-1-2** (Prerequisite: Program admission) Introduces the theory, procedures, and products used in the care and treatment of the skin, scalp, and hair. Topics include: treatment theory, basic corrective hair and scalp treatments, plain facial, products and supplies, and diseases and disorders.

**BAR 114, Skin, Scalp Hair and Facial Treatments 1-0-6-3** (Prerequisite: BAR 113) Provides instruction on the theory and application of techniques in the treatment of the skin, scalp, and hair. Emphasis will be placed on work with live models. Topics include: implements, products and supplies, diseases and disorders, corrective hair and scalp treatments, facial procedures and manipulations, and safety precautions.

**BAR 116 – Advanced Haircutting/Styling 1-2-6-4** (Prerequisites: BAR 106, BAR 110, BAR 112) Continues the theory and application of haircutting, styling, and shaving techniques. Topics include: advanced haircutting; use of clippers, shears, and razor; hair chemical texturizing/styling; permanent waving/styling; shaving techniques; and beard trimming.

**BAR 118 - Color Application 1-2-0-2** (Prerequisite: BAR 108) Presents the application of temporary, semi-permanent, and permanent hair coloring products. Topics include: mustache and beards, coloring products, safety precautions and tests, mixing procedures, color selection and application

**BAR 120, Barber/Styling Practicum/Internship 0-0-9-3**

(Prerequisites: All occupational courses) Provides experience necessary for professional development and completion of requirements for state licensure. Emphasis will be placed on the display of professional conduct and positive attitudes. The requirements for this course may be met in a laboratory setting or in a combination of a laboratory setting and an approved internship facility. Topics include: haircutting/styling, hairstyling texturizing, shaving, beard trimming, thermal waving, hairpiece fitting and styling, safety precautions, and licensure preparation.

**BAR 121, Shop Management/Ownership 3-2-0-4**

(Prerequisites/Corequisites: BAR 116) Emphasizes the steps involved in opening and operating a privately owned cosmetology salon or barber/styling shop. Topics include: planning a salon/shop, business management, retailing, public relations, sales skills, client retention, and entrepreneurship

**BFM 103, Fundamentals of Structural Maintenance 2-8-0-6**

(Prerequisite/Corequisite: MAT 1012) Provides introductory skills in basic building repair and maintenance. Topics include: carpentry and cabinet repairs; tile and floor repairs; paints and finishes; lab and shop safety; building codes; handicap accessibility; conduit installation; and waterproofing.

**BFM 105, Fundamentals of Plumbing 1-4-0-3**

(Corequisite: MAT 1012) Provides introductory skills in basic plumbing. Topics include: basic pipe sizing; fitting identification and terminology; pipe joining; valve identification; plumbing repairs; and lab and shop safety.

**BIO 1111, Biology I 4-3-5**

(Prerequisite: Associate Degree level placement testing) Provides an introduction to basic biological concepts with a focus on living cells. Topics include: chemical principles related to cells; cell structure and function; energy and metabolism; cell division; protein synthesis; genetics; biotechnology; and use of basic laboratory techniques and equipment.

**BIO 2113, Anatomy and Physiology I 4-3-5**

(Prerequisite: Associate Degree level placement testing; Corequisite: ENG 1101) Introduces the anatomy and physiology of the human body. Emphasis is placed on the development of a systemic perspective of anatomical structures and physiological processes. Topics include: body organization; cell structure and functions; tissue classifications; the integumentary system; the skeletal system; the muscular system; the nervous and sensory systems. Laboratory experience supports classroom learning.

**BIO 2114, Anatomy and Physiology II 4-3-5**

(Prerequisite: BIO 2113) Continues the study of the anatomy and physiology of the human body. Topics include: the endocrine system; cardiovascular system; the blood and lymphatic system; immune system; respiratory system; digestive system; urinary system; and reproductive system. Laboratory experience supports classroom learning.

**BIO 2117, Introductory Microbiology 3-4-5**

(Prerequisite: BIO 2113) Provides students with a foundation in basic microbiology with emphasis on infectious diseases. Topics include: characterization, classification, and description of microorganisms, use of compound microscope, morphology and fine structure of bacteria, gram positive and gram negative bacteria, reproduction and growth of bacteria, viral diseases, host-parasite relationship, host defense mechanisms, epidemiology, antimicrobial and chemotherapeutic agents, control of microorganisms, and laboratory safety.

**BUS 100, Introduction to Keyboarding 1-4-3**

(Prerequisite/Corequisite: None) This course introduces the touch system of keyboarding placing emphasis on correct techniques. Topics include: computer hardware, computer software, file management, learning the alphabetic keyboard, the numeric keyboard and keypad, building speed and accuracy, and proofreading. Students attain a minimum of 25 GWAM (gross words a minute) on 3-minute timings with no more than 3 errors. A grade of "C" or better is required if the course will be used as a prerequisite.

**BUS 102, Intermediate Document Processing 1-9-5**

(Prerequisite: BUS 1130) Continues the development of keyboarding speed and accuracy with further mastery of correct keyboarding techniques. Students attain a minimum typing speed of 40 words per minute with a maximum of 5 errors on a 5 minute timed keyboarding test. Topics include: building speed and accuracy, formatting and producing business documents, language arts, and proofreading. Laboratory practice parallels class instruction. A grade of "C" or better is required if the course will be used as a prerequisite.

**BUS 103, Advanced Document Processing 1-9-5**

(Prerequisites: BUS 102 and ENG 1010 or ENG 1101) Continues the development of increased keyboarding speed and accuracy with mastery of complex document production. Students attain a minimum typing speed of 50 words per minute with a maximum of 5 errors on a 5 minute timed keyboarding test. Topics include: building speed and accuracy, integrated projects/applications, decision making, language arts, and proofreading. Laboratory practice parallels class instruction. A grade of "C" or better is required if the course will be used as a prerequisite.

**BUS 105, Database Applications 1-4-3**

(Prerequisite: SCT100) Emphasizes use of database management software packages to access, manipulate, and create file data. Topics include: database concepts structuring databases, entering data, organizing data, and managing databases.

**BUS 106, Office Procedures 2-6-5**

(Prerequisite SCT 100) Emphasizes essential skills required for the business office. Topics include: office protocol, time management, telecommunications and telephone techniques, office equipment, workplace mail, records management, travel/meeting arrangements, electronic mail, and workplace documents.

**BUS 107, Machine Transcription 1-4-3**

(Prerequisites: BUS 102, SCT 100, and ENG 1010 or ENG 1101) Emphasizes transcribing mailable documents from dictation using a word processor software. Topics include: equipment and supplies maintenance and usage, work area management, transcription techniques, productivity and accuracy, proofreading, and language arts skills.

**BUS 108, Word Processing 2-6-5**

(Prerequisite SCT 100) Emphasizes an intensive use of word processing software to create and revise business documents. Topics include: creating, organizing, and formatting content; collaborating on documents; formatting and managing documents.

**BUS 109, Applied Office Procedures 2-6-5**

(Prerequisites: BUS 1130, BUS 106, BUS 108, BUS 202. Corequisites: BUS 208 or ACC 101, BUS 148, BUS 160) This course focuses on applying knowledge and skills learned in all prior courses taken in the program. Topics include: communications skills, telecommunications skills, records management skills, office equipment/supplies, and integrated programs/applications. Serves as a capstone course.

**BUS 120, Speed and Accuracy Keying 1-2-2**

(Prerequisite: BUS 100 or BUS 1130) Further develops speed and accuracy through analysis of keying and prescribed practice drills. Topics include: building speed and accuracy and straight-copy proofreading.

**BUS 148, Business Document Proofreading and Editing 1-4-3**

(Prerequisites: BUS 1130 and ENG 1010 or ENG 1101) Emphasizes proper proofreading and editing as applied to business documents. Topics include: applying proofreading techniques and proofreader's marks with business documents; proper content, clarity, and conciseness in business documents; and business document formatting.

**BUS 160, Electronic Communication Applications 2-6-5**

(Prerequisite: SCT 100) Provides an overview of electronic communications as used in an office setting. Topics include: email fundamentals and management, using the Internet, system user security, and wireless/mobile computing and emerging technologies.

**BUS 161, Desktop Publishing 1-4-3 (Prerequisite: SCT 100)** Emphasizes intensive use of desktop publishing (DTP) software to create publications such as letterheads, resumes, fliers, posters, brochures, reports, newsletters, and business cards. Topics include: DTP concepts, operation of DTP software, publication page layout, basic graphic design, and practical applications.

**BUS 170 Health Unit Coordinating 8-0-8** (Prerequisites: AHS 1011 or BIO 2113 and BIO 2114, AHS 104, AHS 109, ENG 1010 and MAT 1012, PSY 1010, SCT 100. Corequisite: BUS 171) Provides the skills and knowledge required to perform the tasks of a health unit coordinator. Topics include: health care delivery system, professionalism, communication skills, using communication devices, maintaining patient's records, transcribing doctor's orders, health unit coordinator procedures, and admitting, transferring and discharging patients.

**BUS 171 Health Unit Coordinating Practicum 0-8-4** (Prerequisites: AHS 1011 or BIO 2113 and BIO 2114, AHS 104, AHS 109, ENG 1010 and MAT 1012, PSY 1010, SCT 100. Corequisite: BUS 170) Provides practical experience in a health care setting performing the tasks and procedures of a health unit coordinator. Topics include: transcribing orders, recording vital signs, ordering supplies and diagnostic tests, filing, postmortem procedures, admitting, transferring and discharging patient.

**BUS 201, Advanced Word Processing 2-6-5** (Prerequisite: BUS 108) Provides instruction in advanced word processing. Topics include: advanced features of formatting and organizing content, advanced features of collaborating on documents and customizing word processing software.

**BUS 202, Spreadsheet Applications 1-4-3** (Prerequisite: SCT 100) Provides instruction in the use of electronic spreadsheet software in business applications. Students become proficient in creating and modifying spreadsheets in a business environment and in printing files that meet business standards. Topics include: spreadsheet concepts, data entry and modification, analyzing data, charts and graphs, formatting data and content and managing workbooks.

**BUS 203, Office Management 5-0-5** (Prerequisite: BUS 106) Provide students with an overview of management concepts, styles, and skills. Topics include: management styles, leadership traits, ergonomics/workflow, communication channels, business ethics, supervisory techniques, and job performance evaluation techniques.

**BUS 204, Business Administrative Assistant Internship I 0-0-18-6** (Prerequisite: Must be in last quarter of program. With advisor approval, may take concurrently with last quarter courses.) Provides student work experience in a professional environment. Topics include: application of classroom knowledge and skills, work environment functions, and listening/following directions. Students will be under the supervision of the Business Administrative Technology program faculty and/or persons designated to coordinate work experience arrangements.

**BUS 205, Medical Administrative Assistant Internship I 0-0-18-6** (Prerequisite: Must be in last quarter of program. With advisor approval, may take concurrently with last quarter courses.) Provides student work experience in a medical office environment. Topics include: application of classroom knowledge and skills, work environment functions, and listening/following directions. Students will be under the supervision of the Business Administrative Technology program faculty and/or persons designated to coordinate work experience arrangements.

**BUS 206, Half-Time Legal Office Specialist Internship 0-18-6** (Prerequisite: Must be in last quarter and have advisor's approval) Provides student work experience in a legal office environment. Topics include: application of classroom knowledge and skills, work environment functions, and listening/following directions. Students will be under the supervision of the Business Office Technology program faculty and/or persons designated to coordinate work experience arrangements.

**BUS 208, Office Accounting 4-4-6** (Prerequisite: Program Admission) Introduces fundamental concepts of accounting. Topics include: accounting equation, debits, credits, journalizing, posting and proving ledger, accounts receivable, accounts payable, cash control, and payroll.

**BUS 211, Medical Terminology 2-2-3** (Prerequisite: Program Admission) Introduces the basic spelling and pronunciation of medical terms, and the use of these terms as they relate to anatomy, treatment, surgery, and drugs. Topics include: word analysis, word elements, spelling, pronunciation, and semantics.

**BUS 212, Anatomy and Terminology for the Medical Administrative Assistant 5-0-5** (Prerequisite: BUS 211 or AHS 109) Introduces the structure and function of the human body including medical terminology. Topics covered include information which will provide the medical office assistant with the knowledge needed to communicate with office staff, physicians, and patients and to assist in completion of medical reports generated in the medical office. Topics include: body structures, body functions, and medical terminology.

**BUS 213, Medical Document Processing/Transcription 1-6-3-5** (Prerequisite: BUS 211 or AHS 109; BUS 212 or AHS 1010 or AHS 1011; BUS 1130; ENG 1010) Provides experience in medical machine transcription working with the most frequently used medical reports. Topics include: equipment and supplies maintenance and usage, work area management, spelling, definitions, punctuation, processing/transcription speed and accuracy, resource utilization, and pronunciation.

**BUS 214, Advanced Medical Document Processing/Transcription 1-6-3-5** (Prerequisite: BUS 213) Continues the development of speed and accuracy in the transcription of medical reports with emphasis on a variety of medical specialization. Topics include: equipment and supplies maintenance and usage, work area management, spelling, definitions, punctuation, processing/transcription speed and accuracy, resource utilization, pronunciation, and medical transcription work ethics.

**BUS 215, Medical Administrative Assistant Internship II 0-0-36-12** (Prerequisite: Must be in last quarter of program. With advisor approval, may take concurrently with last quarter courses.) Provides student work experience in an off-campus medical environment. Topics include: application of classroom knowledge and skills, work environment functions, and listening/following directions. Students will be under the supervision of the Business Administrative Technology program faculty and/or persons designated to coordinate work experience arrangements.

**BUS 216, Medical Administrative Procedures 3-2-3-5** (Prerequisite: BUS 1130; AHS 1011 or AHS 1010 or BUS 212; BUS 211 or AHS 109; SCT 100) Emphasizes essential skills required for the medical office. Introduces the knowledge and skills of procedures for billing purposes. Introduces the basic concept of medical administrative assisting and its relationship to the other health fields. Emphasizes medical ethics, legal aspects of medicine, and the medical administrative assistant's role as an agent of the physician. Provides the student with knowledge and the essentials of professional behavior. Topics include: introduction to medical administrative assisting, medical law, ethics, patient relations/human relations, physician-patient-assistant relationship, medical office in litigation, medical records management, scheduling appointments, pegboard or computerized accounting, health insurance, transcription of medical documents, and billing/collection.

**BUS 224, Business Administrative Assistant Internship II 0-0-36-12** (Prerequisite: Must be in last quarter of program. With advisor approval, may take concurrently with last quarter courses.) Provides student work experience in an off-campus business office. Topics include: application of classroom knowledge and skills, work environment functions, and listening/following directions. Students will be under the supervision of the Business Office Technology program faculty and/or persons designated to coordinate work experience arrangements.

**BUS 226, Medical Office Billing/Coding/Insurance 3-2-3-5** (Prerequisite: BUS 1130, BUS 211 or AHS 109, BUS 212 or AHS 1011) Provides an introduction to medical coding skills and applications of international coding standards for billing of health care services. Provides the knowledge and skills to apply coding of diagnostic statements and procedures for billing purposes. Provides an introduction to medical coding as it relates to health insurance. Topics include: International classification of diseases, code book formats; coding techniques; formats of the ICD and CPT manuals; health insurance; billing, reimbursement, and collections; and managed care.

**BUS 260, Advanced Spreadsheet Applications 1-4-3** (Prerequisite: BUS 202) Provides a study of the advanced features of creating and modifying electronic spreadsheets. Topics include integration with other applications, using templates, printing workbooks, working with named ranges, working with toolbars, using macros, auditing a worksheet, formatting data, using analysis tools, and collaborating with workgroups.

**BUS 261, Presentation Applications 1-4-3** (Prerequisite: SCT 100) This course provides a study of creating, modifying and delivering presentations. Topics include: creating a presentation, formatting content, collaborating with others, managing a presentation, creating output and delivering a presentation.

**BUS 262, Web Page Design 1-4-3** (Prerequisite: Program Admission and SCT 100) This course provides instruction in the concepts necessary for individuals to create and manage professional quality web sites. Topics include: Web Site Creation, Web Page Development and Design, Hyperlink Creation, Test, and Repair, Integration, Web Site Navigation, and Web Site Management.

**BUS 263, Electronic Mail Applications 1-4-3** (Prerequisite: Program Admission and SCT 100) This course provides instruction in the fundamentals of communicating with others inside and outside the organization via a personal information management program. Emphasizes the concepts necessary for individuals and workgroups to organize, find, view, and share information via electronic communication channels. Topics include: Internal and External Communication, Message Management, Calendar Management, Navigation, Contact Usage, Tasks Usage, Notes Usage, Journal Usage, and Security and Privacy.

**BUS 1130, Document Processing 2-8-6** (Prerequisite: The ability to key at least 25 wpm or BUS100. Corequisite: SCT100) Reinforces the touch system of keyboarding placing emphasis on correct techniques with adequate speed and accuracy and producing properly formatted business documents. Topics include: reinforcing correct keyboarding technique, building speed and accuracy, formatting business documents, language arts, proofreading, and work area management.

**CET 130 I Civil Computer Aided Drafting 2-6-4** (Prerequisite: Program admission) Introduces engineering drawing. Surveys various styles of engineering sketching and computer-aided drafting (CAD) techniques. Additionally, the student prepares sample engineering orthographic drawings. Topics include: freehand sketching, CAD fundamentals, geometric construction and orthographic drawing. Laboratory work parallels class work.

**CET 190, Construction Materials 4-3-5** Presents the fundamental construction materials and their engineering properties. Covers such material properties as aggregates, asphalt, Portland cement concrete, steel, and masonry. Topics include: material properties, introduction to materials testing, and materials selection and use.

**CFC 100, Safety 2-0-2** Provides a review of general safety rules and practices and provides students with information about state and federal regulations including the OSHA Hazard Communication Standard and Material Safety Data Sheets (MSDS). Emphasis is placed on electrical, fire, lifting, and ladder and scaffolding hazards. Topics include: overview of safety rules and regulations, protective equipment, barriers and barricades, flammable materials, electrical hazards, ladders and scaffolding, safety in trenches and excavations introduction to rigging.

**CFC 101, Introduction to Construction 2-0-2** Covers an orientation and introduction to construction technology dealing with building and facility maintenance, cabinetmaking, carpentry, construction management, masonry, plumbing and advanced plumbing. Topics include: workplace expectations of quality of work performed, professional ethical standards, proper communication practices, working in teams, learning for success and life skills.

**CFC 102, Professional Tool Use and Safety 2-5-4** (Prerequisite: Program admission) The course provides instruction in the use of professional tools for the construction trades. Emphasis will be placed on the safe use of each tool covered. Topics include: layout and measuring tools, sawing tools, shaping and cutting tools, fastening tools, drilling and boring tools, finishing tools, jobsite setup and shop tool use.

**CFC 103, Materials and Fasteners 3-0-3** (Prerequisite: Program admission) Introduces the fundamental array of building materials used in residential and commercial construction. Topics include: concrete products, masonry materials, plumbing materials, fasteners, wood products, finishing materials, manufactured products for construction and an introduction to estimation of products and services.

**CFC 105, Construction Print Reading Fundamentals 5-0-5** (Prerequisite: Program admission) Introduces the reading and interpretation of prints and architectural drawings for all the Construction Trades. Topics include: types of plans, scales, specifications, conventions, and schedules.

**CHM 1111, Chemistry I 4-3-5** (Prerequisite: MAT 1101 or MAT 1111) Provides an introduction to basic chemical principles and concepts which explain the behavior of matter. Topics include: measurement; physical and chemical properties of matter; atomic structure; chemical bonding; nomenclature; chemical reactions; stoichiometry and gas laws; basic laboratory skills and lab safety procedures.

**CHM 1112, Chemistry II 4-3-5** (Prerequisite: CHM 1111) Continues the exploration of basic chemical principles and concepts. Topics include: equilibrium theory; kinetics; thermodynamics; solution chemistry; acid-base theory; and nuclear chemistry.

**CHM 1213, Survey of Inorganic Chemistry 4-3-5** (Prerequisite: MAT 1101 or MAT 1111) Provides an introduction to basic chemical principles and concepts which explain the behavior of matter. Topics include: measurements and units; structure of matter; chemical bonding; chemical reactions; gas laws; liquid mixtures; acids and bases; salts and buffers; nuclear chemistry; basic laboratory skills and safety procedures.

**CHM 1214, Survey of Organic Chemistry and Biochemistry 4-3-5** (Prerequisite: CHM 1112 or CHM 1213) Provides an introduction to organic chemistry and biochemistry. This survey will include an overview of the properties, structure, nomenclature, reactions of: hydrocarbons; alcohols, phenols, ethers, halides, aldehydes, ketones, carboxylic acids, esters, amines, amides; the properties, structure, and function of carbohydrates, lipids, proteins, and enzymes, as well as, intermediary metabolism. Topics include: basic principles; hydrocarbons; hydrocarbon derivatives; heterocyclic rings and alkaloids; carbohydrates; lipids and fats; proteins; nucleic acids; and intermediary metabolism. Laboratory experience supports classroom learning.

**CIS 101, Keyboarding 1-4-3** (Prerequisite: Provisional admission) Provides an introduction to the effective and efficient use of electronic machine keyboards. Topics include: touch typing skills, text formatting and manipulation. Manual dexterity is developed using microcomputers and machine driven exercises.

**CIS 103 – Operating Systems Concepts 4-4-0-6** (Prerequisite/Corequisite: CIS 106) Provides an overview of operating systems functions and commands that are necessary in a computer working environment. Topics include: multiprogramming, single and multi-user systems, resource management, command languages, and operating system utilities, file system utilization and multiple operating systems.

**CIS 105, Program Design and Development 5-0-5** (Prerequisite/Corequisite: CIS 106) Provides an emphasis on business problem identification and solution through systems of computer programs using such tools as structure charts, flowcharts, and pseudocode. Topics include: problem-solving process, fundamentals of structured programming, program development building blocks, fundamentals of file and report structure, and business application structure.

**CIS 106, Computer Concepts 5-0-5** (Prerequisite: Program admission) Provides an overview of computers and information technology. Topics include: computer history and terminology, data representation, data storage concepts, fundamentals of information processing, fundamentals of hardware operation, fundamentals of communications and networking, structured programming concepts, program development methodology, systems development methodology, and computer number systems.

**CIS 112, Systems Analysis and Design 4-4-6** (Prerequisites: CIS 105 and an advanced programming language preferred) Provides a review and application of systems life cycle development methodologies implemented by project teams. Topics include: role of systems, analysis and design, preliminary investigation, systems analysis phase, systems design phase, systems development phase, implementation and evaluation, and post-implementation systems operation.

**CIS 122, Microcomputer Installation and Maintenance 4-6-7** (Prerequisites: CIS 106) Provides an introduction to the fundamentals of installing and maintaining microcomputers. Topics include: identifying components and their functions, safety, installation procedures, troubleshooting techniques, and preventive maintenance.

**CIS 127, Advanced Word Processing Presentation Graphics 4-4-6** (Prerequisites: SCT 100) Provides a study of word processing and desktop publishing. Topics include: word processing fundamentals, desktop publishing fundamentals, advanced word processing concepts, development of macros, and presentation graphics fundamentals.

**CIS 149 – Advanced C++ Programming 4-6-7** (Prerequisite: CIS 282) Introduces object oriented programming. Common elements of Windows applications will be discussed and created using a C++ integrated development environment. Topics include: object oriented programming, Windows applications, user interface design, capturing and validating input, event-driven programming design, conditional processing, and incorporating graphics.

**CIS 155 – Working With Microsoft Windows Software 1-4-3** Provides the interface concepts of Microsoft Windows software and the opportunity to develop software application skill in a wide range of business situations. Topics include: getting started with Microsoft Windows, managing programs and files with Microsoft Windows, using Microsoft Windows “Write” and “Paintbrush” features, data transfer with Microsoft Windows, printing with Microsoft Windows, and customizing with Microsoft Windows.

**CIS 157 - Introduction to Visual Basic 4-6-7** (Prerequisite: An operating system course and CIS 105) Introduces Microsoft Windows event-driven programming. Along with this new method of programming, common elements of Windows applications will be discussed. These elements will be created and manipulated using Microsoft’s Visual BASIC development environment. Topics include: Windows applications, user interface design, capturing and validating input, event-driven programming design, conditional processing, file processing, and incorporating graphics.

**CIS 160 - Introduction to Multimedia Development 2-6-5** (Prerequisites: CIS 106 and SCT 100) Introduces the student to the use of an authoring package to develop a variety of multimedia presentations/tutorials. The course is designed for people with or without programming skills who wish to create their own multimedia applications. Topics include: screen design principles, multimedia concepts, operation of authoring software, and development of multimedia application.

**CIS 173 – PC Operating Systems Concepts 4-4-6** (Prerequisite/Corequisite: CIS 106) Provides a study of underlying command prompt functions in personal computer (PC) operating systems in terms of its functions and structure, for managing files and directories, and running programs. It also includes navigating through the operating system from command line prompts and procedures for accessing and retrieving information. Provides a study of installing, configuring and upgrading PC operating systems. This includes a study of system boot sequences and minimum hardware requirements. Provides a study of diagnosing and troubleshooting common problems relating to PC Operating systems. This includes understanding normal operation and symptoms relating to common problems. Provides a study of network capabilities of PC operating systems and how to connect to networks on the client side, including what the Internet is about, its capabilities, basic concepts relating to Internet access and generic procedures for system setup. The scope of this topic is only what is needed on the client side to connect to a network.

**CIS 191, Computer Programming Fundamentals 3-6-5** (Prerequisite: Engineering Technology Program admission) Emphasizes fundamental concepts of problem solving using computers. Students explore flow-charting, control structures, subroutines, arrays, strings manipulation, matrices, and files. A high level source language is used. The laboratory portion of the course is designed to acquaint students with computer facilities and software utilities. Topics include: system fundamentals, concepts of structured programming (high level source language), arrays, functions and subroutines, data files, engineering applications, graphics, matrices, and program editing. Laboratory work parallels class work.

**CIS 214, Database Management 4-4-6** (Prerequisite: Advanced language course that requires random file accessing techniques.) Provides an overview of the skills and knowledge of database application systems that are used in business, government, and industry. Topics include: models, structures, physical database logical database, and accessing techniques.

**CIS 224, Microsoft Office Specialist Certification - PowerPoint 2-3-0-3** (Prerequisite: CIS 127) Provides the fundamental, intermediate, and advanced Microsoft PowerPoint competencies to provide the user with the skills necessary to obtain expert user certification. Topics include presentation creation, presentation views, slide shows, templates, animations, HTML creation, navigation, and presentation transition.

**CIS 225, Microsoft Office Specialist Certification – Outlook 2-3-0-3** (Prerequisite: SCT 100) Provides the fundamental, intermediate, and advanced Microsoft Outlook competencies to provide the user with the skills necessary to obtain expert user certification. Topics include using Outlook 2000 Mail to communicate with others inside and outside your company, to manage your mail, navigating through Outlook, using calendar, using task, and using contacts and notes. Integrate Office applications and other applications with Outlook 2000 components.

**CIS 250 – Introduction to RPG Programming 4-6-7** (Prerequisite: CIS 1305 and CIS 105). Introduces programming business applications using the RPG programming language. Topics include: introduction to RPG programming, input and output processing, arithmetic operations, edit codes/words, selection operations, control breaks, multiple control breaks, do loops, exception output, external files - physical and logical, and sequential file access methods.

**CIS 251, Advanced RPG Programming 4-6-7** (Prerequisite: CIS 250) Provides an emphasis on designing and writing programs using the RPG programming language. Topics include: table and array processing, data validation, data structures, inter-program communication, random file access methods, file updating, and interactive processing.

**CIS 252 – Intro to JAVA Programming 4-6-7** (Prerequisites: An operating systems course and CIS 105) Course designed to teach the basic concepts and methods of object-oriented design and Java programming. Use practical problems to illustrate Java application building techniques and concepts. Develop an understanding of Java vocabulary. Create an understanding of where Java fits in the application development landscape. Create an understanding of the Java Development Kit and how to develop, debug, and run Java applications using the JDK and Notepad as an editor. Continue to develop student's programming logic skills. Topics include: JAVA Language History, JAVA Variable Definitions, JAVA Control Structures, JAVA Methods, JAVA Classes, JAVA Objects, and JAVA Graphics.

**CIS 260, Introduction to Fourth Generation Languages 4-6-7** (Prerequisites: CIS 105, an operating systems course, and a programming language preferred) Provides skills and knowledge required for use of fourth generation languages. Topics include: fourth generation language, advantages and disadvantages, fourth generation language structure, and fourth generation language applications.

**CIS 261, Introduction to MS-DOS 2-6-5** (Prerequisites: CIS 106 and SCT 100) Presents information and application principles for MS or PC DOS used in IBM or compatible microcomputers. Topics include: DOS overview, system file management, manage fixed and removable disk, and batch file use.

**CIS 276 - Advanced Routers and Switches 4-4-6** (Prerequisite: CIS 2322) Introduces LAN design, LAN switching and switch segmentation, advanced routing, and multiple protocols. Topics include: a review of semesters I and II, local area network (LAN) switching, virtual local area networks (VLANs), local area network (LAN) design, interior gateway routing protocols (IGRP), access control lists, and Novell IPX.

**CIS 277 - WAN DESIGN 4-4-6** (Prerequisite: CIS 276) Emphasizes WAN design utilizing point-to-point protocol (PPP), integrated services digital network (ISDN), and frame relay. Topics include: a review of semesters I II and III, wide area network, wide area network design, point-to-point protocol, integrated services digital network (ISDN), and frame relay.

**CIS 280 - Systems Application Project 4-6-7** (Prerequisite: CIS 282 or CIS 251) Provides a capstone programming project experience using the programming language of choice. Topics include: teamwork and project management skills, systems analysis and design, programming and problem solving in language of choice, and system startup and debugging.

**CIS 282 – Introduction to C++ Programming 4-6-7** (Prerequisite: an operating systems course. Corequisite: CIS 105) Develops skills for the programmer to write programs using the language of C++. Emphasis is placed on utilizing the added feature of C++, which will be added to the skills mastered in Programming with C. Topics include functions, objects, classes, inheritance, overloading, polymorphism, streams, and containers.

**CIS 1114 - Fundamentals of Wireless LANS 4-4-6** (Prerequisites: CIS 276) This introductory course to Wireless LANs focuses on the design, planning, implementation, operation and troubleshooting of Wireless LANs. It covers a comprehensive overview of technologies, security, and design best practices with particular emphasis on hands on skills in the following areas: Wireless LAN setup and troubleshooting; 802.11a and 802.11b technologies, products and solutions; Site Surveys; Resilient WLAN design, installation and configuration; WLAN Security - 802.1x, EAP, LEAP, WEP, SSID; and Vendor interoperability strategies.

**CIS 1115 – Information Security Fundamentals 5-0-5** (Prerequisites: CIS 106, CIS 122, CIS 1140, CIS XXX – A Microcomputer Operating Systems Course) This course provides a broad overview of information security. It covers terminology, history, security systems development and implementation. Students will also cover the legal, ethical, and professional issues in information security.

**CIS 1118 – Implementing Network Security 4-4-6** (Prerequisite: CIS 2149) This course provides knowledge and the practical experience necessary to evaluate, implement and manage secure information transferred over computer networks. Topics include network security, intrusion detection, types of attacks, methods of attacks, security devices, basics of cryptography and organizational security elements.

**CIS 1131 – Help Desk Concepts 4-4-6** (Prerequisites: CIS 122, SCT 100, CIS XXX – A Microcomputer Operating Systems Course) The purpose of the Help Desk Concepts course is to prepare students to work in positions that provide customer and technical support through analysis and problem solving. Students will master the role of a help desk analysis, navigate the help desk environment, and learn crucial problem solving skills. In addition, students will learn to troubleshoot hardware problems, printer problems, OS problems, application problems, and user problems.

**CIS 1140 - Networking Fundamentals 4-4-6** (Prerequisites: CIS 106) Introduces networking technologies and covers a wide range of material about networking, from careers in networking to local area networks, wide area networks, protocols, topologies, transmission media, and security. Focuses on operating network management systems, and implementing the installation of networks. It reviews cabling, connection schemes, the fundamentals of the LAN and WAN technologies, TCP/IP configuration and troubleshooting, remote connectivity, and network maintenance and troubleshooting. Topics include basic knowledge of networking technology, physical layer, data link layer, network layer, transport layer, TCP/IP fundamentals, TCP/IP suite: utilities, remote connectivity, security, implementing the installation of the network, maintaining and supporting the network, and troubleshooting the network.

**CIS 1305 – Midrange Computer Operating Systems Concepts 4-4-6** (Prerequisite: MAT 1101, MAT 1111 or MAT 1013; Corequisite CIS 105) Provides an overview of operating systems functions and commands that are necessary in a midrange/mainframe computer working environment. Topics include: multiprogramming, multi-user systems, resource management, task command/control languages, and operating system utilization.

**CIS 1513 – Beginning COBOL 4-6-7** (Prerequisite: CIS 105 and an operating systems course) Provides a study of the COBOL programming language to solve business applications. Topics include: divisions, input/output operations, arithmetic operations, debugging techniques, sequence verbs, conditional control, editing input, sequential file processing, sorting, single and multiple level control breaks, and elementary table processing.

**CIS 2149 – Implementing Microsoft Windows Professional 4-4-6** (Prerequisite: CIS 106 or Advisor Approval) Provides the ability to implement, administrate, and troubleshoot Windows Professional as a desktop operating system in any network environment.

**CIS 2150 – Implementing Microsoft Windows Server 4-4-6** (Prerequisite/Corequisite: CIS 2149) Provides the ability to implement, administrate, and troubleshoot Windows 2000 Server as a member server of a domain in an Active Directory.

**CIS 2153 Implementing Windows Network Infrastructure 4-4-6** (Prerequisite: CIS 2150) Provides students with knowledge and skills necessary for new-to-product support professionals who will be responsible for installing, configuring, managing, and supporting a network infrastructure that uses the Microsoft Windows server family of products.

**CIS 2154, Implementing Microsoft Windows Network Directory 4-4-6** (Prerequisite: CIS 2153) Provides students with knowledge and skills necessary to install, configure, and administer the Microsoft Windows Active Directory service. The course also focuses on implementing Group Policy and understanding the Group Policy tasks required to centrally manage users and computers

**CIS 2156, Designing a Secure Windows Network 4-4-6** (Prerequisite: CIS 2153) Provides students with the knowledge and skills necessary to design a security framework for small, medium, and enterprise networks by using Microsoft Windows technologies.

**CIS 2158, Designing a Windows Network Infrastructure 4-4-6** (Prerequisite: CIS 2154) Provides the ability to analyze the business requirements for a network infrastructure and design a network infrastructure that meets business requirements.

**CIS 2160 Installing, Configuring, and Administering Microsoft Exchange 2000 Server 4-4-6** (Prerequisite: CIS 2153) Provides students with the knowledge and skills required to install and configure Microsoft Exchange 2000. This course covers the component architecture, installing, and core management functionality of Microsoft Exchange 2000.

**CIS 2161 – Structured Query Language (SQL) 4-6-7** (Prerequisites: An operating systems course. Corequisite: CIS 105) A course designed to allow the student to solve common database retrieval problems through the use of the SQL Language that supports common databases such as SQL/Server, ORACLE, DB2, ACCESS and other database systems. Topics include: understanding database vocabulary, understanding object and relational database concepts, understanding and implementing SQL statements that retrieve, insert, update and delete data in a database, ability to implement aggregate and group SQL functions, create, edit and drop database tables, query data from multiple databases, design queries and sub queries, develop an understanding of union, and join operations, understand how to execute and implement database triggers.

**CIS 2162 Administering Microsoft SQL Server 4-4-6** (Prerequisites: CIS 2150 and Programming Language elective or Advisory approval) This course provides instruction on how to administer a Microsoft SQL Server. Topics include: planning, installation and configuration, configuring and managing data, monitoring and optimization, and troubleshooting.

**CIS 2191 Internet Business Fundamentals 5-0-5** (Prerequisites: CIS 106 and an operating systems course) Internet Business Fundamentals teaches students how to access the Internet and the World Wide Web using a Web browser as a general-purpose Internet application. Students will learn to use the Internet for e-mail, the World Wide Web, news-groups, Gopher, Veronica, File Transfer Protocol (FTP) and Telnet. Students will gain experience using and configuring both Netscape Navigator and Microsoft Internet Explorer to access rich multimedia data and objects as well as Java, Shockwave, and Active X content. A variety of Web-based search engines will be used to conduct advanced searches and learn the basics of project leadership, security, and e-business solutions. Students will also learn about business on the Internet, and how business research can help companies gain market intelligence.

**CIS 2200 XML Fundamentals 2-3-3** (Prerequisites: CIS 106, SCT 100, CIS 2201 or CIS 2202. This course introduces students to the basics of XML. They learn the different parts of an XML document, and how to create XML documents. They learn how to format using the XML Stylesheet language. Students learn how to format, query, validate, and store XML documents.

**CIS 2201 HTML Fundamentals 2-3-3** (Prerequisites: CIS 106 and an operating systems course) HTML Fundamentals is designed to teach basic through intermediate concepts in Hypertext Markup Language (HTML) authoring, including forms, complex table design, graphic elements, and client-side image maps. Students will design inter-linking pages that incorporate, design, graphic elements, and client-side image maps. Students will design inter-linking pages that incorporate, in practical applications, a wide range of HTML tags and attributes.

**CIS 2202 XHTML Fundamentals 3-5-5** (Prerequisites: CIS 106 and an operating systems course) XHTML Fundamentals is designed to teach basic through intermediate concepts in Hypertext Markup Language (HTML) authoring, including forms, complex table design, graphic elements, and client-side image maps. Students will design inter-linking pages that incorporate, design, graphic elements and client-side image maps. Students will design inter-linking pages that incorporate, in practical applications, a wide range of HTML tags and attributes. Students will allow learn how to use Cascading Style Sheets (CSS), XML, and XHTML. All HTML, CSS, XHTML, and XML development will follow the current standards set by the World Wide Web Consortium (W3C). Topics include introduction to HTML, CSS, XHTML, and XML, creating pages using HTML, CSS, XHTML, and XML, incorporating graphical elements, create hyperlinks, create HTML tables, create HTML forms and image maps.

**CIS 2228 Comprehensive Spreadsheet Techniques 4-4-6** (Prerequisites: SCT 100 and an operating systems course) Provides a study of spreadsheets. Topics include: advanced spreadsheet concepts, development of macros, data integration concepts, and troubleshooting spreadsheets.

**CIS 2229 Comprehensive Database Techniques 4-4-6** (Prerequisites: CIS 106, SCT 100 and an operating systems course) Provides a study of databases. Topics include: advanced database concepts, data integration concepts, development of user interfaces, troubleshooting databases, development of macros, and relational database concepts.

**CIS 2241 Internet Systems Management 5-0-5** (Prerequisites: CIS 1140, CIS 2191) Internet Systems Management provides the student with an understanding of TCP/IP operation, Domain Name System (DNS) name service, Dynamic Host Configuration Protocol (DHCP) automation, File Transfer Protocol (FTP) service, security, and the auditing activities related to Web servers and firewalls. Students will also perform an in-depth analysis of IP packets transferred on the network.

**CIS 2261 JavaScript Programming 3-2-4** (Prerequisite: CIS 105 and CIS 2201 or CIS 2202) JavaScript Fundamentals teaches developers how to use the JavaScript language and how to incorporate scripts into their web pages to make them interactive, to validate data, and add animation to the web page. JavaScript is supported by all popular browsers. Security considerations are discussed throughout the course.

**CIS 2271 Fundamentals of CGI Using PERL and Server-side Scripting 3-2-4** (Prerequisite: CIS 2201 or CIS 2202) Fundamentals of CGI Programming using PERL and Server-Side Scripting teach-students how to use Common Gateway Interface (CGI) PERL programs and scripts on a Web server. Students will learn how to write print-to-screen scripts, customize Web page hit counters, create and use business forms that interact with text files, manipulate data in a database, work with a relational database via Open Database Connectivity (ODBC), and explore Web server security issues related to CGI files. A survey of other products such as Microsoft Active Server Pages, Netscape LiveWire, and Cold Fusion by Allaire will be discussed. Security issues using server-side scripting will also be studied, and students will learn how to add security elements to their scripts.

**CIS 2281 – Database Connectivity 4-6-7** (Prerequisites: CIS 2191) Database Connectivity teaches students how to manipulate data in a database, work with relational database via Open Database Connectivity (ODBC) and learn how to work with different database systems. Students will learn to install and configure Cold Fusion, or equivalent software, and use the system to develop forms and applications to interact with file systems, e-mail and database servers.

**CIS 2321 Introduction to LAN and WAN 4-4-6** (Prerequisite: CIS 106 or advisor approval) Provides students with classroom and laboratory experience in current and emerging network technology. Topics include safety, networking, network terminology and protocols, network standards, local-area networks (LANs), wide-area networks (WANs), Open System Interconnection (OSI) models, cabling, cabling tools, routers, router programming, Ethernet, Internet Protocol (IP) addressing, and network standards. Particular emphasis is given to the use of decision-making and problem-solving techniques in applying science, mathematics, communication, and social-studies concepts to solve networking problems. In addition, instruction and training are provided in the proper care, maintenance, and use of networking software, tools, and equipment and all local, state, and federal safety, building and environmental codes and regulations.

**CIS 2322 Introduction to WANs and Routing 4-4-6** (Prerequisite: CIS 2321) This course provides instruction on performing basic router configuration and troubleshooting.

**CIS 2421 – Intermediate Java Programming 4-6-7** (Prerequisite: CIS 252) Emphasizes intermediate object oriented JAVA programming techniques such as Streams and Exceptions, data structures, file input/output, JAVA applet/servlet development, JAVA Visual editor programming using Jbuilder. Visual Age for JAVA J++ Programming Windows and Events, client-side JAVA programming more Java development practice using visual editors.

**CIS 2431 Advanced Java Programming 4-6-7** (Prerequisite: CIS 2421, CIS 2201 or CIS 2202) Emphasizes advanced object-oriented JAVA programming techniques such as network programming server-side java programming and database connectivity. More practice with JAVA Visual editor programming using Jbuilder. Visual Age for JAVA J++. More practice using GUI Java programming concepts with Swing and CORBA. Preparation and practice for the JAVA certification exams.

**CIS 2441, Advanced Programming Topics 4-6-7** (Prerequisites: An advanced programming language, CIS 214 and CIS 112 preferred) Advanced application development techniques utilizing a variety of operating system platforms and environments.

**CIS 2451, Introduction to PHP Programming 4-6-7** (Prerequisites: CIS 105, CIS 2201 or CIS 2202) Students will learn how to create dynamic web sites using the PHP programming language. Topics include: introduction to PHP, web server, and database environments; embedding PHP in HTML documents; variables; arithmetic operations; functions; forms; conditional statements; iterative statements; arrays; text files; and creating, populating, retrieving, and updating database tables via PHP applications.

**CIS 2452 Advanced PHP Programming 4-6-7** (Prerequisite: CIS 2451) Reinforces and extends the concepts and applications provided in Beginning PHP. Topics include: advanced interactive programming, advanced array processing, advanced functions, and advanced database processing.

**CIS 2501 Building Scalable Cisco Networks 4-4-6** (Prerequisite: CCNA Certification or have completed the courses in the Cisco CCNA Specialist technical certificate program) This course focuses on advanced routing and using Cisco routers connected in local-area networks (LANs) and wide-area networks (WANs) typically found at medium to large network sites. Upon completion of this training course, the student will be able to select and implement the appropriate Cisco IOS services required to build a scalable routed network. This curriculum prepares the student for the BSCN exam one of four for the CCNP Certification.

**CIS 2502 Building Cisco Remote Access Networks 4-4-6** (Prerequisite: CCNA Certification or have completed the courses in the Cisco CCNA Specialist technical certificate program) The focus of this course is on how to use one or more of the available WAN permanent or dialup technologies to connect company sites. Students will be able to connect, configure, and troubleshoot the various elements of a remote network in a WAN environment. This course prepares students for the BCRAN exam one of four for the CCNP Certification.

**CIS 2503 Building Cisco Multilayer Switched Networks 4-4-6** (Prerequisite: CCNA Certification or have completed the courses in the Cisco CCNA Specialist technical certificate program) The focus of this course is on how to build and manage high-speed Ethernet networks. This course also introduces the emerging Multilayer Switching technology and describes how it enhances performance and scalability in campus networks. Finally, the course explores how to manage traffic traversing the network. The student will be able to connect, configure, and troubleshoot the various elements of a campus network in an Ethernet environment. This curriculum prepares the student for the BCMSN exam one of four for the CCNP Certification.

**CIS 2504 Cisco Internetworking Troubleshooting 4-4-6** (Prerequisites: CIS 2501, 2502, and 2503) The focus of Cisco Internetworking Troubleshooting is on troubleshooting network problems. Upon completion of this training course, the student should be better able to analyze and resolve problems. This curriculum prepares the student for the CIT exam one of four for the CCNP Certification.

**CIS 2511 Beginning Python Programming 4-6-7** (Prerequisite: CIS 105) Provides a study of the Python programming language to solve applications. Topics include: computing with numbers, computing with strings, objects and graphics, defining functions, decision functions, loop structures and booleans, game simulation and design, defining classes, data collection, object-oriented design.

**CIS 2512 Advanced Python Programming 4-6-7** (Prerequisite: CIS 2511 and CIS 2201 or CIS 2202 preferred) Provides a study of the Python programming language to solve applications. Topics include: Server Side Programming, XML, Search Techniques, CGI, Multithreading, Security, Data Structures, PSP, Regular Expressions and File Processing.

**CIS 2513 Advanced COBOL 4-6-7** (Prerequisite: CIS 1513) Reinforces and extends the concepts and applications provided in Beginning COBOL. Topics include: random file processing, advanced table processing, interactive processing, and database processing.

**CIS 2570 - Advanced Visual Basic 4-6-7** (Prerequisites: CIS 157) Advanced Visual Basic teaches developers random file access, database programming techniques, and programming for the web in client-server environments. Emphasis is placed on Active-X Data Objects (ADO), incorporating SQL into programs, Open Database Connectivity (ODBC), Remote Data Objects (RDO), Creating Web-Based Database Applications, and security considerations.

**CIS 2710, Midrange Programming I 4-6-7** (Prerequisites: CIS 105 and CIS 1305) Provides an introductory study of the midrange programming languages RPG and COBOL and how to produce business solutions using these languages. Topics include: divisions/forms, input/output operations, arithmetic operations, field editing, looping, sequence verbs, conditional control, debugging techniques, editing input, sequential file processing, sorting, control breaks, elementary table processing, and random file processing.

**CIS 2711, Midrange Programming II 4-6-7** (Prerequisites: CIS 2710) Provides an advanced study of the midrange programming languages RPG and COBOL and how they are utilized to solve business applications. Topics include: data validation, interactive programming, screen design aid, subfiles, multidimensional array processing, and database processing.

**CNA 100, Patient Care Fundamentals 5-6-8** (Prerequisites/Corequisites: AHS 103, AHS 109, and EMP 1000) Introduces student to the occupation of Certified Nurse Assistant. Emphasis is placed on human anatomy and physiology, cardiac pulmonary resuscitation, and nutrition and diet therapy. Topics include: role and responsibilities of the Certified Nurse Assistant; structure and function of body systems; legal and safety requirements in the patient care field; equipment use and care; and performance skills standards and procedures.

**COS 100, Introduction to Cosmetology Theory 5-0-5** (Prerequisite: Program admission) Introduces the fundamental theory and practices of the cosmetology profession. Emphasis will be placed on professional practices and safety. Topics include: state and local laws, rules, and regulations; professional image; bacteriology; decontamination and infection control; chemistry fundamentals; safety; Hazardous Duty Standards Act compliance; anatomy and physiology; and types of employment.

**COS 101, Introduction to Permanent Waving and Relaxing 3-2-0-4** (Prerequisites: COS 100) Introduces the chemistry and chemical reactions of permanent wave solutions and relaxers. Topics include: permanent wave techniques, safety procedures, chemical relaxer techniques, chemistry, application procedures on manikins, and hair and scalp analysis.

**COS 103, Basic Creative Treatment of Hair, Scalp, and Skin 2-2-0-3** (Prerequisite: COS 100) Introduces the theory, procedures, and products used in the care and treatment of the skin, scalp, and hair. Topics include: basic corrective hair and scalp treatments, plain facials, products and supplies, diseases and disorders and safety precautions.

**COS 105, Introduction to Shampooing and Styling 2-4-0-4** (Prerequisite/Corequisite: COS 100) Introduces the fundamental theory and skills required to shampoo and create shapings, pincurls, fingerwaves, roller placement, and combouts. Laboratory training includes styling training to total 20 hours on manikins and 25 hours on live models without compensation. Topics include: braiding/intertwining hair, shampoo chemistry, shampoo procedures, styling principles, pincurls, roller placement, fingerwaves, combout techniques, skip waves, ridgecurls, and safety precautions.

**COS 106, Introduction to Haircutting 2-2-0-3** (Prerequisite/Corequisite: COS 100) Introduces the theory and skills necessary to apply haircutting techniques. Safe use of haircutting implements will be stressed. Topics include: haircutting terminology, safety, decontamination precautions, cutting implements, and haircutting techniques.

**COS 107, Advanced Haircutting 0-2-3-2** (Prerequisite: COS 106) Continues the theory and application of haircutting techniques. Topics include: client consultation; head, hair, and body analysis; style cutting; haircutting techniques; and client consultations/head/hair/body analysis. Students will practice haircutting techniques and safety precautions in the laboratory setting.

**COS 108, Permanent Waving and Relaxing 2-2-0-3** (Prerequisites: COS 101) Provides instruction in the application of permanent waves and relaxers. Precautions and special problems involved in applying permanent waves and relaxers will be emphasized. Application of permanent waves and relaxers on live models is included. Topics include: timed permanent wave, timed relaxer application, safety precautions, Hazardous Duty Standards Act compliance, and chemistry of permanent waving/soft curl perming/chemical relaxing.

**COS 109, Hair Color 4-4-0-6** (Prerequisites: COS 103, COS 105, COS 107, COS 108 and MAT 1012) Presents the application of temporary, semi-permanent, deposit only, and permanent hair coloring and decolorization products. Topics include: basic color concepts, classifications of color, safety precautions, consultation, communication and record and release forms, product knowledge, special problems in hair color and corrective coloring, and special effects.

**COS 110, Skin, Scalp, and Hair 2-2-0-3** (Prerequisites: COS 103 and COS 109) Provides instruction on and application of techniques and theory in the treatment of the skin, scalp, and hair. Emphasis will be placed on work with live models. Topics include: implements, cosmetics, chemistry products and supplies, corrective hair and scalp treatments, facial procedures and manipulations, safety precautions, and treatment theory/electricity and light therapy.

**COS 111, Styling 1-4-3** (Prerequisites: COS 105 and COS 110) Continues the theory and application of hairstyling and introduces thermal techniques. Topics include: blow dry styling, thermal curling, thermal pressing, thermal waving, advanced styles, safety precautions, and artificial hair and augmentation.

**COS 112, Manicuring and Pedicuring 2-2-0-3** (Prerequisite: COS 100) Provides manicuring and pedicuring experience on live models. Topics include: implements, products and supplies, hand and foot anatomy, and physiology, diseases and disorders, manicure techniques, pedicure techniques, nail product chemistry, safety precautions and practices, and advanced nail techniques (wraps, tips, acrylics).

**COS 113, Cosmetology Practicum I 1-0-12-5** (Prerequisites: COS 111, and COS 112) Provides laboratory experiences necessary for the development of skill levels required to be a competent cosmetologist. The allocation of time to the various phases of cosmetology is prescribed by the Georgia State Board of Cosmetology. This course includes a portion of the hours required for licensure. Topics include: permanent waving and relaxers; hair color and bleaching including foiling; , skin, scalp, and hair treatments; haircutting; styling; dispensary; manicure/pedicure, reception; safety precautions; and Hazardous Duty Standards Act compliance.

**COS 114, Cosmetology Practicum II 4-0-12-8** (Prerequisite: COS 113) Provides laboratory experiences necessary for the development of skill levels required to be a competent cosmetologist. The allocation of time to the various phases of cosmetology is prescribed by the Georgia State Board of Cosmetology. This course includes a portion of the hours required for licensure. Topics include: permanent waving and relaxers; hair color and bleaching including foiling; skin, scalp, and hair treatments; haircutting; styling; dispensary; manicure/pedicure/advanced nail techniques; reception; safety precautions/decontamination; Hazardous Duty Standards Act compliance; advanced styling and shaping; industry concepts; surviving in the salon (transition from class to employment) and applicable laws for licensed and unlicensed cosmetology professionals.

**COS 115, Cosmetology Practicum III I 0-12-5** (Prerequisite: COS 114) Provides experience necessary for professional development and completion of requirements for state licensure. Emphasis will be placed on the display of professional conduct and positive attitudes. The appropriate number of applications for completion of state board service credit requirements for this course may be met in a laboratory setting. Topics include: permanent waving and relaxers; hair color and bleaching; skin, scalp, and hair treatment; haircutting; dispensary; styling; manicure/pedicure/advanced nail techniques; reception; safety precautions/decontamination; and Hazardous Duty Standards Act compliance.

**COS 116, Cosmetology Practicum IV 1-0-12-5** (Prerequisite: COS 115) Provides experience necessary for professional development and completion of requirements for state licensure. Emphasis will be placed on the display of professional conduct and positive attitudes. The requirements for this course may be met in a laboratory setting. Topics include: permanent waving and relaxers; hair color and bleaching; skin, scalp, and hair treatments; haircutting; dispensary; styling; manicure/pedicure/advanced nail techniques; reception; safety precautions/decontamination; Hazardous Duty Standards Act compliance; and state licensure preparation.

**COS 117, Salon/Shop Management 3-2-0-4** (Prerequisite: COS 103, COS 105, COS 107, COS 111, and COS 112.) Emphasizes the steps involved in opening and operating a privately owned cosmetology salon. Topics include: planning a salon, business management, retailing, public relations, sales skills, career development, and client retention.

**COS 118, Nail Care I 0-21-7** (Prerequisites: COS 100 and COS 112.) Provides additional experience in manicuring and pedicuring techniques required of applicants for state licensure. Emphasis is placed on performance, using live models in an actual or simulated occupational setting. Topics include: manicure, nail repair, artificial nails, pedicure, advanced and new techniques and safety/sanitation.

**COS 119, Nail Care II 4-0-15-9** (Prerequisites: COS 117, COS 118) Provides nail care experience on live models. Emphasis will be placed on the display of professional conduct and positive attitudes. The appropriate number of applications required by the state board of cosmetology in theory and service credit requirements for this course may be met in a laboratory setting and an approved internship facility. Emphasis is placed on performance, using live models in an actual or simulated occupational setting. Topics include: manicure/pedicure, nail repair, artificial nails, electric file, advanced/new techniques, blood and bodily fluids and OSHA updates, nail art, receptionist/dispensary, and state board licensure preparation and safety/sanitation.

**COS 201, Theory of Instruction 1-4-3** Provides class instruction by a licensed instructor in the theory and practice of all required subjects of cosmetology. Instructor trainee will review various theories of learning and methods of student motivation. Trainee will also review the cosmetology diploma program standards.

**COS 202, Cosmetology Record Keeping 1-4-3** State Cosmetology Board requirements and record keeping. Record keeping involves all aspects of maintaining proper records for student documentation necessary to sit for State licensing exam. Also includes record keeping for salon operation and good management practices.

**COS 203, Salon Management 0-15-5** Emphasizes the steps involved in opening and operating a privately owned cosmetology salon or barber/styling shop. Topics include: planning a salon/shop, business management, retailing, public relations, sales skills, and client retention.

**COS 204, Principles of Teaching 0-15-5** Instructor trainee reviews the various instructional techniques that are generally considered successful for training cosmetology students. Topics include: professional attitude, common teaching weaknesses, learning process, learning principles, laws of learning, and professional classroom atmosphere.

**COS 205, Teaching and Audio Visual Aids 0-15-5** Review the planning process, develop instructional goals and objectives to produce desired learning outcomes. Develop a course syllabus and lesson plans. Become familiar with the various instructional aids available; develop presentations that will utilize all available audio visual instructional aids.

**COS 206, Classroom Management 0-15-5** Introduces classroom management procedures. Topics include: Establishing classroom rules and procedures; making students aware of school policies; reviewing safety rules and procedures, housekeeping measures and care and use of lab equipment; communicating behavioral expectations; preventing and controlling misconduct in the classroom; and coping with chronic student misbehavior.

**COS 207, Lecturing 0-15-5** Provides an introduction to the basic principles of the lecture method of instruction including the advantages and disadvantages and the demonstration method of instruction. Instructor trainee is provided the opportunity to develop and practice both methods while assisting the primary instructor in conducting normal class and lab work.

**COS 208, Testing 0-10-5** Provides an introduction to testing methodology. Topics include: purpose of testing, evaluation methods, qualities of a good test, guidelines for effective test construction, administration, and interpretation.

**COS 209, Practicum I 0-15-5** Provides the instructor trainee laboratory experiences necessary for the development of skills required to be a competent cosmetology instructor. The allocation of time to the various phases of cosmetology is prescribed by the Georgia State Board of Cosmetology. This course includes a portion of the hours required for instructor licensure. Topics include: instructional techniques in demonstrating permanent waving and relaxers; hair color and bleaching; skin, scalp, and hair; haircutting; styling; dispensary; manicure/pedicure; reception; safety precautions; and Hazardous Duty Standards Act compliance.

**COS 210 Practicum II 0-15-5** Provides the instructor trainee laboratory experiences necessary for the development of skills required to be a competent cosmetology instructor. The allocation of time to the various phases of cosmetology is prescribed by the Georgia State Board of Cosmetology. This course includes a portion of the hours required for instructor licensure. Topics include: instructional techniques in demonstrating permanent waving and relaxers; hair color and bleaching; skin, scalp, and hair; haircutting; styling; dispensary; manicure/pedicure; reception; safety precautions; and Hazardous Duty Standards Act compliance.

**COS 211 Practicum III 0-15-5** Provides the instructor trainee laboratory experiences necessary for the development of skills required to be a competent cosmetology instructor. The allocation of time to the various phases of cosmetology is prescribed by the Georgia State Board of Cosmetology. This course includes a portion of the hours required for instructor licensure. Topics include: instructional techniques in demonstrating permanent waving and relaxers; hair color and bleaching; skin, scalp, and hair; haircutting; styling; dispensary; manicure/pedicure; reception; safety precautions; and Hazardous Duty Standards Act compliance.

**COS 212 Practicum IV 0-15-5** Provides the instructor trainee laboratory experiences necessary for the development of skills required to be a competent cosmetology instructor. The allocation of time to the various phases of cosmetology is prescribed by the Georgia State Board of Cosmetology. This course includes a portion of the hours required for instructor licensure. Topics include: instructional techniques in demonstrating permanent waving and relaxers; hair color and bleaching; skin, scalp, and hair; haircutting; styling; dispensary; manicure/pedicure; reception; safety precautions; and Hazardous Duty Standards Act compliance.

**CPT 150, Introduction to Chemical Operations 3-0-3** (Prerequisite: Provisional admission) This course provides an introduction to the job of a Chemical Operator. Topics include: working as a team member, work ethics, chemical processes, manufacturing processes, application of writing, math, and chemistry skills, as well as an introduction to the area chemical industries.

**CPT 151, Introduction to Chemistry 4-3-5** (Prerequisite: Provisional admission) This course provides an introduction to basic inorganic and organic chemistry concepts. Topics include: unit conversions, chemical processing safety, structure of matter, chemical compounds, properties of chemical reactions, solution chemistry, acid base theory, and organic chemistry.

**CPT 152, Chemical Plant Safety 5-0-5** (Prerequisite: Provisional admission) Introduces the safe handling of potentially hazardous chemicals associated with chemical plant operations. The course focuses on current technology used to assure safe chemical operations. Topics include: introduction to chemical process safety, worker and community right-to-know, protecting yourself, spill prevention and recovery, and fundamentals of safe chemical handling and PSM failure analysis.

**CPT 153, Process Unit Operations 4-3-5** (Prerequisite/Corequisite: MAT 1013, CPT 151) An overview of basic unit operations technology used in modern chemical processing plants. Provides descriptions of common operations which combine to form complex chemical manufacturing processes. Topics include: introduction to unit operations, elementary mass and energy balances, basic operations for solids, liquids, and gases, basic operations for mixed phases, heat transfer operations, and chemical processes.

**CPT 154, Introduction to Lubrication 1-0-1** (Prerequisite: Provisional admission) Introduces the concepts, principles, and devices involved in application of industrial lubricants. Topics include: history of lubricants, classification of lubricants, industrial lubricants, methods of application, and troubleshooting lubrication systems.

**CPT 155, Chemical Plant Operations 5-0-5** (Prerequisite: Provisional admission) Introduces "Conduct of Operations" as a set of standards which establishes an overall philosophy for achieving excellence in the standards which will be explored in detail along with their application by organizations supporting or conducting chemical operations. Topics include: shift routines, operating practices and control area activities, communications and independent verification, control of on-shift training and required reading, investigation of abnormal events and notifications, control of equipment, system status, and lockouts/tagouts, log keeping, operations turnover, and timely orders to operate, operations aspects of facility chemistry unique processes, and operations procedures and operator aid postings.

**CPT 156, Piping and Instrumentation Diagrams 5-0-5** (Prerequisites: CPT 151, and CPT 153) The course is designed to demonstrate to an operator how to read mechanical and technical drawings of piping and mechanical devices, controllers, and instruments connected to the network of pipes in a industrial plant. Optional plant tours to see actual plant layout.

**CPT 157, Process Instrumentation 4-3-5** (Prerequisites: CPT 151, CPT 152, CPT 153 and CPT 156; Corequisite: CPT 156) This course describes the various components of typical reactor systems in terms of their form and function. Areas of coverage include reactor types, design considerations, materials handling equipment, heat exchangers, separation equipment, sensors, indicators, transmitters, flow meters and Distributed Control Systems. Optional plant tours to see actual reactors and accessories in operation.

**CPT 158, Directed Independent Study for Chemical Operators 0-6-2** (Department Approval). This course provides either an internship/practicum in a chemical plant job shadowing a chemical operator or laboratory experiences at Augusta Technical College completing a chemical operator project.

**CPT 159, Chemical Manufacturing Process 4-0-3-5** (Prerequisite: CPT 151, CPT 152, CPT 153). Provides an introduction to the chemical principles and concepts of some of the materials manufactured in the CSRA. Include discussions of the importance of these processes to our society and our economy. Lab scale reactions and purifications and testing including safety and environmental regulations will be applied.

**CRJ 101, Introduction to Criminal Justice 5-0-5** (Prerequisite: Provisional admission) Examines the emergence, process and problems of the criminal justice system in the United States. Topics include: the American criminal justice systems, constitutional limitations, organizations of enforcement, adjudication, and corrections, and career opportunities and requirements.

**CRJ 103, Corrections 5-0-5** (Prerequisite: Provisional admission) Provides an overview of all phases of the American correctional system and practices, including its history, procedures, and objectives. Topics include: history and evolution of correctional facilities, legal and administrative problems, institutional facilities and procedures, probation, parole, and prerelease programs, alternative sentencing, rehabilitation, community involvement, and staffing.

**CRJ 104, Principles of Law Enforcement 5-0-5** (Prerequisite: Provisional admission) Examines the principles of organization, administration and the duties of local and state law enforcement agencies with emphasis on police departments. Topics include: history and philosophy of law enforcement, evaluation of administrative practices, problems in American law enforcement agencies, emerging concepts, professionalism, and community crime prevention programs.

**CRJ 105, Introduction to Criminal Procedure 4-2-5** (Prerequisite: CRJ 101) Discuss detailed legal decisions pertaining to officer conduct and major crimes against persons and property. Attention is given to observation of courthouse trials. Topics include: laws of arrest and search and seizure, procedures governing arrest, trial, and administration of criminal sanctions, rules of evidence, general court procedures, right and duties of officers and citizens, and Supreme Court rulings that apply to law enforcement/overview of Constitutional Law.

**CRJ 150, Police Patrol Operations 5-0-0-5** (Prerequisite: Program Admission) This course presents the knowledge and skills associated with police patrol operations. Emphasis is placed on patrol techniques, crimes in progress, crisis intervention, domestic disputes, Georgia Crime Information Center procedures, electronics communications and police reports. Topics include: foundations, policing skills and communication skills.

**CRJ 156, Police Traffic Control and Accident Investigation 5-0-5** (Prerequisite/Corequisite: Program Admission) This course examines enforcement of traffic laws and procedures for traffic accident investigation. Emphasis is placed on Georgia traffic laws, traffic law enforcement, recognition of impaired driving, and traffic accident investigation. Topics include: regulations, impaired driving, and traffic accident investigation.

**CRJ 162, Methods of Criminal Investigation 5-0-5** (Prerequisite: Provisional admission) Presents the fundamental principles of criminal investigation. Emphasis is placed on legal requirements stated in Georgia Criminal law, definition of felony crimes stated in the Georgia code and fundamentals of: investigative procedures, crime scene searches, identification and collection of evidence, note-taking and report writing, surveillance, identification of witnesses and suspects, interviews and interrogation, and preparation and presentation of evidence in court. Topics include: Georgia Criminal Law, common investigative techniques, and procedures used for investigating various crimes.

**CRJ 163, Investigation and Presentation of Evidence 1-4-3** (Prerequisite: CRJ 162) Presents students with practical exercises dealing with investigations and gathering of evidence. Emphasis is placed on crime scene search, fingerprinting, cast molding, and practical exercises. Topics include: crime scene management, specialized investigation techniques, and homicide and suicide investigation.

**CRJ 165, Community Oriented Policing 5-0-5** (Prerequisite: CRJ 104) Presents the fundamentals for the community-oriented policing philosophy. Topics include: comparison of traditional and community policing philosophies; law enforcement community relationships; importance of political and public support and involvement; attitudinal changes involving the roles of police management, supervisors and line personnel; organization mental and physical restructuring; creation of partnerships with community organizations, businesses, private security, other governmental agencies, and special interest groups, and police problem-solving methodologies.

**CRJ 168, Criminal Law, 5-0-5** (Prerequisite: Program admission) This course emphasizes the historical development of criminal law in the United States and the current status of Georgia criminal law. The main focus of the course will be the statutory contents of the Official Code of Georgia Annotated (O.C.G.A.) with primary emphasis on the criminal and traffic codes.

**CRJ 175, Report Writing in Criminal Justice 5-0-5** (Prerequisite: None) Explains and demonstrates the effectiveness of the entire criminal investigation process by the quality of notes reports, and accurate documentation. An examination of what goes into the preparation, content, elements, mechanics, and format of documenting the criminal investigation process is presented. Topics include: Field notes, initial information, observations, evidence, victims, witnesses, property, neighborhood canvass, crime scene, laboratory analysis and results, investigative follow-up, suspect statements, and the characteristics essential to quality report writing.

**CRJ 202, Constitutional Law 5-0-5** (Prerequisite: CRJ 101) Emphasizes those provisions of the Bill of Rights which pertain to criminal justice. Topics include: characteristics and powers of the three branches of government, principles governing the operation of the Constitution, and Bill of Rights and the Constitutional Amendments.

**CRJ 206, Criminology 5-0-5** (Prerequisite: CRJ 104) Introduces the nature, extent, and factors related to criminal behavior, and the etiology of criminal offenses and offenders. Topics include: scope and varieties of crime, sociological, psychological, and biological causes of crime, criminal subculture and society's reaction, prevention of criminal behavior, behavior of criminals in penal and correctional institutions, and problems of rehabilitating the convicted criminal.

**CRJ 207, Juvenile Justice 5-0-5** (Prerequisite: CRJ 101) Analyzes the nature, extent, and causes of juvenile delinquency, and examines processes in the field of juvenile justice. Topics include: survey of juvenile law, comparative analysis of adult and juvenile justice systems, and prevention and treatment of juvenile delinquency.

**CRJ 209, Criminal Justice Technology Practicum/Internship 0-15-5** (Prerequisite: Completion of all required courses) Provides experiences necessary for further professional development and exposure to related agencies in the law enforcement field. The student will either pursue a study project directed by the instructor within the institution, or an internship in a related agency supervised by the instructor subject to the availability of an approved site. Topics include: observation and/or participation in law enforcement activities, law enforcement theory applications, and independent study project.

**CRJ 211, Homeland Security, 5-0-5** (Prerequisite: None) This course examines the critical issues involved in information management concepts related to the six critical homeland security mission areas. Students will analyze threat and vulnerability information, risk assessment, and crisis management and will discuss functions, responsibilities and policy related to information systems and the importance of integration of these systems and sharing of information.

**CRJ 212, Ethics in Criminal Justice 5-0-5** (Prerequisite: Program admission) This course provides an exploration of the field of criminal justice ethics, which broadly encompasses the history of justice and theories of morality and ethics. It includes the study of ethics from both the individual perspective and the organizational standpoint. Special attention will be given to concrete ethical issues and dilemmas which are encountered regularly by participants in the major components of the criminal justice system. Four areas of ethical decision making opportunities are therefore studied in this course, including: law enforcement ethics; correctional ethics; legal profession ethics; and policymaking ethics.

**CRJ 1010, Basic Law Enforcement Health & Safety, 2-2-0-3** (Prerequisite: Admission to the Peace Officers Training Academy) Introduces law enforcement students to emergency care or first aid, cardiopulmonary resuscitation, universal precautions, interpersonal communications, as well as concepts related to mental health, mental retardation and substance abuse.

**CRJ 1012, Ethics and Liability for Basic Law Enforcement, 2-0-0-2** (Prerequisite: Admission to the Peace Officers Training Academy) This course examines the ethical issues and areas of liability confronted by law enforcement personnel. Included in this course are the following topics: ethics and professionalism, peace office liability.

**CRJ 1014, Firearms Training for Basic Law Enforcement, 2-6-0-5** (Prerequisite: Admission to the Peace Officers Training Academy; CRJ 105, CRJ 130, CRJ 168) This course provides the student with an understanding of terminology, legal requirements, liability, safety considerations, tactics, procedures, firearms nomenclature, fundamentals of marksmanship, fundamental simulation in the use of deadly force and the opportunity to demonstrate proficiency in marksmanship.

**CRJ 1016, Emergency Vehicle Operations, 2-6-0-5** (Prerequisite: Admission to the Peace Officers Training Academy; CRJ 104, CRJ 168) This course provides the student with an understanding of appropriate driving actions, terminology, local responsibility, specific statutes, and safety considerations as well as demonstrate proficiency in the operation of an emergency vehicle.

**CRJ 1018, Defensive Tactics, 1-6-0-4** (Prerequisite: Admission to the Peace Officers Training Academy; CRJ 104, CRJ 130) This course provides students with an understanding of terminology, human anatomy, legal requirements, liability, safety, tactics, and demonstrate proper procedures for specific techniques to search, control and restrain a person.

**CSS 100, Introduction to Central Sterile Processing 4-2-3-6** (Prerequisite: Provisional admission) Provides an overview of the Central Sterile Processing and develops the fundamental concepts and principles necessary for successful participation within a Central Sterile Processing. Topics include: orientation to Central Sterile Processing, decontamination procedures, surgical instrumentation, preparation and packaging, sterilization, sterile storage, distribution and inventory control.

**CUL 100, Professionalism in Culinary Arts 3-0-3** (Prerequisite: Provisional admission) Provides an overview of the professionalism in culinary arts and culinary career opportunities. Chef history, pride, and esprit d corp are taught. Topics include: cuisine, food service organizations, career opportunities, food service styles, basic culinary management techniques, culinary professionalism, and culinary work ethics.

**CUL 110, Food Service Sanitation and Safety 2-0-4-3** (Prerequisite: Provisional admission) Emphasizes fundamental kitchen and dining room safety, sanitation, maintenance, and operation procedures. Topics include: cleaning standards, O.S.H.A. M.S.D.S. guidelines, sanitary procedures following SERV-SAFE guidelines, HACCAP, safety practices, basic kitchen first aid, operation of equipment, cleaning and maintenance of equipment, dishwashing, and pot and pan cleaning. Laboratory practice parallels class work.

**CUL 112, Principles of Cooking 2-2-9-6** (Prerequisite: Provisional admission) Introduces fundamental food preparation terms, concepts, and methods. Course content reflects American Culinary Federation Educational Institute apprenticeship training objectives. Topics include: weights and measures, conversions, basic cooking principles, methods of food preparation, recipe utilization, and nutrition. Laboratory demonstrations and student experimentation parallel class work.

**CUL 114, American Regional Cuisine 2-2-6-5** (Prerequisite: CUL 110) Emphasis is on terms, concepts, and methods necessary to American Cuisine food preparation. Course content reflects American Culinary Federation Educational Institute apprenticeship training objectives. Topics include: kitchen aromatics, regional cooking principles and history, methods of American regional food preparation, and nutrition. Laboratory demonstrations and student experimentation parallel class work.

**CUL 116, Food Service Purchasing and Control 2-2-0-3** (Prerequisite: MAT 1012) Introduces principles and practices necessary to food, supply, and equipment selection, procurement, receiving, storage, and distribution. Topics include: quality factors, food tests, pricing procedures, cost determination and control, selection, procurement, receiving, storage, and distribution. Laboratory demonstration and student experimentation parallel class work.

**CUL 121, Baking Principles I 2-2-6-5** (Prerequisite: CUL 110; Corequisite: CUL 112) Presents the fundamental terms, concepts, and methods involved in preparation of yeast and quick breads. Emphasis is placed on conformance of sanitation and hygienic work habits with health laws. Course content reflects American Culinary Federation Educational Institute cook and pastry apprenticeship training objectives, along with Retail Bakery Association training program. Topics include: baking principles; science and use of baking ingredients for breads, weights, measures, and conversions; baking sanitation and hygiene; preparation of baked goods; baking supplies and equipment. Laboratory demonstrations and student experimentation parallel class work.

**CUL 122, Baking Principles II 2-2-6-5** (Prerequisite: CUL 121) Presents the fundamental terms, concepts, and methods involved in preparation of baked products. Emphasis is placed on conformance of sanitation and hygienic work habits with health laws. Course content reflects American Culinary Federation Educational Institute cook and pastry apprenticeship training objectives, along with Retail Bakery Association training program. Topics include: baking principles; science and use of baking ingredients; preparation of baked goods, weights, measures, and conversions; baking sanitation and hygiene for desserts, cakes, and pastries; and baking supplies and equipment. Laboratory demonstrations and student experimentation parallel class work.

**CUL 127, Banquet Preparation and Presentation 2-2-6-4** (Prerequisite: CUL 112) Provides experience in preparation of a wide variety of quantity foods. Course content reflects American Culinary Federation Educational Institute apprenticeship training objectives. Topics include: kitchen operational procedures, equipment use, banquet planning, recipe conversion, food decorating/styling, safety and sanitation, and production of quantity food. Laboratory practice is provided.

**CUL 129, Front of the House Services 2-0-3-3** (Prerequisite: Provisional admission) Introduces the fundamentals of dining and beverage service. Topics include: dining service/quest service, dining service positions and functions, international dining service, restaurant business laws, preparation and setup, table side service, table side merchandising and beverage service and setup. Laboratory practice parallels class work.

**CUL 130, Pantry, Hors D' Oeuvres and Canapés 2-2-6-5** (Prerequisite: CUL 114) Introduces basic pantry manager principles, utilization, preparation, and integration into other kitchen operations. Course content reflects American Culinary Federation Educational Institute apprenticeship pantry, garnishing, and presentation training objectives. Topics include: pantry functions, basic garnishes, breakfast preparation, buffet presentation, cold preparations, cold sandwiches, salads and dressings, molds, garnishes, and cold hors d'oeuvres. Laboratory practice parallels class work.

**CUL 132, Garde Manager 2-2-6-5** (Prerequisite: CUL 130) Emphasizes basic garde manager utilization and preparation of appetizers, condiments, and hors d'oeuvres. Topics include: hot and cold hors d'oeuvres, salads, dressings, and relishes, sandwiches, pates and terrines, chateaufroids, gelees, and molds, canapés, and garnishing, carving, and decorating. Laboratory practice parallels class work.

**CUL 133, Food Service Leadership and Decision Making 5-0-5** (Prerequisite: Provisional admission) Familiarizes the student with the principles and methods of sound leadership and decision making in the hospitality industry. Topics include: basic leadership principles and how to use them to solicit cooperation, use of leadership to develop the best possible senior-subordinate relationships, the various decision making processes, the ability to make sound and timely decisions, leadership within the framework of the major functions of management, and delegation of authority and responsibility in the hospitality industry.

**CUL 137, Nutritional Food and Menu Development 1-0-6-3** (Prerequisites: CUL 100, 110, and 112) Emphasizes menu planning for all types of facilities, services, and special diets. Topics include: menu selection, menu development and pricing, nutrition, special diets, cooking nutritional foods and organics. Laboratory demonstrations and student management and supervision parallel class work.

**CUL 215, Contemporary Cuisine I 2-2-6-5** (Corequisites: CUL 100, 110, and 114) Emphasizes all modern cuisine and introduces management concepts necessary to the functioning of a commercial kitchen. Topics include: international cuisine, cuisine trends, kitchen organization, kitchen management, kitchen supervision, competition entry, and nutrition. Laboratory demonstration and student experimentation parallel class work.

**CUL 216, Practicum/Internship 1-0-30-11** (Prerequisites: CUL 114, CUL 116, CUL 127) Provides the student with the opportunity to gain management/supervision experience in an actual job setting. Students will be placed in an appropriate restaurant, catering, or other food service business for four days per week throughout the quarter. On-the-job training topics include: restaurant management/on-off premise catering/food service business, supervisory training, and management training, on-off premise catering, hotel kitchen organization, kitchen management, restaurant kitchen systems, institutional food systems, kitchen departmental responsibility, and kitchen productivity.

**CUL 220, Contemporary Cuisine II 2-2-6-5** (Corequisite: CUL 215) Emphasizes supervision and management concepts, knowledge, and skills necessary to restaurants serving contemporary cuisine. Topics include: menu selection, layout and design, on/off premise catering, entrepreneurship, small business management, and nutrition. Laboratory demonstrations and student experimentation parallel class work.

**CVT 102, Medical Physics 2-2-3** (Prerequisite: Program admission. Corequisites: CVT 103, CVT 107, CVT 109) Continuation of Fundamentals of Medical Physics with stress placed on the physics of medicine. The student is introduced to the theory of physics found in cardiovascular science. Performance of laboratory procedures is used to reinforce understanding of biomedical applications of physics and proper techniques in safety.

**CVT 103, Electrophysiology and Cardiac Anatomy 2-4-0-4** (Prerequisite: Program Admission. Corequisite: AHS 104, CVT 110, CVT 111, VAS 110 ) Introduces the concepts essential in the performance and interpretation of 12 lead EKG and heart sounds. As a study of the anatomy, physiology, structural relationships, and the pathophysiology of the human heart and vascular system, the course concentrates on specialized terminology, cardiac and vascular anatomy, and electrophysiology. Topics include: heart anatomy, circulatory system, heart electrical system, heart layers, physical heart defects, electrocardiograph, preparation for various electrocardiographic and sonographic examinations, and physical principles and pathophysiology of heart sounds. Laboratory experiences will be provided.

**CVT 104, Electrophysiology II 2-4-0-4** (Prerequisite: AHS 104, CVT 103, CVT 111, CVT 110, VAS 110. Invasive Track [Cardiac Catheterization] Corequisites: - CVT 102, CVT 108, CVT 109, ECH 155; Vascular Track Corequisites: DMS 133, DMS 136, ECH 155, VAS 141; Echocardiology Track Corequisites: CVT 108, CVT 109, DMS 136, ECH 155) Introduces the concepts essential in the performance and interpretation of cardiac exercise tolerance testing and Holter monitoring. Topics include: exercise physiology, stress testing, Holter monitoring, cardiac pacemakers, and cardiac rehabilitation programs.

**CVT 108, Cardiovascular Advanced Hemodynamics 3-0-0-3** (Prerequisites: AHS 104 CVT 103, CVT 110, CVT 111, VAS 110. Invasive Track Corequisites [Cardiac Catheterization] : - CVT 104, CVT 109, CVT 102, ECH 155; Echocardiology Track Corequisites: CVT 104, CVT 109, DMS 136, ECH 155.) The student is introduced to various forms of invasive monitoring. Various forms of invasive access are studied, including right and left heart catheterization, arterial line setups, and appropriate care. Emphasis is placed on the basics of hemodynamic monitoring and interpretation. Topics include: hemodynamics, aseptic technique, and infection control.

**CVT 109, Cardiovascular Pathophysiology 3-0-0-3** (Prerequisite: AHS 104 CVT 103, CVT 110, CVT 111, VAS 110. Invasive [Cardiac Catheterization] Corequisite: CVT 102, CVT 104, CVT 108, DMS 136, ECH 155) Provides an overview of cardiovascular physiology and pathophysiology. Topics include: biochemistry of the cardiac muscle, conduction system, electrocardiogram, pathophysiology of acquired diseases, embryological development, and the pathophysiology of congenital diseases.

**CVT 110, Noninvasive Cardiovascular Fundamentals 3-2-0-4** (Prerequisites: Program Admission. Corequisite: AHS 104, CVT 103, CVT 111, VAS 110 [all tracks]) Introduces the basic principles and applications of physical assessment, of non-invasive cardiovascular procedures. Topics include: introduction to measurements: chamber dimensions, velocities, systole, and diastole; patient and equipment skills related to instrumentation; physical principles: heart sounds, imaging of the cardiovascular system; echocardiography and vascular technology: basic views, terminology, physical principles, and instrumentation; and tomographic anatomy.

**CVT 111, Invasive Cardiovascular Fundamentals 3-2-0-4** (Prerequisites: Program Admission Corequisite: AHS 104, CVT 103, CVT 110, VAS 110 [all tracks]) Provides an overview of cardiovascular invasive diagnosis and therapy. Includes an introduction of the cardiac catheterization lab. Topics include: x-ray therapy, safety, positioning, coronary arteriography, pharmacology, invasive cardiac measurements and calculations, and specialty procedures.

**CVT 120, Cardiac Catheterization I 3-2-4** (Prerequisites: CVT 104, CVT 108, CVT 110, CVT 111. Corequisite: CVT 124) This course includes an intensive study of the role of the Cardiovascular Technology student in the various diagnostic invasive cardiac catheterization procedures. This includes identification of angiographic images and data as well as basic interventional techniques. Competencies are developed in hemodynamic calculations such as quantitative LV volumes, valve area, and pressure waveforms; and additional competencies in cardiac pharmacology, and cardiac pathology. Lab experience will be provided.

**CVT 121, Cardiac Catheterization II 7-4-9** (Prerequisites: CVT 120, CVT 124. Corequisites: CVT 125, AHS 102) Offers an intensive study of the role of the cardiovascular technologist in the various invasive cardiac catheterization procedures such as right and left heart procedures, temporary pacemakers, Swan-Ganz catheters, and coronary angioplasty. Basic competencies are developed in hemodynamic calculations such as quantitative left ventricular volumes, valve area, and pressure waveforms in classroom, lab, and clinical settings. Additional topics include: emergency life support, cardiac pharmacology, and cardiac pathology and advance cardiac life support.

**CVT 122, Cardiac Catheterization III 7-4-9** (Prerequisites: CVT 121, CVT 125, AHS 102. Corequisite: CVT 126) Offers an intensive study of the role of the cardiac catheterization technologist in advanced cardiovascular procedures related to the catheterization lab and to open heart surgery. Topics include: electrophysiology, pacemaker and implantable defibrillators, pediatric heart catheterization, blood gases, cardiac output, shunt determination, heart lung machine, cardiac assist devices, and the intra-aortic balloon pump.

**CVT 123, Cardiac Catheterization Clinical IV 1-34-12** (Prerequisites: CVT 122, CVT 126) Develops clinical skills by active participation in a cardiac catheterization laboratory. Topics include: cardiac catheterization lab, special radiologic procedures, pacemakers, coronary angioplasty, computer operations and calculation, and surgical specialty procedures.

**CVT 124, Cardiac Catheterization Clinical I, 1-12-5** (Prerequisites: CVT 104, CVT 108, CVT 110, CVT 111. Corequisite: CVT 120) The student will develop entry level cardiac cath scrub skills necessary to assist with left heart catheterization and angiography. The student will develop skills using the Seldinger method used for sheath and catheter insertion and any deviation according to individual physician preference. The student will develop basic patient monitoring skills expected while performing scrub duties.

**CVT 125, Cardiac Catheterization Clinical II, 0-9-3** (Prerequisites: CVT 120, CVT 124. Corequisite: CVT 121, AHS 102) Provides hands-on experiences in performing invasive cardiovascular procedures. Emphasis will be placed on development of clinical skills. Topics include: policies and procedures, cardiac catheterization equipment, participating in sterile surgical procedures, and patient preparation.

**CVT 126, Cardiac Catheterization Clinical III, 0-9-3** (Prerequisites: CVT 121, CVT 125, AHS 102. Corequisite: CVT 122) Emphasizes the latest modalities and specialties of invasive cardiac catheterization. Topics include: study skills and clinical rotation in electrophysiology, pacemaker, pediatric heart catheterization, stent and balloon angioplasty procedures.

**DDF 191, Engineering Graphics I 1-6-3** (Prerequisite: Program admission) Introduces engineering drawing. Surveys various styles of engineering sketching and computer-aided drafting (CAD) techniques. Additionally, the student prepares sample engineering orthographic drawings. Topics include: freehand sketching, CAD fundamentals, geometric construction and orthographic drawing. Laboratory work parallels class work.

**DDS 203, Surveying I 1-4-3** (Prerequisite: MAT 1015) Introduces fundamental plane surveying concepts, instruments, and techniques. Topics include: linear measurements, instrument use, and angles, bearings, and directions.

**DDS 219, Route Location and Design 4-6-7** (Prerequisite: DDS 203) Provides the fundamentals of proper highway design. Students have opportunities to participate in actual field stakeout, measurement, and solution of design problems given specific parameters. Topics include: land transportation systems, ground and aerial route survey methods, circular, compound, reverse, and parabolic curves and spirals, highway design safety and limitations, intersections and interchanges, plot and field stakeout, and topographic planning.

**DEN 101, Basic Human Biology 3-0-3** (Prerequisite: Program admission. Corequisites: AHS 104, DEN 106, ENG 1010, MAT 1012) Focuses on basic normal structure and function of the human body with an emphasis on organ systems. Topics include: medical terminology as it relates to the normal human body, and normal structure and function of the human body – cells and tissues, organs and systems, and homeostatic mechanisms.

**DEN 102, Head and Neck Anatomy 2-0-2** (Prerequisites: AHS 104, DEN 101, DEN 106, ENG 1010, MAT 1012. Corequisites: SCT 100, DEN 105, DEN 134, PSY 1010) Focuses on normal head and neck anatomy. Topics include: osteology of the skull, muscles of mastication and facial expression, temporal mandibular joint, blood lymphatic and nerve supply of the head, and salivary glands and related structures.

**DEN 103, Preventive Dentistry 3-2-4** (Prerequisites: DEN 102, DEN 105, DEN 134. Corequisites: DEN 135, DEN 139, DEN 146) Provides students with theory and clinical experience in the area of preventive and public health dentistry. Topics include: etiology of dental disease, patient education techniques, plaque control techniques, types and use of fluoride, diet analysis for caries control, and nutritional and dietary considerations for the dental patient.

**DEN 105, Microbiology and Infection Control 2-2-0-3** (Prerequisites: AHS 104, DEN 101, DEN 106, ENG 1010, MAT 1012. Corequisites: DEN 102, DEN 134) Introduces fundamental microbiology and infection control techniques. Topics include: classification, structure, and behavior of pathogenic microbes; mode of disease transmission; body's defense and immunity; infectious diseases; and infection control procedures in accordance with CDC recommendations and OSHA guidelines.

**DEN 106, Oral Anatomy 5-0-5** (Prerequisite: Program admission. Corequisites: AHS 104, DEN 101, MAT 1012, ENG 1010) Focuses on the development and functions of oral anatomy. Topics include: dental anatomy, oral histology, and oral embryology.

**DEN 107, Oral Pathology and Therapeutics 4-0-4** (Prerequisites: DEN 103, DEN 135, DEN 139, and DEN 146. Corequisites: DEN 136, DEN 137, DEN 140, DEN 147) Focuses on the diseases affecting the oral cavity and pharmacology as it relates to dentistry. Topics include: identification and disease process, signs/symptoms of oral diseases and systemic diseases with oral manifestations, developmental abnormalities of oral tissues, basic principles of pharmacology, drugs prescribed and used by the dental profession, drugs that may contraindicate treatment, and applied pharmacology (regulations, dosage, and application).

**DEN 109, Dental Assisting National Board Examination Preparation 3-0-3** (Prerequisite/Corequisite: Completion of all dental assisting didactic courses or two years of full-time work experience [3,500 hours]. Corequisites: DEN 138, DEN 148) Reviews information concerning all didactic areas tested by the Dental Assisting National Board (DANB). Topics include: collecting and recording clinical data, dental radiography, chairside dental procedures, prevention of disease transmission, patient education and oral health management, office management procedures, and test taking skills.

**DEN 134, Dental Assisting I 4-6-7** (Prerequisites: DEN 101, DEN 106, AHS 104. Corequisites: DEN 102, DEN 105) Introduces students to chairside assisting with diagnostic and operative procedures. Topics include: four-handed dentistry techniques, clinical data collection techniques, introduction to operative dentistry, dental material basics, infection control procedures in dental environment with emphasis on CDC and ADA guidelines, and team concepts/continuous improvement effects as related to dentistry.

**DEN 135, Dental Assisting II 4-6-7** (Prerequisites: DEN 102, DEN 105, DEN 134. Corequisites: DEN 103, DEN 139, DEN 146) Focuses on chairside assisting with operative and nonsurgical specialty procedures. Topics include: operative dentistry, prosthodontic procedures (fixed and removable), orthodontics, and pediatric dentistry.

**DEN 136, Dental Assisting III 3-2-4** (Prerequisites: DEN 103, DEN 135, DEN 139, DEN 146. Corequisites: DEN 107, DEN 137, DEN 140, DEN 147) Focuses on chairside assisting in surgical specialties. Topics include: periodontic procedures, oral and maxillofacial surgery procedures, endodontic procedures, management of dental office emergencies, and medically and physically comprised patients.

**DEN 137, Dental Assisting – Expanded Functions 3-2-4** (Prerequisites: DEN 103, DEN 135, DEN 139, DEN 146. Corequisites: DEN 107, DEN 136, DEN 140, DEN 147) Focuses on expanded duties of dental auxiliary personnel approved by the Georgia Board of Dentistry. Topics include: expanded functions approved by law for performance by dental assistants.

**DEN 138, Scopes of Professional Practice 2-0-2** (Prerequisites: DEN 107, DEN 136, DEN 137, DEN 140, DEN 147. Corequisites: DEN 109, DEN 138, DEN 148) Focuses on ethics and jurisprudence related to dental practice, job preparation and maintenance skills. Topics include: Letters of application, resignation and follow-up, preparation of resumes, job applications and interview skills.

**DEN 139, Dental Radiology 4-2-5** (Prerequisites: DEN 102, DEN 105, DEN 134, SCT 100, PSY 1010. Corequisites: DEN 103, DEN 135, DEN 146) After completion of the course the student will be able to provide radiation safety for patient and self, expose x-rays, process x-rays, and prepare dental films for the dental office. Topics include: fundamentals of radiology and radiation safety, radiographic anatomy and interpretation, intraoral and extraoral radiographic techniques, and quality assurance techniques.

**DEN 140, Dental Practice Management 4-2-5** (Prerequisites: DEN 103, DEN 135, DEN 139, DEN 146. Corequisites: DEN 107, DEN 136, DEN 137, DEN 147) Emphasizes procedures for office management in dental practices. Topics include: records management in dentistry, appointment control in dentistry, dental insurance form preparation, accounting procedures in dentistry, supply and inventory control as related to dentistry, and operation of basic business equipment. A computer lab provides basic skills in computer use and utilization of these skills to perform office procedures on a microcomputer.

**DEN 146, Dental Practicum I 0-6-2** (Prerequisites: DEN 102, DEN 105, DEN 134, SCT 100, PSY 1010. Corequisites: DEN 103, DEN 135, DEN 139) Practicum focuses on infection control in the dental office and assisting with diagnostic and simple operative procedures. Topics include: infection control procedures, clinical diagnostic procedures, general dentistry procedures, and dental radiography procedures.

**DEN 147, Dental Practicum II 0-6-2** (Prerequisites: DEN 103, DEN 135, DEN 139, DEN 146. Corequisites: DEN 107, DEN 136, DEN 137, DEN 140) Practicum focuses on advanced general dentistry procedures and chairside assisting in dental specialties with special emphasis on nonsurgical specialties. Topics include: advanced general dentistry and specialties.

**DEN 148, Dental Practicum III 0-24-8** (Prerequisites: DEN 107, DEN 136, DEN 137, DEN 140, DEN 147. Corequisites, DEN 109, DEN 138) Practicum continues to focus on assisting chairside with advanced general dentistry procedures with emphasis on dental office management, preventive dentistry, and expanded functions. Topics include: advanced general dentistry procedures, preventive dentistry, dental office management, expanded functions, chairside oral and maxillofacial surgery, and management of dental office emergencies.

**DMM 154 Working in a Warehousing Environment 2-0-2** (Course Length: 20 Hours) This course lays the foundation for the program. The first lesson introduces the course. The lessons "Learning for Success" and "Listening Skills" are included in this series of lessons to provide a refresher of study skills early in the program. "Introduction to Business Principles" and "Introduction to Warehousing and Distribution Centers" provides a business orientation that is continued throughout the program. "Positive Work Ethic" focuses on workplace values and behaviors. "General Plant Safety" stresses the importance of safety awareness and responsibility. "Managing Change" discusses the causes of change, the concept of change as a process, phases of change and techniques for the healthy management of change.

**DMM 156 Warehousing and Workplace Practices 2-0-2** (Course Length: 22 Hours) The overall objective of the course is to provide training in the workplace practices that contribute to success on the job: effective communication, projecting a positive image and knowledge of the principles of good health. The second objective is training in the skills employees bring to the workplace that enhance their value to the organization and contribute to a positive work experience: problem solving, job interview skills, and the ability to work with others as individuals and in teams.

**DMM 158 Warehousing and Distribution Processes 3-0-3** (Course Length: 30 Hours) The course introduces the mission of warehouses and distribution centers, what various types of employees do in a warehouse, how warehouses and distribution centers are organized to perform their mission, and how management determines that warehouses are meeting their mission and operational goals.

**DMM 160 Core Warehousing Skills 4-0-4** (Course Length: 40 Hours) Core warehousing skills are those practices important to working safely in a technical environment, the ability to use various types of powered equipment, the ability to apply state of the art techniques to preparing and protecting merchandise for shipment, and an understanding of issues important to use and recovery of hazardous materials that may be used in goods shipped from the warehouse.

**DMM 162 Warehousing Technology Skills 4-0-4** (Course Length: 40 Hours) This course provides participants with the tools and skills necessary to work more effectively in warehousing and distribution careers. Warehouse Management Systems incorporate communication technologies, Inventory Identification Systems, Electronic Data Interchange and Manufacturing Resource Planning (MRPII) to maintain an accurate and efficient inventory system. "Warehouse Data Applications" focuses on technologies that are commonly used in warehouse management. "Scanners and Data Entry" is designed to familiarize participants with RF/Laser scanners and bar coding. Practical exercises are conducted to reinforce understanding of the scanning and data entry process. "Handling Systems" focuses with various types of conveyors that are used in warehousing. Participants become familiar with different types of conveyors, their configurations, and the attachments they use.

**DMS 133, Cross Sectional Anatomy 3-0-3-4** (Prerequisites: AHS 104, CVT 103, CVT 110, CVT 111, VAS 110. Corequisites: CVT 104, DMS 133, DMS 136, ECH 155, VAS 141) This course introduces detailed normal anatomy in various planes used during sonographic examinations. Information is weighted toward normal structures which are sonographically visible. Structures are described according to relative location and proportionality. Anatomy is identified in both cadaver and sonographic modes. Structures include the brain, neck, chest, abdomen, pelvis, and extremities. Emphasis is placed on sonographically identifying normal cross sectional anatomy based on echogenicity, the position of other relative anatomy and proportionality of size. Topics include: normal sectional anatomy of the neck: vascular and thyroid; normal sectional anatomy of the adult chest; normal sectional anatomy of the abdomen in adults; normal sectional anatomy of the male and female pelvis; and normal sectional anatomy of the extremities: muscles.

**DMS 136, Sonographic Physics I 3-0-0-3** (Prerequisites: AHS 104 CVT 103, CVT 110, CVT 111, VAS 110. Echocardiography Track Corequisite: CVT 104, CVT 108 CVT 109, ECH 155, VAS 141, DMS 133; Vascular Track Corequisite: CVT 104, DMS 133, ECH 155, VAS 141) Introduces concepts for the factors involved with diagnostic ultrasound principles and instruments. Emphasis will be placed on basic ultrasound physics, transducer construction, operation and characteristics, artifacts and adjustable physics parameters. Topics include: sound properties, sound units, sound measurements, ultrasound transducers, imaging instruments, ultrasound machine adjustable parameters, and display modes.

**DMS 202, Sonographic Physics II 2-0-0-2** (Prerequisites: DMS 136, CVT 109 or VAS 141, CVT 108 or VAS 133, CVT 104, ECH 155. Echocardiography Track Corequisite: AHS 102, ECH 131, ECH 136; Vascular Track Corequisite: AHS 102, VAS 136, VAS 143) Introduces concepts for the factors involved with diagnostic ultrasound principles and instruments. Topics include: Doppler instruments, performance and safety, and artifacts.

**ECE 101, Introduction to Early Childhood Care and Education 5-0-5** (Prerequisite: Provisional admission) Introduces concepts relating the responsibilities and procedures involved in a variety of early childhood care situations. This course addresses key CDA competency goals and functional areas. Topics include: historical perspectives, career opportunities, work ethics, functioning in a team environment, guidance, transitional activities, program management, learning environment, cultural diversity, licensing and accreditation, and professional development file (portfolio) guidelines.

**ECE 103, Human Growth and Development I 5-0-5** (Prerequisite: Provisional admission) Introduces the student to the physical, social, emotional, and cognitive development of the young child (0 through 5 years of age). Provides for competency development in observing, recording, and interpreting growth and development stages in the young child, advancing physical and intellectual competence, supporting social and emotional development, and providing positive guidance. Topics include: developmental characteristics, observation and recording, theory and practice, guidance techniques, developmentally appropriate practice and introduction to children with special needs.

**ECE 105, Health, Safety, and Nutrition 5-0-5** (Prerequisite: Provisional admission) Introduces the theory, practices, and requirements for establishing and maintaining a safe, healthy learning environment. Topics include: CPR and first aid, health issues, safety issues, child abuse and neglect, and nutritional needs of children.

**ECE 112, Curriculum Development 3-2-3** (Prerequisites/Co-requisites: ECE 101, ECE 103) Provides an understanding that play, developmental integration and active learning are critical to achieving meaningful curriculum for young children. This course develops knowledge and skills that will enable the student to establish a learning environment appropriate for young children. Topics include: instructional media, learning environments, curriculum approaches, development of curriculum plans and materials, transitional activities, approaches to teaching, learning, and assessing, and appropriate assessment strategies.

**ECE 113, Art for Children 1-4-3** (Prerequisite: Provisional admission) Introduces the concepts related to creativity in art. This course combines lecture and lab experiences to introduce the many media areas used by children to express themselves. Topics include: concepts of creativity and children's creative development; facilitation of children's creative expression; appreciation of children's art processes and products, and art appreciation.

**ECE 114, Music and Movement 1-4-3** (Prerequisite: Provisional admission) Introduces the concepts related to creativity in music and movement. This course combines lecture and lab experiences to introduce media, methods, and materials used to foster musical activity and creative movement. Topics include: spontaneous and planned music and movement, media, methods and materials, coordination of movement and music, theoretical foundations; and music appreciation.

**ECE 115, Language Arts and Literature 5-0-5** (Prerequisite/Co-requisite: ECE 103) Develops knowledge and skills that will enable the student to plan and implement developmentally appropriate listening, speaking, writing, and reading activities for young children. Topics include: reading readiness, oral communication activities, writing readiness, listening comprehension, literature selection, story presentation, and stages of language acquisition.

**ECE 116, Math and Science 5-0-5** (Prerequisite/Corequisite: ECE 103) Presents the process of introducing science and math concepts to young children. Includes planning and implementation of appropriate activities and development of methods and techniques of delivery. Topics include: cognitive stages and developmental process in math and science, math and science activity planning, and development of math and science materials.

**ECE 121, Early Childhood Care and Education Practicum I 1-6-3** (Prerequisite: ECE103. Pre/Corequisite: ECE 105) Provides the student with the opportunity to gain a supervised experience in an actual or simulated work setting allowing demonstration of techniques obtained from course work. Practicum training topics include: promoting child development and learning; building family and community relationships; observing, documenting, and assessing to support young children and families; teaching and learning; becoming a professional; and guidance techniques and classroom management.

**ECE 122, Early Childhood Care and Education Practicum II 1-6-3** (Prerequisite: ECE 121) Provides the student with the opportunity to gain additional, supervised experience in an actual or simulated work setting allowing demonstration of techniques obtained from course work. Practicum training topics include: promoting child development and learning; building family and community relationships; observing, documenting, and assessing to support young children and families; teaching and learning; and becoming a professional.

**ECE 201, Exceptionalities 5-0-5** (Prerequisite: ECE 103) Provides for the development of knowledge and skills that will enable the student to understand individuals with special needs and appropriately guide their development. Special emphasis is placed on acquainting the student with programs and community resources that serve families with special needs persons. Topics include: inclusion/least restrictive environment (LRE), physical disabilities and health disorders, intellectual exceptionalities, social/emotional disorders and community resources.

**ECE 202, Social Issues and Family Involvement 5-0-5** (Prerequisite: Provisional admission) Enables the student to become familiar with the social issues that affect families of today and to develop a plan for coping with these issues as they occur in the occupational environment. Students are introduced to local programs and agencies that offer services to those in need. Topics include: professional responsibilities, family/social issues, community resources, parent education and support, teacher-parent communication, community partnerships, social diversity and anti-bias issues, transitioning the child, and school family activities.

**ECE 203, Human Growth and Development II 5-0-5** (Prerequisite: Provisional admission) Introduces the student to the physical, social, emotional, and intellectual development of the school age child (6-12 years of age). Provides learning experiences related to the principles of human growth, development, and theories of learning and behavior. Topics include: developmental characteristics, guidance techniques, developmentally appropriate practice, introduction to children with special needs, and observation skills.

**ECE 211, Methods and Materials 5-0-5** (Prerequisite: ECE 112) Develops skills to enable the student to work as a paraprofessional in a program for pre-kindergarten through elementary aged children. Topics include: instructional techniques, curriculum, materials for instruction, and learning environments.

**ECE 212, Professional Practices and Classroom Management 5-0-5** (Prerequisite: Departmental approval. Corequisite: ECE 211) Develops knowledge that will enable the student to work as a paraprofessional in a program for pre-kindergarten through elementary aged children. Topics include: professional qualifications, professionalism, supervised planning, application of guidance techniques, and classroom management.

**ECE 224, Early Childhood Care and Education Internship 0-36-12** (Prerequisite: Program admission and completion of all required program courses) Provides the student with the opportunity to gain experience in a simulated or actual work setting. Students will be placed in an approved setting(s) throughout the quarter where planning, implementing, observing, and evaluating activities are the focus of their involvement. An evaluation procedure will be used by the designee of the institution and the on-site supervisor to critique the student's performance. Topics include: problem solving, use of proper interpersonal skills, application of developmentally appropriate practice, professional development, and resource file (portfolio) development.

**ECG 103, Introduction to Electrocardiography 3-2-3** (Prerequisites: AHS 1011 or BIO 2113 and 2114, AHS 104, AHS 109, ENG 1010 or ENG 1101, MAT 1012 or MAT 1111, PSY 1010, SCT 100. Corequisite: ECG 105) Introduces the fundamental concepts of electrocardiography. Topics include: cardiovascular anatomy, physiology of cardiac conduction and the normal electrocardiogram and its components.

**ECG 105, Electrocardiography Practicum 0-24-8** (Prerequisites: AHS 1011 or BIO 2113 and 2114, AHS 104, AHS 109, ENG 1010 or ENG 1101, MAT 1012 or MAT 1111, PSY 1010, SCT 100. Corequisite: ECG 103) Provides practical experience in operating and maintaining electrocardiographic equipment and providing recorded data for diagnostic review. Topics include: basic operation and maintenance of electrocardiographic equipment, procedures for conducting ECG tests, and basic interpretations of electrocardiograms.

**ECH 131, Echocardiography I 2-4-6-6** (Prerequisites: DMS 136, CVT 109, CVT 108, CVT 104, ECH 155. Corequisite: DMS 202, AHS 102, ECH 136) This course develops basic imaging skills by imaging normal hearts in the echocardiography lab. Topics include: role of the noninvasive cardiovascular technologist, echocardiographic examination, basic quantification calculations, professional conduct, and ethics.

**ECH 133, Echocardiography II 2-4-6-6** (Prerequisites: DMS 202, ECH 131, ECH 136, AHS 102. Corequisite: ECH 137) Utilizes the fundamentals to evaluate acquired disease states. Incorporates all forms of noninvasive cardiovascular evaluation with emphasis on performance and interpretation of M-mode, 2-dimensional, and Doppler echocardiography. Topics include: cardiac chamber studies, hemodynamic correlates, valvular heart disease, coronary heart disease, cardiomyopathies, pericardial diseases, cardiac masses, and diseases of the aorta.

**ECH 136, Echocardiography Clinical I 0-0-24-8** (Prerequisites: DMS 136, CVT 104, CVT 108, CVT 109, DMS 136, ECH 155. Corequisite: AHS 102, DMS 202, ECH 131, ECH 136) Introduces the clinical environment by assisting the technologist in the echocardiography lab in patient preparation and imaging while acquiring electrocardiograms, Holter monitors, stress testing, and pacemaker checks. Students will participate and perform (with assistance) procedures in noninvasive cardiology labs and imaging centers. Topics include: clinical environment; recording medical information; patient preparation for noninvasive cardiovascular treatment; medical ethics; performance of basic normal echo under guidance; proper positioning in Doppler, CW and color; and observation of TEE and stress echo.

**ECH 137, Echocardiography Clinical II 0-0-24-8** (Prerequisites: AHS 102, DMS 202, ECH 131, ECH 136. Corequisite: 133) Provides hands-on experience in performing noninvasive cardiovascular procedures with emphasis on instrumentation and development of clinical techniques. Topics include: policies and procedures, echocardiographic instrumentation, recording patient information, patient preparation, and performing echocardiographic examinations.

**ECH 155, Professional Development 0-2-0-1** (Prerequisites: AHS 104 CVT 103, CVT 110, CVT 111, VAS 110. Invasive Track Corequisite: CVT 102, CVT 104, CVT 108, CVT 109; Echocardiography Corequisite: CVT 104, CVT 108, CVT 109, DMS 136, ECH 155; Vascular Corequisite: CVT 104, DMS 133, DMS 136, ECH 155, VAS 141 ) The purpose of the Case Study is to provide the opportunity for review and reinforcement of theoretical concepts with an evaluation of Echocardiography. The purpose of the Journal Review is to allow the student to study the current formats and methods of professional articles/presentations of echocardiography. Students will be asked to prepare and present interesting case studies to include clinical history, normal anatomy, clinical laboratory test modalities, protocols, techniques and findings. Topics include: identification of resources, literature review, formatting according to audience, citation of sources, written presentation skills, and oral presentation skills. Emphasis is placed on professional growth and preparation to enter the field of echocardiography as a contributing member.

**ECH 231, Echocardiography III (Pediatric) 4-2-6-6** (Prerequisites: ECH 133, ECH 137. Corequisite: ECH 236, 240 ) This course offers an introduction to congenital heart disease with instruction on transducer selection, patient care, surgical repair and palliative procedures. Topics include: cyanotic lesions, shunt lesions, sedation, transducer selection, Doppler color flow imaging, research methods, statistics, and quality improvement. Emphasis is placed on the latest modalities and specialties of noninvasive cardiac diagnostic study.

**ECH 236, Echocardiography Clinical III 0-0-24-8** (Prerequisites: ECH 133, ECH 137. Corequisite: ECH 231, ECH 240) Provides hands-on experience in the clinical setting with an emphasis placed on the development of clinical techniques employed to obtain meaningful data. Continued participation by the student will progressively lead to the student performing diagnostic procedures with less assistance but under the supervision of an appropriately credentialed sonographer. Topics include: echocardiographic instrumentation, logging and reporting information, preparation for echocardiographic examinations, medical ethics, and performing echocardiographic procedures. Students may do a brief rotation through an invasive cardiology lab, pediatric lab and/or vascular lab.

**ECH 237, Echocardiography Clinical IV 0-0-36-12** (Prerequisites: ECH 231, ECH 236, ECH240. Corequisite: NONE) This course builds on the knowledge and skills learned in Clinical Echo 3. By the end of this rotation, the student will perform all echocardiography procedures independently with the supervision of an appropriately credentialed sonographer. This course provides a culminating clinical setting experience which allows students to synthesize information and procedural instruction provided throughout the program. Emphasis is placed on skill level improvements and final completion of all required clinical competencies presented in previous courses and practiced in previous clinical vascular courses. Topics include: scanning, documentation of pathologies, patient and equipment skills, current literature, professionalism, and ethical behavior.

**ECH 240, Comprehensive Registry Review 1-0-3-2** (Prerequisites: ECH 133, ECH 137. Corequisite: ECH 231, ECH 236) This course will be an overall review of Echocardiography to include demonstration of normal and abnormal cardiac anatomy, cardiac physiology, pathophysiology and hemodynamics/physics in the different types of cardiac disease/dysfunctions. Also included will be a review of clinical non-invasive cardiac diagnostic procedures, laboratory values, pharmacology and test validation and measurements. Topics include: normal and abnormal cardiac anatomy, techniques, pathology, physics/hemodynamics, test validation and measurements, and laboratory values. Emphasis is placed on reviewing information so that the student will successfully pass the ARMDS and/or CCI certification examinations.

**ECO 1101, Principles of Economics 5-0-5** (Prerequisite: associate degree placement) Provides a description and analysis of economic operations in contemporary society. Emphasis is placed on developing an understanding of economic concepts and policies as they apply to everyday life. Topics include: basic economic principles; economic forces and indicators; capital and labor; price, competition, and monopoly; money and banking; government expenditures, federal and local; fluctuations in production, employment, and income; and United States economy in perspective.

**ECO 2105, Principles of Macroeconomics 5-0-5** (Prerequisite: Program admission) Provides a description and analysis of macroeconomic operations in contemporary society. Emphasis is placed on developing an understanding of macroeconomic concepts and policies. Topics include: basic economic principles; macroeconomic principles; macroeconomic theory; macroeconomic policy; money and banking; and United States economy in perspective.

**ECO 2106, Principles of Microeconomics 5-0-5** (Prerequisite: Program admission) Provides a description and analysis of microeconomic operations in contemporary society. Emphasis is placed on developing an understanding of microeconomic concepts and theories as they apply to daily life. Topics include: basic economic principles; theory of the corporate firm; market system; market structure, pricing, and government regulation; resource markets; and international trade.

**EET 101, DC Circuit Analysis 4-3-5** (Prerequisites: EGT 100, and MAT 1111) Emphasizes the knowledge and ability to analyze basic DC circuits. Topics include: units, basic electrical laws, series and parallel circuits, capacitance, an introduction to network analysis and network theorems concepts, and DC instruments. Laboratory work parallels class work and reinforces building DC circuits, using testing/measuring instruments, and uses P-Spice for circuit simulation.

**EET 102, AC Circuit Analysis I 4-3-5** (Prerequisites: EET 101 and MAT 1113) Emphasizes the knowledge and ability to analyze basic AC circuits. Topics include: magnetism, inductance/capacitance, alternating current, AC network theorems, admittance, impedance, phasors, complex power and applications, and use of appropriate instruments. Laboratory work parallels class work and reinforces building AC circuits, using testing/measuring instruments, and uses P-Spice for circuit simulation.

**EET 103, AC Circuit Analysis II 4-3-5** (Prerequisites: EET 102 and MAT 1131) Continues the study of AC circuit analysis with emphasis on transient analysis and network theorems. Topics include: analysis of complex networks, resonance, transformers, multiple sources, three-phase systems, an introduction to filters and bode plots, and non-sinusoidal waveforms. Laboratory work parallels class work and reinforces building AC circuits, using testing/measuring instruments, and uses P-Spice for circuit simulation.

**EET 105, Electronic Devices 4-3-5** (Prerequisites: MAT 1113, EET 102) Introduces the conduction process in semi-conductor materials. Topics include: semi-conductor physics, diodes, biasing, stability, and graphical analysis of bipolar junction transistors and field effect transistors, introduction to silicon controlled rectifiers, device curve characteristics, and related devices with selected applications. Laboratory work parallels class work and reinforces building, testing/troubleshooting electronic circuits, and uses P-Spice for circuit simulation.

**EET 191 Computer Programming Fundamentals 3-6-5** (Prerequisite: Program admission) Emphasizes fundamental concepts of problem solving using a high level source language. Laboratory work is designed to acquaint students with computer facilities, software, and programming fundamentals. Topics include: system fundamentals, concepts of structured programming, arrays, functions, program editing and engineering applications.

**EET 201, Digital Fundamentals 4-3-5** (Prerequisite: EET 101) Introduces digital electronics. Topics include: fundamentals of digital techniques, integrated logic circuits involving number systems, logic symbols and gates, Boolean algebra, and optimization techniques, flip-flops and registers, combinational and sequential logic circuits, and memory circuits. Laboratory work parallels class work and reinforces building, testing/troubleshooting digital circuits, in addition to simulations with DesignWorks, and PLD programming using Altera hardware/software.

**EET 202, Semi-Conductor Circuit Analysis 4-0-3-5** (Prerequisites: EET 102, EET 105, and MAT 1131) Emphasizes an in-depth study of bipolar junction transistor and field effect transistor amplifiers. Topics include: bipolar junction transistor small signal analysis; field effect transistor small signal analysis; multistage systems and frequency consideration; small and large signal amplifiers; DC biasing of bipolar junction transistor; field effect transistor biasing; frequency responses and feedback; and heat sink analysis. Laboratory work parallels class work.

**EET 203, Microcomputer Fundamentals 4-3-5** (Prerequisites: EET 105 and EET 201) Continues the study of digital electronics. Topics include: computer arithmetic, analog to digital and digital to analog conversion, microcomputer architecture, counters, up/down, multiplexer/demultiplexer, and decoders/encoders. Laboratory work parallels class work and reinforces building, testing/troubleshooting digital circuits, in addition to simulations with DesignWorks, and PLD programming using Altera hardware/software.

**EET 204, Linear Integrated Circuits 4-3-5** (Prerequisites: EET 103, EET 105, EET 201) Emphasizes the analysis of operational amplifiers and other linear circuits and their applications. Topics include: op-amp fundamentals, inverting and non-inverting amplifiers, comparators, bias, offsets, and drift, bandwidth, slew rate, noise, and frequency compensation, active filters, voltage regulated power supplies, signal generators, multipliers, transfer function, and differentiators and integrators. Laboratory work parallels class work and reinforces building, testing/troubleshooting electronic circuits, and uses P-Spice for circuit simulation.

**EET 205, Communication Circuits 4-3-5** (Prerequisites: EET 103 and EET 202) Emphasizes the analysis of basic circuits used in telecommunications. Topics include: communications power supplies, resonant circuits, RF voltage amplifiers, RF power amplifiers, RF oscillators, and AM and FM modulation circuits. Laboratory work parallels class work.

**EET 206, Computer Systems and Applications 4-3-5** (Prerequisite: EET 203) Emphasizes study of the microcomputer with programming applications involving external devices with which the processor must communicate. Topics include: I/O and interfacing techniques, interrupt devices, problem definition, programmable processors, diagnostics, and control decisions. Fundamentals of operating systems include; DOS and Windows XX. Laboratory work parallels class work and involves programming the 8051 microcontroller in assembly language and interfacing external devices.

**EET 251, Networking Systems 3-7-5** (Prerequisites: EGT 100 and EET 203) Provides a foundation in local area networking of computer systems. Emphasis is placed on designing, installing, and managing a local area network. Topics include: networking basics, networking standards, installing network systems, installing networking software, organizing the server, managing the network, and network design and hardware.

**EET 252, Electro/Fiberoptics Communication 4-3-5** (Prerequisites/Corequisites: EET 204 and PHY 1111 or PHY 291) An introductory study of electrooptic devices and lasers. The principles of operation of electrooptic sources and electrooptic detectors will be studied with concentration on solid-state devices. Laser principles, types and operations will be included. Topics include current practical devices and applications. Laboratory investigations complement classroom studies.

**EET 254, Industrial Electronics 4-3-5** (Prerequisites/Corequisites: EET 201 and 202) This is an introductory course in Industrial Electronics. Its purpose is to acquaint the student with different types of electrical devices that are used to measure and control different industrial operations. The major emphasis will be placed on the new industrial solid state electronic devices that are now available to the engineer and the technician. Topics include: OP amps, phase-lock-loops, frequency to voltage convertors, stepper motors, transducers, and industrial telemetry.

**EET 255, Advanced Microcomputer Interfacing 4-3-5** (Prerequisites: EET 201 and 203) Provides the necessary topics for the understanding of both the hardware and software operations of an IBM computer. Basic DOS operations and key ICs are covered. Emphasis is placed on the procedures for interfacing the computer to the outside world by means of industrial and self-fabricated I/O circuit boards. Topics include: DOS operations, 8088/8086 MPU architecture, machine level language programming, peripheral ICS, and I/O operations.

**EET 256, Advanced Networking Applications 3-7-5** (Prerequisite: EET 251) Requires the student to design and implement all aspects of a local area network. Topics include: network designs, network applications installations, communications server software and hardware installation, CD-ROM server software and hardware installation, and network management.

**EGT 100, Fundamentals of Engineering Technology 3-3-4** Provides a study of engineering technology as a career field and describes the knowledge and skills required for academic and occupational success. Topics include: engineering technology career, measurement and standards, mathematical operators, engineering tools, and engineering concepts. Labs reinforce mathematical mechanical and electrical concepts through practical exercises, such as measurement and calculation of density of objects, relative humidity, use of digital multi-meter, building circuits, use of precision instruments, and team exercises.

**EHO 100, Horticulture Science 5-0-5** (Prerequisite: Provisional admission) Introduces the fundamentals of plant science and horticulture as a career field. Topics include: an industry overview, plant parts, plant functions, environmental factors in horticulture, soil function and components, fertilizer elements and analysis, and propagation techniques.

**EHO 101, Woody Ornamental Plant Identification 5-2-0-6** (Prerequisite: Provisional admission) Provides the basis for a fundamental understanding of the taxonomy, identification and cultural requirements of woody plants. Topics include: an introduction to woody plants, classification of woody plants, and woody plant identification and culture.

**EHO 102, Herbaceous Plant Identification 5-0-5** (Prerequisite: Provisional admission) Emphasizes the taxonomy, identification, and cultural requirements of herbaceous plants. Topics include: an introduction to herbaceous plants, the classification of herbaceous plants, and herbaceous plant identification and culture.

**EHO 103, Greenhouse Operations I 2-0-3-3** (Prerequisite: Provisional admission) Develops a basic understanding of greenhouse design, construction, and environmental factors affecting plant growth. Topics include: greenhouse construction, greenhouse heating and cooling, greenhouse soil functions and components, irrigation types and effects, fertilizer types and applications, and bedding plants for the local area.

**EHO 104, Horticulture Construction 2-2-1-3** (Prerequisite: Provisional admission) Develops skills necessary to design and construct landscape features such as retaining walls, walkways, and irrigation systems. Topics include: tool use and safety, retaining walls, patios, fences, drainage, irrigation, low-voltage lighting, and walkways.

**EHO 105, Nursery Production 3-2-2-4** (Prerequisite: Provisional admission) Develops skills necessary to propagate and produce both container and field grown nursery stock. Topics include: industry overview, facility design, propagation techniques and environment, field grown and container production, and managerial functions for nursery production.

**EHO 106, Landscape Design 2-2-6-5** (Prerequisite: Provisional admission) Introduces design principles, drawing skills, and plant selection techniques required to produce landscape plans for residential/commercial clients. Topics include: site analysis, landscape design principles, sketching and drawing skills, the landscape design process, and plant and material selection.

**EHO 107, Landscape Installation 2-0-3-3** (Prerequisite: Provisional admission) Introduces cultural techniques required for proper landscape installation with emphasis on practical application. Topics include: landscape installation procedures and managerial functions for landscape installers.

**EHO 108, Pest Management 5-0-5** (Prerequisite: Provisional admission) Provides experience in insect, disease, and weed identification and control with emphasis on safety and legal requirements for state licensure. Topics include: identification of insects, diseases, and weeds, safety regulations, equipment use and care, and regulations for licensure.

**EHO 112, Landscape Management 2-2-6-5** (Prerequisite: Provisional admission) Introduces cultural techniques required for proper landscape maintenance with emphasis on practical application and managerial techniques. Topics include: landscape management and administrative functions for landscape management.

**EHO 114, Garden Center Management 2-0-3-3** (Prerequisite: Provisional admission) Presents cultural and managerial techniques required for success in the garden center industry. Topics include: garden center establishment, garden center management, and post-production handling and marketing.

**EHO 115, Environmental Horticulture Internship 0-0-10-3** (Prerequisite: Completion of all essential fundamental courses) Provides the student with practical experience in an actual job setting. This internship allows the student to become involved in on-the-job environmental horticulture applications that require practice and follow through. Topics include: work ethics, skills, and attitudes, demands of the horticulture industry, horticultural business management, and labor supervision.

**EHO 125, Plant Propagation 3-0-6-5** (Prerequisite: Provisional admission) Introduces the student to the basic principles of plant propagation. Focus of the course will be hands-on experience. Topics include: seed germination, rooting cuttings, propagation facilities construction, layering, insect disease and control, and cultural controls for propagation.

**EHO 131, Irrigation 4-0-4-5** (Prerequisite: Provisional admission) Provides students with exposure to the basic principles of hydraulics and fluidics. Special attention is given to watering plant materials in various soil and climatic conditions through the use of irrigation. Topics include: industry overview, fluidics and hydraulics, system design and installation.

**EHO 133, Turfgrass Management 4-0-4-5** (Prerequisite: Provisional admission) A study of turfgrass used in the southern United States. Topics include: industry overview, soil and soil modification, soil fertility, turf installation, turf maintenance, turf diseases, insects and weeds: and estimating costs on management practices

**EHO 137, Pest Identification 3-4-0-5** (Prerequisite: Provisional admission) Enhances a student's ability to identify and control ornamental plant pests. Emphasis will be on practical applications of pest control measures from prevention to pesticide treatment. Topics include: identification of insects, diseases, and weeds on woody ornamental and herbaceous plants, proper IPM planning and execution, and pesticide selection and application.

**EHO 141 – Soils 4-2-0-5** (Prerequisite: Provisional admission) Introduces the basics of soil physics and chemistry and their relationship to plant growth. Topics include: soil structure, soil chemistry, nutrition, fertilization, and soil preparation

**EHO 142 – Golf Course Design, Construction, and Management 4-0-3-5** (Prerequisite: Provisional admission) Covers basic design principles as well as actual construction activities that occur on a typical golf course. Renovation of various areas of a course will also be included in this class. Topics include: history of golf and golf course design, routing the course, individual hole design, greens installation, surveying, and drainage problem solving. Renovations of various areas of a course are also included.

**EHO 150 - Small Gas Engine Repair and Maintenance 3-2-3-5** (Prerequisite: Provisional admission) Provides instruction in basic small engine maintenance. Topics include engine types, ignition systems, fuel systems, lubrication, filtration, and maintenance, and engine repair.

**EHO 151 - Seasonal Color Management 3-0-6-5** (Prerequisite: Provisional admission) Emphasis is placed on the design, installation, and maintenance of annual and perennial flowers in landscapes. Topics include: design, bed preparation, material selection, installation, maintenance, and identification of seasonal color displays.

**EHO 159 - Professional Organizations Certification Review 5-0-5** (Prerequisite: EHO 106) A review to prepare individuals to take the National Green Industry Certification Exams.

**EHO 169 – Horticulture Spanish 5-0-5** (Prerequisite: Provisional admission) Provides the student with a basic level or oral proficiency related to the horticulture field. The communicative skills of listening and speaking will be stressed. Upon successful completion of the course the student will be able to: improve their listening comprehension, understand basic Spanish in its oral form, use basic Spanish related to the horticultural area, makethemselves understandable, express simple statements, phrases and sentences, and establish a simple dialog or conversation.

**EHO 172 - Floral Design I 2-0-6-4** (Prerequisite: Provisional admission) Develops skills in the arrangement of flowers and filler materials to form marketable arrangements for special occasions. Topics include: floral materials, design, flower conditioning, arrangements.

**EHO 173, Floral Design II 3-2-3-5** (Prerequisite: Provisional admission) Continues development of skills in the arranging of flowers and filler materials to form marketable arrangements for special occasions. Topics include: floral materials, floral design principles, and constructing floral arrangements.

**EHO 175 – Interiorscaping 4-0-3-5** (Prerequisite: Provisional admission) Develops the skills involved in designing, installing, and maintaining interior plantings. Topics include: industry overview, environmental requirements, nutrient requirements, maintenance practices, plant disorders, design, installation.

**ELC 104, Soldering Technology 1-2-2** (Prerequisite: Provisional admission) Develops the ability to solder and desolder connectors, components, and printed circuit boards using industry standards. Topics include: safety practices, soldering, desoldering, anti-static grounding, and surface mount techniques.

**ELC 108, Direct Current Circuits II 3-2-4** (Prerequisite/Corequisite: ELC 106 or IFC 101 and MAT 1013 or MAT 1111) Continues direct current (DC) concepts and applications. Topics include: complex series/parallel circuits and DC theorems.

**ELC 110, Alternating Current II 3-2-4** (Prerequisite: ELC 109 or IFC 102) Continues development of AC concepts with emphasis on constructing, verifying, and troubleshooting reactive circuits using RLC theory and oscilloscopes. Topics include: simple RLC circuits, AC circuit resonance, passive filters, and non-sinusoidal wave forms.

**ELC 114, Solid State Devices I 3-2-4** (Prerequisite: ELC 110; Corequisite: IFC 102) Introduces the physical characteristics and application of solid state devices. Topics include: PN Diodes, power supplies, voltage regulation, and special applications.

**ELC 115, Solid State Devices II 3-2-4** (Prerequisite: ELC 114 or IFC 103) Continues the exploration of the physical characteristics and applications of solid state devices. Topics include: bipolar junction theory, bipolar junction application, and field effect transistors.

**ELC 117, Linear Integrated Circuits 3-2-4** (Prerequisite: ELC 115) Provides in-depth instruction on the characteristics and applications of linear integrated circuits. Topics include: operational amplifiers, timers, and three terminal voltage regulators.

**ELC 118, Digital Electronics I 3-2-4** (Prerequisite: ELC 114 or IFC 103) Introduces the basic building blocks of digital circuits. Topics include: binary arithmetic, logic gates and truth tables, Boolean algebra and minimization techniques, logic families, and digital test equipment.

**ELC 119, Digital Electronics II 1-9-4** (Prerequisite: ELC 118) Uses the concepts developed in Digital Electronics I as a foundation for the study of more advanced devices and circuits. Topics include: flip-flops, counters, multiplexers and demultiplexers, encoding and decoding, displays, and analog to digital and digital to analog conversions.

**ELC 120, Microprocessors Fundamentals 3-2-4** (Prerequisite: ELC 119) This course is designed to provide the student with a basic understanding of microprocessor and microcontroller operation, programming, interfacing, interrupts, and troubleshooting. The choice of microprocessor and microcontroller used in the lab experiences and illustration of basic is not important. The main objective of the course is to give the student a basic understanding of microprocessor operation and applications.

**ELC 130, Mobile Audio and Video Systems 4-2-0-5** (Prerequisite: IFC 101; Corequisite: IFC 102) Provides the fundamental concepts for the installation of automotive audio and video systems. Topics include: charging and electrical systems, automotive wiring harnesses, basic audio systems, advanced audio systems, and mobile video systems.

**ELC 131, Mobile Security, Remote Start, and Navigational Systems 4-2-0-5** (Prerequisite: IFC 101; Corequisite: IFC 102) Provides the fundamental concepts for the installation of automotive security and convenience systems. Topics include: basic security systems, remote start systems, navigational system concepts, and troubleshooting electrical problems.

**ELC 211, Process Control 4-4-0-6** (Prerequisite: ELC 120) Introduces industrial process control applications with an emphasis on sensors and signal conditioning. Topics include: symbology and drawing standards; control techniques; sensors and signal conditioning; and ISA and other relevant standards.

**ELC 212, Motor Controls 4-4-0-6** (Prerequisite: ELC 115) Introduces the application of motor controls in the industrial environment. Topics include: AC/DC motors; AC/DC drives; MCC and contractors; NEC and NEMA standards; ladder diagrams; and power sources.

**ELC 213, Programmable Controllers 4-0-3-5** (Prerequisite: ELC 120) Provides the basic skills and techniques used in industrial application of programmable controls. Topics include: controller hardware; programming; PC applications; and troubleshooting.

**ELC 214 Mechanical Devices 2-3-0-3** (Prerequisite/Co-requisite: MAT 1015 or MAT 1017 (diploma), or MAT 1113 (degree)). Develops knowledge and skills necessary to transmit mechanical power using common industrial linkage types. Emphasis is placed on the use of mechanical devices in combination with electronic controls. Topics include: linkages; motion analysis; gear drives; and preventative maintenance.

**ELC 215, Fluid Power 2-3-0-3** (Prerequisite/Co-requisite: MAT 1015 or MAT 1017 (diploma), or MAT 1113 (degree)) Provides an overview of fluid power operation as applied to industrial electronics. Emphasis is placed on the interfacing of electronic and fluidic systems. Topics include: safety; fluid dynamics; hydraulics; pneumatics; air logic; and electrical interfacing.

**ELC 216, Robotics 2-3-0-3** (Prerequisites: ELC 213, ELC 214, ELC 215) Explores robotic concepts, terminology, and basic applications. Emphasis is placed on programming in robotic languages and robot/human interfacing safety practices. Topics include: safety; terminology; languages; and programming.

**ELC 217 Computer Hardware 4-6-7** (Prerequisite: ELC 120) Provides an introduction to the fundamentals of installing, configuring, upgrading, troubleshooting, and repairing microcomputer systems. Topics include installation, configuration, upgrading, diagnosing, troubleshooting, preventative maintenance, basic hardware, printers, and basic networking.

**ELC 219 Networking I 3-3-4** (Prerequisite: ELC 120) Provides an introduction to networking technologies. Cover a wide range of material about networking, from careers in networking to local area networks, wide area networks, protocols, topologies, transmission media, and security. Focuses on operating network management systems and implementing the installation of networks. The course reviews cabling, connection schemes, the fundamentals of LAN and WAN technologies, TCP/IP configuration and troubleshooting, remote connectivity, and network maintenance and troubleshooting. Topics include: media and topologies, protocols and standards, network implementation, and network support.

**ELC 259 Fiber Optic Systems 3-2-4** (Prerequisite: ELC 119) Introduces the fundamentals of fiber optics and explores the applications of fiber optic transmission systems. Laboratory exercises give students hands-on experience with fiber optic devices and test equipment. Topics include: fundamentals of fiber optics, types of optical fibers, fiber materials and manufacture, cabling, light sources/transmitters/receivers, connectors, splicing, test measurement, and fiber optic system design.

**ELC 260 Telecommunication and Data Cabling 3-2-4** (Prerequisite: ELC 119 for degree/diploma; advisor approval for TCC) Introduces the basic of cable installation from the initial site survey to splicing cable and making connections. Through laboratory activities, students perform the basic tasks of a cable installer. Topics include: basic standards and practices, cable rating and performance, cable installation and management, testing and troubleshooting, industry standards, pulling cable, and understanding blueprints.

**ELC 261 Telecommunications Systems Installation and Programming 2-3-3** (Prerequisite: ELC 260) Teaches the installation, programming, testing, and repair of simple and complex telephone systems. Laboratory activities give practical hands-on experience with various telephone systems. Topics include multi-line system installation, system programming, peripheral devices, and customer relations.

**ELC 262 – Telecommunications and Data Transmission Concepts 2-3-3** (Prerequisite/Corequisite: ELC 261) Provides and introduction to basic concepts on telecommunication and data transmission. Topics include: introduction to frequency and bandwidth, delineation of signal types and characteristics, methods of modulation and detection, transmission modes, characteristics of transmission media, measuring transmission signals, noise and distortion levels, multiplexing and emerging technologies.

**ELT 106, Electrical Prints, Schematics, and Symbols 3-2-4** (Prerequisites: IFC 100 and IFC 101) Introduces electrical symbols and their use in construction blueprints, electrical schematics, and diagrams. Topics include: electrical symbols, component identification, print reading and scales and measurements.

**ELT 107, Commercial Wiring I 4-3-5** (Prerequisites: ELT 106, ELT 121 and IFC 100) Introduces commercial wiring practices and procedures. Topics include: National Electrical Code; commercial load calculations; and safety.

**ELT 108, Commercial Wiring II 4-3-5** (Corequisite: ELT 107) Presents the study of three-phase power systems, fundamentals of AC motor control, and the basic transformer connections. Topics include: three-phase power systems, fundamentals of AC motor control, and transformer connections (single-phase and three-phase step down).

**ELT 109, Commercial Wiring III 4-3-5** (Corequisites: ELT 107 and ELT 108) Presents the theory and practical application of conduit installation, system design, and related safety requirements. Topics include: conduit installation, system design concepts, and safety procedures.

**ELT 110, State License Preparation 3-12-7** (Prerequisites: MAT 1012, ELT 102, ELT 103, ELT 104, ELT 105, ELT 106) Provides the student with the rules and regulations they must use while working with electricity. Topics include: general knowledge, wiring protection, wiring method and material, equipment for general use, special occupancies, special equipment, special condition, and tables.

**ELT 111, Single Phase and Three Phase Motors 4-3-5** (Prerequisites: ELT 119, IFC 100, and IFC 101) Introduces the fundamental theories and applications of single-phase and three-phase motors. Topics include: motor theory/operating principles, motor terminology, motor identification, NEMA standards, motor efficiencies, preventive maintenance, troubleshooting/failure analysis, and NEC requirements.

**ELT 112, Variable Speed/ Low Voltage Controls 2-3-3** (Corequisite: ELT 111) Introduces types of electric motor control, reduced voltage starting, and applications. Emphasis will be placed on motor types, controller types, and applications. Includes information on wye and delta motor connections, part wind, autotransformer, adjustable frequency drives and other applications. Topics include: types of reduced voltage starting, reduced voltage motor connections, and adjustable frequency drive.

**ELT 115, Diagnostic Troubleshooting 1-6-3** (Prerequisite: Advisor Approval) Introduces diagnostic techniques related to electrical malfunctions. Special attention is given to use of safety precautions during troubleshooting. Topics include: problem diagnosis, advanced schematics, and sequential troubleshooting procedures.

**ELT 116, Transformers 3-3-4** (Prerequisites: ELT 119, and IFC 101) Provides instruction in the theory and operation of specific types of transformers. Emphasis will be placed on National Electrical Code requirements related to the use of transformers. Topics include: transformer theory, types of transformers, National Electrical Code requirements, and safety precautions.

**ELT 117, National Electrical Code Industrial Applications 2-2-3-4** (Corequisite: ELT 109) Provides instruction in industrial applications of the National Electrical Code. Topics include rigid conduit installation, systems design concepts, equipment installation (600 volts or less), and safety precautions.

**ELT 118, Electrical Controls 3-2-3-5** (Corequisites: ELT 108, ELT 111 and ELT 112) Introduces line and low voltage switching circuits, manual and automatic controls and devices, and circuits. Emphasis will be placed on switching circuits, manual and automatic controls and devices, line and low voltage switching circuits, operation, and application and ladder diagrams. Topics include: ladder and wire diagrams, switching circuits, manual controls and devices, automatic controls and devices, and application and operation of controllers and controls.

**ELT 119, Electricity Principles II 3-2-4** (Prerequisite: IFC 100. Corequisites: MAT 1012 and IFC 101) Introduces the theory and application of varying sine wave voltages and current. Topics include: magnetism AC wave generation; AC test equipment; inductance; capacitance; and basic transformers.

**ELT 120, Residential Wiring I 3-2-3-5** (Corequisites: ELT 106, ELT 121) Introduces residential wiring practices and procedures. Topics include: residential circuits, print reading, National Electrical Code, wiring materials, determining the required number and location of lighting/ receptacles and small appliance circuits, wiring methods (size and type conductors, box fill calculations and voltage drop), switch control of luminaries and receptacle installation including bonding, GFCI and AFCI circuits, special purposes outlets – ranges, cooktops, ovens, dryers, water heaters, sump pumps, etc., and sizing OCPD's (circuit breakers and fuses).

**ELT 121, Residential Wiring II 5-3-6** (Corequisite: ELT 120) Provides additional instruction on wiring practices in accordance with National Electrical Code. Topics include: residential single family service calculations, residential two-family service calculations, load balancing, panelboards and feeders, residential single-family service installation, residential two-family service installation, concepts of electrical wiring applications, such as cable TV and CATV installation, swimming pool installation, and remote control lighting and intercom installation.

**ELT 122, Industrial PLC's 4-6-6** (Prerequisites: ELT 111, ELT 112, ELT 118) Introduces operational theory, systems terminology, PLC installations, and programming procedures for programmable logic controls. Emphasis is placed on PLC programming, connections, installations, and start-up procedures. Topics include: PLC hardware and software, PLC functions and terminology, introductory numbering systems, PLC installation and set up, PLC programming basics, relay logic instructions, timers and counters, connecting field devices to I/O cards, and PLC safety procedures.

**ELT 126, Wire Pulling/Codes 2-2-6-5** (Prerequisite: Provisional admission) The purpose of this course is to learn procedures for the installation of cabling systems. Through this process students will learn several types of cabling technologies that address the areas of video, voice and data communication.

**ELT 150, Conduit Sizing 1-2-3-3** (Prerequisite: Program admission) Provides practice in calculating conduit size. Emphasis is placed on use of the requirement of the National Electrical Code. Topics include: National Electrical Code, conduits types/trade sizes, and percent of fill.

**ELT 151, Grounding and Bonding 2-2-0-3** (Prerequisite: Program admission) Presents the theory and practical applications for grounding and bonding systems. Emphasis will be placed on the use of the requirements of the National Electrical Code. Topics include: branch circuit grounding, equipment grounding/bonding, service grounding/bonding, and earth connections.

**EMC 100 - Introduction to the EMT Profession 3-0-3** (Prerequisite: Program admission) The course covers all the components of the National Highway Safety Transportation Administration, National Standard Curriculum, Emergency Medical Technician-Basic, 1994 Standard, Module 1 and Module 7. It also covers Sections 1, 2, 3 and 4 of the NHTSA, National Standard Curriculum, EMT-Intermediate-1985. Topics include: basic cardiopulmonary resuscitation/AED, introduction to emergency medical care, roles and responsibilities of the EMT-Intermediate, EMS Systems for EMT-Intermediates, well being of the EMT- Basic, medical/legal and ethical issues, medical-legal aspects for the EMT-Intermediate, blood and airborne pathogens and infectious diseases, the human body, medical terminology, base line vital signs and SAMPLE history, lifting and moving patients, ambulance operations, gaining access, and overviews of HazMat/MCI.

**EMC 103 - Patient Assessment and Airway for the EMT 2-1-0-3** (Prerequisite: Program admission; Corequisite: EMC 100) The course covers all the components of the National Highway Safety Transportation Administration, National Standard Curriculum, Emergency Medical Technician-Basic, 1994 standard, Module 2 and 3. In addition to the NSC-B 1994 standards, this course also includes the NSC EMT-Intermediate 1985 Standard, Sections 5, 6, and 7. Topics include: Scene-Size Up, Initial Assessment, Focused History & Physical Exam for both Medical and Trauma Patients, Detailed Physical Exam, On-Going Assessment, Communications/Documentation, EMS communications for the EMT-I, airway, advanced airway and Basic/Advanced Airway Management.

**EMC 105 – Medical/Behavioral & OB/Pediatric Emergencies for the EMT 3-1-0-4** (Prerequisite: EMC 103) The course covers all the components of the National Highway Safety Transportation Administration, National Standard Curriculum, Emergency Medical Technician-Basic, 1994 standard, Module 4 and Module 6. Topics include general pharmacology, respiratory emergencies, cardiovascular emergencies, diabetic emergencies, allergic reactions, poisoning/overdose emergencies, environmental emergencies, behavioral emergencies, ob/gyn emergencies, infants & children and patients with special needs.

**EMC 108 - Trauma Emergencies and WMD Response 2-0-2** (Prerequisite: EMC 105) The course covers all the components of the National Highway Safety Transportation Administration, National Standard Curriculum, Emergency Medical Technician-Basic, 1994 standard, Module 5. Topics Include: bleeding and shock, soft tissue injuries, musculoskeletal care, injuries to the head/spine and emergency medical response to WMD.

**EMC 110 – Summative Evaluations for the EMT-Basic 3** (Prerequisite: EMC 100, EMC 103; Corequisite: EMC 105, EMC 108) The course serves as the exit point for students taking only the EMT-Basic program. Students continuing on to the EMT-Intermediate portion of the curriculum must pass this course in order to continue. The course will include clinical hours to be spent in both Hospital Emergency Departments and on Ambulance Clinical Rotations. This class will also contain a Comprehensive review of the US DOT EMT-Basic 1994 Curriculum, as well as portions of the NSC EMT-Intermediate 1985 Curriculum that were covered in EMC 100 and EMC 103, and a comprehensive written and practical exam that will serve to verify the students competencies before proceeding to the EMT-Intermediate Courses.

**EMC 113 - Pharmacology and Shock/Trauma Management for the EMT-Intermediate 2-1-0-3** (Prerequisite: EMC 100, EMC 103, EMC 105, EMC 108; Corequisite: EMC 110) The course covers Section 8 of the National Highway Safety Transportation Administration, National Standard Curriculum, Emergency Medical Technician-Intermediate, 1985 standard. Topics Include: general pharmacology review, IV and IO therapy and shock/trauma assessment and management.

**EMC 116 - Hazardous Materials, Vehicle Extrication Process, Patient Assessment/ Initial Management 3-0-3** (Prerequisite: EMC 113) This course covers the U.S. Department of Transportation 1985 Emergency Medical Technician - Intermediate Curriculum. Topics include: hazardous material awareness level I (GEMA), patient handling (FTO), vehicle extrication lab (FTO) and general patient assessment and initial management.

**EMC 119 - Summative Evaluations for the EMT-Intermediate 3** (Prerequisite: EMC 113; Corequisite: EMC 116) This is the final course for those pursuing EMT-Intermediate Certification. The course will include clinical hours to be spent in both Hospital Emergency Departments and on Ambulance Clinical Rotations. This class will also contain a Comprehensive review of the US DOT EMT-Basic 1994 Curriculum as well as the US DOT EMT-Intermediate 1985 Curriculum. The course will include a comprehensive written and practical exam that will serve to verify the students' competencies before being allowed to sit for the National Registry Intermediate-1985 Exam. Topics will include review of both the EMT-B 1994 and EMT-I 1985 Curricula, Assessment/Management Review for Trauma & Medical & OB/Peds and a NREMT examination review. -

**EMP 100, Interpersonal Relations and Professional Development 3-0-3** (Prerequisite: Provisional admission) This course provides a study of human relations and professional development in today's rapidly changing world that prepares students for living and working in a complex society. Topics include: human relations skills; job acquisition skills and communication; job retention skills; job advancement skills; and professional image skills.

**EMS 126 - Introduction to the Paramedic Profession 3-1-0-3** (Prerequisites: AHS 1011, ENG 1010, MAT 1012, SCT 100. Corequisites: EMS 127, EMS 128, EMS 129, EMS 200A.) Introduces the student to the paramedic profession. Discussion centers on functions that extend beyond the EMT scope of practice. Topics include: roles and responsibilities, the EMS system, medical/legal considerations, illness/injury prevention, ethics, ambulance operations, medical incident command, rescue awareness/operations, hazardous materials incidents and crime scene awareness. This course provides instruction on topics in Division 1, Sections 1-5 and Division 7, Sections 1-5 of the USDOT/NHTSA Paramedic National Standard Curriculum.

**EMS 127 - Patient Assessment 3-2-0-4** (Prerequisites: AHS 1011, ENG 1010, MAT 1012, SCT 100. Corequisites: EMS 126, EMS 128, EMS 129, EMS 200A) Introduces the fundamental principles and skills involved in assessing the pre-hospital patient. Emphasis is on the systematic approach to patient assessment, with adaptations for the medical versus the trauma patient. Topics include: therapeutic communications, history taking, and techniques of physical exam, patient assessment, clinical decision-making, communications, and documentation. This course provides instruction on topics in Division 1, Section 9 and Division 3, Sections 1-9 of the USDOT/NHTSA Paramedic National Standard Curriculum.

**EMS 128 - Applied Physiology and Pathophysiology 3-0-0-3** (Prerequisites: AHS 1011, ENG 1010, MAT 1012, SCT 100. Corequisites: EMS 126, EMS 127, EMS 129, EMS 200A) This course introduces the concepts of pathophysiology as it correlates to disease processes. This course will enable the caregiver to enhance their overall assessment and management skills. Disease-specific pathophysiology is covered in each related section of the curriculum. This course covers a review of cellular composition and function, including cellular environment as it relates to fluid and acid-base balances. Content on genetics and familial diseases are discussed. Hypoperfusion, including various forms of shock, multiple organ dysfunction syndrome and cellular metabolism impairment are integral components of this course. The next portion of this section provides information on the body's self-defense mechanisms, the inflammatory response, and variances in immunity. The last topic covered is stress and disease, which includes stress responses and the interrelationships among stress, coping, and disease.

**EMS 129 – Pharmacology 3-2-0-4** (Prerequisites: AHS 1011, ENG 1010, MAT 1012, SCT 100. Corequisites: EMS 126, EMS 127, EMS 128, EMS 200A) This unit is designed to help the Paramedic implement a patient management plan based on principles and applications of pharmacology. Discussion of pharmacology includes historical trends, names and sources of drugs, classifications, sources of information, legislation and schedules of controlled drugs, standardization of drugs, investigational drugs and standardized drug profiles. Other topics include: general properties and forms of drugs, venous access, routes of administration, interactions, storage, and special considerations in drug therapy for pregnant patients, pediatrics, and geriatrics. Also discussed are personal responsibility issues, legal, moral, and ethical responsibilities as well as therapeutically effective drug administration. Detailed reviews of the autonomic nervous system will be discussed to enhance understanding of the mechanism or drug actions where pharmacokinetics and pharmacodynamics will be integrated. Paramedics will learn to recognize and understand patient-prescribed, over-the-counter and other types of medications. This course provides instruction on topics in Division 1 (Preparatory), Section 7 (Pharmacology) and Section 8 (Venous Access/Medication Administration) of the USDOT/NHTSA Paramedic National Standard Curriculum.

**EMS 130 – Respiratory Emergencies 4-2-0-5** (Prerequisites: EMS 127, EMS 128, EMS 129, EMS 200A. Corequisites: EMS 132, EMS 133, EMS 200B) This unit is designed to help the Paramedic assess and treat a wide variety of respiratory related illnesses in the pediatric and adult patient. Topics include: a review of anatomy and physiology, pathophysiology of foreign body airway obstruction, recognition of respiratory compromise, use of airway adjunctive equipment and procedures, current therapeutic modalities for bronchial asthma, chronic bronchitis, emphysema, spontaneous pneumothorax, and hyperventilation syndromes. This section also provides expanded information for adult respiratory distress syndrome, pulmonary thromboembolism, neoplasms of the lung, pneumonia, emphysema, pulmonary edema, and respiratory infections. This course provides instruction on topics in Division 2 (Airway), Section 1 (Airway Management and Ventilation) and Division 5 (Medical), Section 1 (Respiratory) of the USDOT/NHTSA Paramedic National Standard Curriculum.

**EMS 131 – Trauma 4-2-0-5** (Prerequisites: EMS 130, EMS 132, EMS 133, EMS 200B. Corequisites: EMS 134, EMS 135, EMS 200C) This Unit is designed to introduce the student to assessment and management of the trauma patient, to include: systematic approach to the assessment and management of trauma, and demonstration of the assessment and management of certain types of trauma patients and bodily injuries. Student should complete the requirements for the Basic Trauma Life Support Course or the Pre-Hospital Trauma Life Support Course.

**EMS 132 - Cardiology I 4-2-0-5** (Prerequisites: EMS 126, EMS 127, EMS 128, EMS 129, EMS 200A. Corequisites: EMS 130, EMS 133, EMS 200B) Emphasizes the study of the cardiovascular system. Cardiology I will introduce and explore cardiovascular epidemiology, anatomy and physiology, pathophysiology, and electrophysiology. This course will also provide instruction on initial cardiovascular assessment, focused history, detailed physical examination, and electrocardiographic monitoring. Management of the cardiovascular patient will be taught in Cardiology II. This course provides instruction on topics in Division 5 (Medical), Section 2 (Cardiology) of the USDOT/NHTSA Paramedic National Standard Curriculum.

**EMS 133 - Cardiology II 3-2-0-4** (Prerequisites: EMS 126, EMS 127, EMS 128, EMS 129, and EMS 200A. Corequisites: EMS 130, EMS 132, EMS 200B) This course expounds on the objectives in Cardiology I emphasizing advanced patient assessment and management of the cardiac patient. Topics include: advanced cardiovascular assessment, pharmacological intervention, electrical intervention, and emergency resuscitative treatment utilizing the American Heart Association's Advanced Cardiac Life Support (ACLS) Provider's course. This course provides instruction on topics in Division 5 (Medical), Section 2 (Cardiology) of the USDOT/NHTSA Paramedic National Standard Curriculum.

**EMS 134 - Medical Emergencies 5-1-0-5** (Prerequisites: EMS 130, EMS 132, EMS 133, and EMS 200B. Corequisites: EMS 131, EMS 135, EMS 200C) Provides an in-depth study of the nervous, endocrine, gastrointestinal, renal, hematopoietic, and immune systems. Topics include: epidemiology, pathophysiology, assessment, and management of specific injuries/illnesses. Emphasis is placed on allergies/anaphylaxis, toxicology, environmental emergencies, and infectious and communicable diseases. General/specific pathophysiology assessment and management are discussed in detail for environmental emergencies. Infectious and communicable disease topics include public health principles, public health agencies, infection, pathogenicity, infectious agents, and specific infectious disease processes and their management. This course provides instruction on topics in Division 5 (Medical), Sections 3, 4, 5, 6, 7, 8, 9, 10, and 11 of the USDOT/NHTSA Paramedic National Standard Curriculum.

**EMS 135 - Maternal/Pediatrics 4-2-0-5** (Prerequisites: EMS 130, EMS 133, EMS 200B. Corequisites: EMS 131, EMS 134, EMS 200C) Emphasizes the study of gynecological, obstetrical, pediatric and neonatal emergencies. Maternal/Pediatrics combines the unique relationships and situations encountered with mother and child. Provides a detailed understanding of anatomy/physiology, pathophysiology, assessment, and treatment priorities for the OB/GYN patient. Pediatric and neonatal growth and development, anatomy and physiology, pathophysiology, assessment and treatment specifics are covered in detail. Successful completion of a PLS/PALS course is required. This course provides instruction on topics in Division's 5 (Medical), Sections 13 (Obstetrics) & 14 (Gynecology) and 6 (Special Considerations), Sections 1 (Neonatology) and 2 (Pediatrics) of the USDOT/NHTSA Paramedic National Standard Curriculum.

**EMS 136 - Special Patients 2-1-0-2** (Prerequisites EMS 131, EMS 134, EMS 135, EMS 200C. Corequisites: EMS 200D, EMS 201) Provides an overview of the assessment and management of behavioral emergencies as they pertain to prehospital care. Topics include: communication skills and crisis intervention, assessment and management of the adult and adolescent patient with behavioral emergencies, management of the violent patient, management of the suicidal patient, medical/legal considerations, and stress management. Life span, geriatrics, abuse, special challenges, and chronic care patients are included.

**EMS 200A - Clinical Application of Advanced Emergency Care I 0-0-3-1** (Prerequisites: AHS 1011, ENG 1010, MAT 1012, SCT 100. Corequisites: EMS 126, EMS 127, EMS 128, EMS 129) Provides supervised experience that meets Georgia Department of Human Resources Office of EMS requirements for actual patient care in the hospital and Advanced Life Support ambulance settings. Simulations in the classroom experience on an advanced ambulance and service in a hospital develop assessment and treatment skills. Emphasis is placed on ethics, assessment and management of adult and pediatric medical and trauma emergencies. This course will be delivered in one, two, three, four, and five quarters in accordance with program and hospital affiliation agreements. Clinical opportunities will be provided that meets the regulatory requirements for clinical experience in at a minimum the following areas: OR, Critical Care, Emergency Room, Pediatrics, Psychiatric, Labor and Delivery, and Advanced Life Support Ambulance.

**EMS 200B - Clinical Application of Advanced Emergency Care II 0-0-6-2** (Prerequisites: EMS 126, EMS 127, EMS 128, EMS 129, EMS 200A. Corequisites: EMS 130, EMS 132, EMS 133) Provides supervised experience that meets Georgia Department of Human Resources Office of EMS requirements for actual patient care in the hospital and Advanced Life Support ambulance settings. Simulations in the classroom experience on an advanced ambulance and service in a hospital develop assessment and treatment skills. Emphasis is placed on ethics, assessment and management of adult and pediatric medical and trauma emergencies. This course will be delivered in one, two, three, four, and five quarters in accordance with program and hospital affiliation agreements. Clinical opportunities will be provided that meets the regulatory requirements for clinical experience in at a minimum the following areas: OR, Critical Care, Emergency Room, Pediatrics, Psychiatric, Labor and Delivery, and Advanced Life Support Ambulance.

**EMS 200C- Clinical Application of Advanced Emergency Care III 0-0-6-2** (Prerequisites: EMS 130, EMS 132, EMS 133, EMS 200B. Corequisites: EMS 131, EMS 134, EMS 135) Provides supervised experience that meets Georgia Department of Human Resources Office of EMS requirements for actual patient care in the hospital and Advanced Life Support ambulance settings. Simulations in the classroom experience on an advanced ambulance and service in a hospital develop assessment and treatment skills. Emphasis is placed on ethics, assessment and management of adult and pediatric medical and trauma emergencies. This course will be delivered in one, two, three, four, and five quarters in accordance with program and hospital affiliation agreements. Clinical opportunities will be provided that meets the regulatory requirements for clinical experience in at a minimum the following areas: OR, Critical Care, Emergency Room, Pediatrics, Psychiatric, Labor and Delivery, and Advanced Life Support Ambulance.

**EMS 200D- Clinical Application of Advanced Emergency Care IV 0-0-15-5** (Prerequisites: EMS 131, EMS 134, EMS 135, EMS 200C. Corequisites: EMS 136, EMS 201) Provides supervised experience that meets Georgia Department of Human Resources Office of EMS requirements for actual patient care in the hospital and Advanced Life Support ambulance settings. Simulations in the classroom experience on an advanced ambulance and service in a hospital develop assessment and treatment skills.

Emphasis is placed on ethics, assessment and management of adult and pediatric medical and trauma emergencies. This course will be delivered in one, two, three, four, and five quarters in accordance with program and hospital affiliation agreements. Clinical opportunities will be provided that meets the regulatory requirements for clinical experience in at a minimum the following areas: OR, Critical Care, Emergency Room, Pediatrics, Psychiatric, Labor and Delivery, and Advanced Life Support Ambulance.

**EMS 201 - Summative Evaluation 4-0-4-5** (Prerequisites: EMS 131, EMS 134, EMS 135, EMS 200C. Corequisites: EMS 136, EMS 200D) This course occurs near the program conclusion. This is the final ability to integrate all of the didactic, knowledge, psychomotor skills, and clinical instruction to serve as an entry-level paramedic during the EMS leadership phase. In the EMS Leadership phase, the student will be measured on how they perform as an entry-level paramedic. In the classroom and lab, the student will practice and test as a team leader and partner doing assessment, initial resuscitation, scene choreography, treatment, and patient presentation. This course will comprise of paramedic preceptorship and summative case evaluation in trauma, medical, pediatric, and oral examination. A comprehensive exam will be given in: EKG interpretation, pharmacology, and course comprehension. This course will also include a board examination review.

**ENG 096 – English II 5-0-5 I.C.** (Prerequisites: ENG 095 or entrance English score in accordance with approved TCSG admission score levels) Emphasizes standard English usage. Topics include: capitalization, subjects and predicates, punctuation, sentence structure, correct verb tenses, standard spelling, and basic paragraph development.

**ENG 097, English III 5-0-5 I.C.** (Prerequisite: Admissions placement testing.) This course emphasizes the rules of grammar, punctuation, spelling, and writing in order to ensure a smooth transition into communicating orally and in writing. Topics include: basic grammar, mechanics, spelling, and sentence writing and paragraphing skills needed for writing memos, letters, reports, and short essays. This is a five-hour (5) institutional credit course.

**ENG 098, English IV 5-0-5 I.C.** (Prerequisite: ENG 097 or admissions placement testing.) This course emphasizes the ability to communicate using written and oral methods. Topics include: writing and the process of revising oral reports, proofreading to eliminate errors in mechanics, punctuation, and spelling, and presenting written and oral reports. This is a five (5) hour institutional credit course.

**ENG 1010, Fundamentals of English I 5-0-5** (Prerequisite: Admissions placement testing.) Emphasizes the development and improvement of written and oral communication abilities. Topics include: analysis of writing; applied grammar and writing skills; editing and proofreading skills; research skills; and oral communication skills. Homework assignments reinforce classroom learning.

**ENG 1012, Fundamentals of English II 5-0-5** (Prerequisites: ENG 1010 or ENG 098 and RDG 098) Provides knowledge and application of written and oral communications found in the workplace. Topics include: writing fundamentals and speaking fundamentals.

**ENG 1101, Composition and Rhetoric 5-0-5** (Prerequisite: Associate degree level placement scores.) Explores the analysis of literature and articles about issues in the humanities and in society. Students practice various modes of writing, ranging from exposition to argumentation and persuasion. The course includes a review of standard grammatical and stylistic usage in proofreading and editing. An introduction to library resources lays the foundation for research. Topics include: writing analysis and practice; revision; and research. Students write a research paper using library resources and using a formatting and documentation style appropriate to the purpose and audience.

**ENG 1102, Literature and Composition 5-0-5** (Prerequisite: ENG 1101 with "C" or better.) Emphasizes the student's ability to read literature analytically and meaningfully and to communicate clearly. Students analyze the form and content of literature in historical and philosophical contexts. Topics include: reading and analysis of fiction, poetry, and drama; research; and writing about literature.

**ENG 1105, Technical Communications 5-0-5** (Prerequisite: ENG 1101 with "C" or better) Emphasizes practical knowledge of technical communications techniques, procedures, and reporting formats used in industry and business. Topics include: reference use and research; device and process description; formal technical report writing; business correspondence; and technical report presentation.

**FSC 101, Introduction to Fire Science 5-0-5** (Prerequisite: Program admission) Topics include introduction to: the history of fire science, fire safety for people and property, fire behavior, fire hazards of materials, fire investigation and data collection, fire protection through building construction and design, water-based and non-water-based fire protection systems, alarms and detection systems and devices, municipal fire defenses, fire department organization, codes and standards, fire service organizations, and fire service careers.

**FSC 102, Emergency Service Fundamentals 2-2-3** (Prerequisite: Program admission) This course provides an introduction to the modern fire service and will prepare the student to further pursue a career in firefighting. Topics include: career opportunities, fire department orientation, fire department communications, infection control, first aid, cardiopulmonary resuscitation, hazardous materials, and fire responder awareness level.

**FSC 103, Basic Firefighter Module I 4-4-6** (Prerequisite/Corequisite: FSC 102) This course provides educational and practical training for the firefighter trainees. Topics include: firefighter orientation and safety, protective clothing, fire behavior, breathing apparatus, ropes, knots and hoisting, ladders, forcible entry, ventilation, fire streams, hoe and appliances, water supply, introduction to fire control, fire rescue, safety review and work stations, salvage, overhaul, and structural fire simulations.

**FSC 104, Basic Firefighter Module II 2-2-3** (Prerequisites/Corequisites: FSC 102, FSC 103) This course provides live fire training and other physically demanding firefighting activities. Topics include: life safety ropes and extinguishment, portable fire extinguishers, sprinkler operations, water supplies, fire tactics and safety, foam fire streams, ground cover/wildland fires, Class A Fires, dumpster fires, vehicle fires, structural fires, and emergency response to fires.

**FSC 105, Fire and Safety Public Educator 5-0-5** (Prerequisite: Program admission) This course addresses some of the most important responsibilities of the modern fire service; teaching the public to prevent or if needed, escape fires and related emergencies. Topics include: firefighters responsibilities for fire investigation, fire reporting, introduction to the use of fire data, home safety inspections, introduction to fire and life safety education, fire and safety fundamentals, planning instruction and teaching techniques, and presentations.

**FSC 110, Fire Science Supervision and Leadership 5-0-5** (Prerequisite: Program admission) Introduces common supervision and leadership theories and practices with emphasis on the unique supervisory requirements created by the nature of fire department shift work and change from emergency to non-emergency situations. Topics include: management styles and types, leading effectively, stress management, time management, group dynamics, communication, motivation, counseling, conflict resolution, and total quality management principles.

**FSC 121, Fire Fighting Strategy and Tactic 4-2-5** (Corequisite: FSC 101) Presents the principles of applying fire department resources to mitigate a fire or related emergency. General topics include: principles of fire fighting, size up, engine company operations, hose line selection and placement, water supply, standpipe and sprinkler operations, ladder company operations, forcible entry, ventilation and search and rescue. Specific fires reviewed will include: private dwellings, multiple dwellings, commercial buildings, high-rise structures, buildings under construction, structural collapse, flammable liquid and gas fires, and water front fires.

**FSC 132, Fire Service Instructor 4-2-5** (Prerequisite: Program admission) Students will learn to analyze jobs and information, then prepare and present related training. Emphasis is placed on planning, organizing, presenting, and testing, using methodologies appropriate to the subject. Topics include: orientation to emergency services instruction, communication, planning and analysis, objectives, learning, assessment, methods of instruction, instructor materials, media, training related group dynamics, classroom management, and the legal environment. Students will have numerous opportunities to apply what they learn.

**FSC 141, Hazardous Materials Operations 5-0-5** (Corequisite: FSC 101) Presents a study of the basic fundamentals of emergency response to hazardous materials incidents, types of chemicals – specifically hazardous chemicals. Emphasis is placed on emergency service in combating, controlling, and coordinating a hazardous materials incident.

**FSC 151, Fire Prevention & Inspection 4-2-5** (Corequisite: FSC 101) Emphasis is placed on the shared responsibility of all fire service personnel to prevent fires and fire losses. Topics include: survey of fire prevention activities, conducting basic fire prevention inspections, life safety code, review of local and state laws regarding fire inspection, and review of applicable codes and standards.

**FSC 161, Fire Service Safety & Loss Control 5-0-5** (Corequisite: FSC 101) Introduces a proactive approach to fire service injury and loss prevention. Topics include: a survey of fire deaths and injuries, physical fitness, training, station activities, emergency scene activities, post-incident activities, accident/loss analysis, safety officers, employee assistance programs, protective clothing, and equipment, insurance, and a review of applicable laws and standards including NFPA 1500.

**FSC 201, Fire Administration Management 5-0-5** (Corequisite: FSC 101) Presents an introduction to Fire Service Management. Management theories, responsibilities and concepts are discussed beginning from a historical perspective and leading to practical modern methods. Topics include: organization management, planning for and evaluating community fire protection, program management, managing innovation, financial management, personnel management, training, emergency management, emergency medical systems, community relations, public fire safety education, alternative delivery systems, equipment and buildings, and special operations, and legal aspects of fire service management.

**FSC 210, Fire Service Hydraulics 4-2-5** (Corequisite: FSC 101) Begins with the history and theories of the use of water for fire extinguishment then moves to practical application of the principles of hydraulics in water systems and on the fire ground. Topics include: water at rest and in motion, velocity and discharge, water distribution systems, fire service pumps, friction loss, engine and nozzle pressures, fire streams, stand pipe systems, automatic sprinkler systems, fire fighting foams, and the clip board friction loss system.

**FSC 220, Fire Protection Systems 5-0-5** (Corequisite: FSC 101) Presents a review of fire detection and protection systems including: automatic sprinkler systems, portable fire extinguishers, restaurant/kitchen systems, special hazard systems, detection systems and control systems. The applicable laws, codes and standards will be introduced along with regulatory and support agencies.

**FSC 230, Fire Service Building Construction 5-0-5** (Corequisite: FSC 101) Presents building construction features from the perspective of the fire service with emphasis placed on the use of building construction information to prevent and reduce firefighter and civilian deaths and injuries. Topics include: principles of construction, wood construction, ordinary construction, garden apartments, principles of fire resistance, steel construction, concrete construction, fire growth, smoke containment, high rise construction, trusses, automatic sprinklers, rack storage, buildings under construction, and pre-fire planning.

**FSC 240, Building Plans Review for Fire Science 3-0-3** (Corequisites: FSC 151, FSC 220, FSC 230) Study of building plans and prints to determine their compliance with code. Prepares students for plans review from a fire prevention standpoint, using the Life Safety Code. This course considers types of building construction and how they affect fire and life safety. Required for the Georgia Municipal Fire Inspector Certificate.

**FSC 241, Incident Command 4-2-5** (Corequisite: FSC 101) Addresses the area of emergency scene management. It begins with a review of the programs and processes, which are the basis for a successful command system, and then moves into the functions of command. Initial and extended response to small and large incidents will be covered. The student will become familiar with "ICS", "Fire Command", and other successful incident management concepts and will make extensive use of fire simulation to practice new skills.

**FSC 250, Hazardous Materials II 5-0-5** (Corequisite: FSC 141) This course considers problems of hazardous materials in transportation, storage, and use. Additional emphasis is covered on emergency services in combating, coordinating and controlling a hazardous materials incident. Covers bulk storage of hazardous materials and their transportation by land, sea, and air.

**FSC 270, Fire/Arson Investigations 4-3-5** (Corequisite: FSC 101) This course includes: introduction to the crime of arson, fire fighters responsibilities in fire cause determination, fire behavior, fire causes, point of origin determination, fire scene investigation, field equipment, evidence collection and preservation, fire related deaths, forensic lab services and equipment, arson motives, arson for profit, information sources, insurance, and vehicle fires. Also included are statutes relevant to arson, defenses to arson, law of arrest, search and seizure, administrative inspections and searches, evidence rules, trial preparation, and judicial proceedings. Students will investigate prepared fires to practice their skills.

**FSC 280, Fire Service Law 5-0-5** (Corequisite: FSC 101) An introduction to law using cases and applications relevant to the fire service. This course includes: introduction to American Law, municipal corporations, the law of torts, employee and employer relationships, criminal law, criminal procedures, administrative law, and administrative procedure. Federal, state, local laws, and legislative processes will be addressed, as will current cases and trends.

**GCM 100, Swing Dynamics 5-0-5** (Prerequisite: GCM 201) The student, through group and one-on-one instruction, is taken on a journey starting with the fundamentals of teaching the golf swing to the beginning golfer, working through the various areas of specialized instruction, and ending with hands-on experience giving video graphic-assisted lessons.

**GCM 101, Swing Dynamics 5-0-5** (Prerequisite: GCM 100) The student, through group and one-on-one instruction, is taken on a journey starting with the fundamentals of teaching the golf swing to the intermediate golfer, working through the various areas of specialized instruction, and ending with hands-on experience giving video graphic-assisted lessons

**GCM 102, Swing Dynamics 5-0-5** (Prerequisite: GCM 101) The student, through group and one-on-one instruction, is taken on a journey starting with the fundamentals of teaching the golf swing to the advanced golfer, working through the various areas of specialized instruction, and ending with hands-on experience giving video graphic-assisted lessons

**GCM 201, Fundamentals of Golf, Rules, History and Culture 4-0-4** (Prerequisite: Program admission) Provides a study of the USGA rules of golf, looks at the history of the game, and discusses golf etiquette.

**GCM 203, Merchandising/Golf Shop Operations 3-0-3** (Prerequisite: Program admission) Provides a study of the interpersonal skills required in the management of a golf course dealing both with the public and with the supporting staff. Also included are study skills, projection of a professional image and job acquisition skills.

**GCM 204, Tournament Operations 5-0-5** (Prerequisite: GCM 201) Provides a study of the formats of conducting a golf tournament, handicapping systems, and tournament management.

**GCM 205, Club Repair/Club Fitting 3-2-4** Provides a study of the factors that influence the flight of the golf ball as related to the care, construction and maintenance of golf equipment. Students get hands-on experience in the repair and alteration of golf clubs as well as extensive club fitting experience.

**GCM 206, Cart Fleet Management 4-0-4** (Prerequisite/Corequisite: GCM 205) Provides a study of the management and care of golf course equipment, including golf cars, and mowing and other equipment.

**GCM 211, Turf Management 4-0-4** (Prerequisite: EHO 100) Provides a study of golf course grass: planting and growing, the influence of climate, and pest and disease control.

**GCM 212, Golf Course Maintenance 4-0-4** (Prerequisite: GCM 211) Provides a study of the management of golf turf. Includes the care of greens, fairways, and roughs. Also includes the management of bunkers and water hazards.

**HCT 110, Hemodialysis Patient Care 10-0-10** (Prerequisites: AHS 1011 or BIO 2113 and 2114, AHS 109, AHS 104, ENG 1010 or ENG 1101, and MAT 1012 or MAT 1111. Corequisite: HCT 120) Provides the theoretical clinical aspects of hemodialysis, including the duties and responsibilities essential to the delivery of patient care in the chronic outpatient setting. Topics include: introduction to dialysis, anatomy and physiology of the kidney, renal pathology, renal nutrition, psychosocial aspects of renal failure, renal medications and infection control.

**HCT 120, Hemodialysis Practicum 2-2-6-5** (Prerequisites: AHS 1011 or BIO 2113 and 2114, AHS 109, AHS 104, ENG 1010 or ENG 1101, and MAT 1012 or MAT 1111. Corequisite: HCT 110) Provides practical experience in hemodialysis in a clinical setting. Topics include: principles of dialysis, dialyzers, dialysate and delivery systems, water treatment, dialyzer reprocessing, hemodialysis procedures, peritoneal dialysis, and continuous quality improvement.

**HUM 1101, Introduction to Humanities 5-0-5** (Prerequisite: ENG 1101 with "C" or better) Explores the philosophic and artistic heritage of humanity expressed through a historical perspective on visual arts, music, and literature. The humanities provide insight into people and society. Topics include: historical and cultural developments; contributions of the humanities; and research project.

**ICT 201, Electromechanical Devices 4-3-5** (Prerequisites: EET 102 and EET 103) Introduces electromechanical devices which are essential control elements in electrical systems. Topics include: fundamentals of electromechanical devices, control elements in electrical circuits, typical devices such as generators and alternators, DC and AC motors and controls, transformers and synchro mechanisms. Quantitative analysis of power losses, power factors, and efficiencies in DC, single-phase and three-phase dynamos are stressed. Laboratory work parallels class work using LabVolt electronic and other electrical trainers and simulations.

**ICT 202, Control Systems 4-3-5** (Prerequisite: EET 201. Corequisite: ICT 201) Introduces control system components and theory as they relate to controlling industrial processes. Mechanical, fluidic, temperature, and miscellaneous sensors are studied with emphasis on measuring techniques. Topics include: open- and closed-loop control theory, feedback, transducers, signal conditioning, and control hardware and actuators. Laboratory work parallels class work using discrete devices, and electronic and electrical trainers.

**ICT 203, Programmable Controllers 4-3-5** (Prerequisite: EET 201. Corequisites: ICT 201 and ICT 202) Emphasizes an in-depth study of the programmable controller with programming applications involving controlling industrial processes. Topics include: input and output modules, logic units, memory units, power supplies, ladder diagrams, relay logic timers and counters, control strategy, programming and troubleshooting. Networking is introduced and communications protocol is investigated. Laboratory work parallels class work using Allen-Bradley PLC-5, ControlLogix and SLC 500 controller platforms.

**ICT 250, Control Systems II 4-3-5** (Prerequisite: ICT 202) Emphasizes skills in the area of electronic instrumentation and stresses the use of electronic techniques to control industrial processes. Topics include: electronic sensing devices, electrical and industrial safety, auxiliary electrical devices, and means and potentiometric devices. Laboratory work parallels class work and emphasizes use of distributed control systems (DCS) for implementation of loop control.

**ICT 252, Programmable Controllers II 4-3-5** (Prerequisite: ICT 203) Emphasizes advanced skills and techniques needed in Programmable Controller networking. Topics include: networking, routing, addressing, modules, and fault isolation. Laboratory work parallels class to include projects on HMI's, networking interfaces and protocols and other controller systems.

**ICT 253, Motor Controls 4-3-5** (Prerequisite: ICT 201) Emphasizes the principles of motor controls from fractional horsepower to large magnetic starters, including starting polyphase induction, synchronous, wound rotor, and direct current motors. Topics include: control pilot devices, control circuits and AC reduced voltage starters, three-phase induction, wound rotor and synchronous motor controls, DC motors, and solid state motor controls.

**ICT 255, Industrial Distribution and Illumination 4-3-5** (Prerequisite: ICT 201) Introduces Industrial Distribution and Illumination methods in buildings. Topics include: review of electric power fundamentals, electric motors, lighting fundamentals, light sources, lighting system layouts of interior spaces, protection of electrical systems, fuses, circuit breakers, instrument transformers and protective relays, grounding and ground fault protection, design of feeders, branch circuits for lighting and receptacles, and branch circuits and feeders for motors. Project work parallels class work.

**IDS 101, Industrial Computer Applications 3-2-3-5** (Prerequisites: IFC 101, IFC 103, SCT 100) Provides a foundation in Industrial computers and computer systems with a focus in linking computers to the plant floor process. Topics include: hardware, software, boot sequence, configuration, troubleshooting, and communication platforms.

**IDS 102, Print Reading and Problem Solving 3-2-0-4** – (Prerequisite: Program admission) Introduces practical problem solving techniques as practiced in an industrial setting. Topics include: analytical problem solving; troubleshooting techniques; reading blueprints and technical diagrams, schematics, and symbols; specifications; and tolerances. The course emphasizes how the machine or mechanical system works, reading engineering specifications and applying a systematic approach to solving the problem.

**IDS 103, Industrial Wiring 3-9-6** (Prerequisites: IFC 101 and IFC 102) Teaches the fundamental concepts of industrial wiring with an emphasis on installation procedures. Topics include: grounding, raceways, three phase systems, transformers (three-phase and single-phase), wiring size, overcurrent protection, NEC requirements, industrial lighting systems, and switches, receptacles, and cord connectors.

**IDS 104, Applied AC and DC Electricity 5-2-3-7** (Prerequisite: Program admission) Provides an overview of applied electricity for technical and industrial applications. Topics include: electrical units and principles; applied DC and AC circuits, common transformers, single phase circuits, three phase circuits, and introduction to troubleshooting and common industrial motors/motor controls. The course emphasizes basic electrical terminology and associated problem solving in electrical technology. Competencies are reinforced with practical hands on lab exercises and use of electrical meters.

**IDS 105, DC and AC Motors 2-3-3** (Prerequisites: IFC 101, IFC 102, and MAT 1013) Introduces the fundamental theories and applications of single-phase and three-phase motors. Topics include: motor theory and operating principles, motor terminology, motor identification, NEMA standards, AC motors, DC motors, scheduled preventative maintenance, and troubleshooting and failure analysis.

**IDS 107, Basic Mechanics 3-2-3-5** (Prerequisite: Program admission) Emphasizes basic skills training needed in mechanical maintenance. Provide instruction for learning common terminology of maintenance and much needed practical measuring/mathematical skills. The course also introduces layout/fabrication procedures focusing on good shop practice skills and addresses typical materials and manufacturing processes used in the plant. Introduces power transmission equipment.

**IDS 109, Mechanical Laws and Principles 5-2-3-7** (Prerequisite: Program admission) Introduces the student to fundamental laws and principles of mechanics. Topics include: mechanical principles of simple machines; force, torque, velocity, acceleration, and inertia; rotational motion; work, power, and energy; matter; gases; fluid power; and heat. The course emphasizes understanding terminology and using related problem solving skills in everyday physical applications of mechanical technology. Competencies are reinforced with practical hands on lab exercises.

**IDS 110, Fundamentals of Motor Controls 2-3-3** (Prerequisite: IDS 105) Introduces the fundamental concepts, principles, and devices involved in industrial motor control. Emphasis is placed on developing a theoretical foundation of industrial motor control devices. Topics include: principles of motor control, control devices, symbols and schematic diagrams, and Article 430 NEC.

**IDS 113, Magnetic Starters and Braking 1-2-3-3** (Prerequisite: IDS 110) Provides instruction in wiring motor control circuits. Emphasis is placed on designing and installing magnetic starters in across-the-line, reversing, jogging circuits, and motor braking. Topics include: control transformers, full voltage starters, reversing circuits, jogging circuits, and braking.

**IDS 115, Two-Wire Control Circuits 0-2-3-2** (Prerequisite: IDS 110) Provides instruction in two-wire motor control circuits using relays, contactors, and motor starters with application sensing devices. Topics include: wiring limit switches, wiring pressure switches, wiring float switches, wiring temperature switches, wiring proximity switches, and wiring photo switches.

**IDS 121, Advance Motor Controls 1-3-2** (Prerequisite: IDS 115) Continues the study of motor control circuits with emphasis on sequencing circuits, complex circuits, and motor control centers. Topics include: sequencing circuits, reduced voltage starting, motor control centers, and troubleshooting.

**IDS 131, Variable Speed Motor Control 2-3-3** (Prerequisite: IDS 121) Provides instruction in the fundamentals of variable speed drives, industrial motors, and other applications of variable speed drives. Topics include: fundamentals of variable speed control, AC frequency drives, DC variable speed drives, installation procedures, and ranges.

**IDS 141, Basic Industrial PLC's 4-6-6** (Prerequisite: IDS 121) Introduces operational theory, systems terminology, PLC installations, and programming procedures for programmable logic controls. Emphasis is placed on PLC programming, connections, installations, and start-up procedures. Topics include: PLC hardware and software, PLC functions and terminology, introductory numbering systems, PLC installation and set up, PLC programming basics, relay logic instructions, timers and counters, connecting field devices to I/O cards, and PLC safety procedures.

**IDS 142, Industrial PLC's II 4-6-6** (Prerequisite: IDS 141) Provides for hands-on development of operational skills in the maintenance and troubleshooting of industrial control systems and automated industrial equipment. Emphasis is placed on applying skills developed in previous courses in programmable logic controls (PLC's) in a industrial setting. This course includes advanced skills necessary to complete the student's knowledge and skills to understand and work with PLC's in an industrial plant.

**IDS 209, Industrial Instrumentation 4-6-6** (Prerequisites: MAT 1013, IDS 142) Provides instruction in the principles and practices of instrumentation for industrial process control systems with an emphasis on industrial maintenance techniques for production equipment. Topics include: instrument tags, process documentation, sensing pressure, flow, level, and temperature, instrument calibration, and loop tuning.

**IDS 215, Industrial Mechanics 4-6-6** (Prerequisite: Program admission level math achievement) Provides instruction in basic physics concepts applicable to mechanics of industrial production equipment, and teaches basic industrial application of mechanical principles with emphasis on power transmission and specific mechanical components. Topics include: mechanical tools, fasteners, basic mechanics, lubrication, bearings, and packings and seals.

**IDS 221, Industrial Fluidpower 6-4-7** (Prerequisite: Program admission level math achievement) Provides instruction in fundamental concepts and theories for safely operating hydraulic components and pneumatic systems. Topics include: hydraulic theory, suction side of pumps, actuators, valves, pumps/ motors, accumulators, symbols and circuitry, fluids, filters, pneumatic theory, compressors, pneumatic valves, air motors and cylinders, and safety.

**IDS 225, Advanced Pneumatics – 3-2-4** (Prerequisite: IDS 215) Provides instruction in advanced concepts and theories for maintaining and troubleshooting pneumatic components and systems. Topics include: control and motion diagrams, sequence control groups, cascade circuits, pneumatic sequencers, ISO symbols and schematic conventions, advanced control circuits, electropneumatic controls, and troubleshooting procedures.

**IDS 231, Pumps and Piping Systems 1-4-2** (Prerequisite: Program admission level math achievement) Studies the fundamental concepts of industrial pumps and piping systems. Topics include: pump identification, pump operation, pump installation, maintenance, and troubleshooting, piping systems, and installation of piping systems.

**IDS 241, Maintenance for Reliability 4-6-7** (Prerequisites: IDS 221 and IFC 102) Applies advanced instrumentation in conjunction with principles of mechanical physics, vibration and particulate analysis, thermography, and advanced reliability concepts relative to precision/predictive maintenance of industrial equipment.

**IFC 100, Industrial Safety Procedures 2-1-2** (Prerequisite: Program admission) Provides an in-depth study of the health and safety practices required for maintenance of industrial, commercial, and home electrically operated equipment. Topics include: introduction to OSHA regulations, safety tools, equipment, and procedures, and first aid and cardiopulmonary resuscitation.

**IFC 101, Direct Current Circuits I 3-2-4** (Prerequisite/Corequisite : MAT 1012 for out of program students, MAT 1013 (diploma), or MAT 1111 (degree) for Electronics programs students) Introduces direct current (DC) concepts and applications. Topics include: electrical principles and laws, batteries, DC test equipment, series, parallel, and simple combination circuits, and laboratory procedures and safety practices.

**IFC 102, Alternating Current I 3-2-4** (Corequisite: IFC 101) Introduces the theory and application of varying sine wave voltages and current. Topics include: magnetism, AC wave generation, AC test equipment, inductance, capacitance, and basic transformers.

**IFC 103, Solid State Devices: I 3-2-4** (Prerequisite: IFC 102) Introduces the physical characteristics and applications of solid state devices. Topics include: introduction to semiconductor fundamentals, diode applications, basic transistor fundamentals, basic amplifiers, and semiconductor switching devices.

**MAS 101, Legal Aspects of the Medical Office 3-0-3** (Prerequisite: AHS 1011, BUS 1130, MAT 1012, SCT 100; Corequisites: AHS 104, AHS 109, ENG 1010, MAS 106) Introduces the basic concept of medical assisting and its relationship to the other health fields. Emphasizes medical ethics, legal aspects of medicine, and the medical assistant's role as an agent of the physician. Provides the student with knowledge of medical jurisprudence and the essentials of professional behavior. Topics include: introduction to medical assisting; introduction to medical law; physician/patient/assistant relationship; medical office in litigation; as well as ethics, bioethical issues and HIPAA.

**MAS 103, Pharmacology 5-0-5** (Prerequisites: AHS 1011, AHS 104, AHS 109, BUS 1130, ENG 1010, MAS 101, MAS 106, SCT 100. Corequisites: MAS 108, MAS 110, MAS 112.) Introduces drug therapy with emphasis on safety, classification of drugs, their action, side effects, and/or adverse reactions. Also introduces the basic concept of arithmetic used in the administration of drugs. Topics include: introduction to pharmacology; calculation of dosages; sources and forms of drugs; drug classification; and drug effects on the body systems.

**MAS 106, Medical Office Procedures 4-2-5** (Prerequisite: AHS 1011, MAT 1012, SCT 100; Corequisites: AHS 104, AHS 109, BUS 1130, ENG 1010, MAS 101) Emphasizes essential skills required for the medical practice. Topics include: office protocol, time management, appointment scheduling, medical office equipment, medical references, mail services, medical records, and professional communication.

**MAS 108, Medical Assisting Skills I 2-4-6-6** (Prerequisites: AHS 1011, AHS 104, AHS 109, ENG 1010, BUS 1130, MAS 101, MAT 1012, SCT 100. Corequisites: MAS 103, MAS 110, MAS 112.) Introduces the skills necessary for assisting the physician with a complete history and physical in all types of medical practices. The course includes skills necessary for sterilizing instruments and equipment and setting up sterile trays. The student also explores the theory and practice of electrocardiography. Topics include: infection control and related OSHA guidelines; prepare patients/assist physician with age and gender-specific examinations and diagnostic procedures; vital signs/mensuration; medical office surgical procedures and electrocardiography.

**MAS 109, Medical Assisting Skills II 2-4-6-6** (Prerequisites: AHS 1011, AHS 104, AHS 109, BUS 1130, ENG 1010, MAS 101, MAS 103, MAS 106, MAS 108, MAS 110, and MAS 112; MAT 1012, SCT 100.; Corequisites: MAS 111, PSY 1010) Further student knowledge of the more complex activities in a physician's office. Topics include: collection/examination of specimens and CLIA regulations/risk management; urinalysis; venipuncture; hematology and chemistry evaluations; advanced reagent testing (Strep Test, HcG etc); administration of medications; medical office emergency procedures and emergency preparedness; respiratory evaluations; principles of IV administration; rehabilitative therapy procedures; principles of radiology safety and maintenance of medication and immunization records.

**MAS 110, Medical Insurance Management 1-2-3-3** (Prerequisites: AHS 1011, AHS 104, AHS 109, BUS 1130, ENG 1010, MAS 101, MAS 106, MAT 1012, SCT 100; Corequisites: MAS 103, MAS 108, MAS 112) Emphasizes essential skills required for the medical practice. Topics include: managed care, reimbursement, and coding.

**MAS 111, Administrative Practice Management 2-2-3-4** (Prerequisites: AHS 1011, AHS 104, AHS 109, BUS 1130, ENG 1010, MAS 101, MAS 103, MAS 106, MAS 108, MAS 110, MAS 112, MAT 1012, SCT 100; Corequisites: MAS 109, PSY 1010) Emphasizes essential skills required for the medical practice in the areas of computers and medical transcription. Topics include: medical transcription/electronic health records; application of computer skills; integration of medical terminology; accounting procedures; and application of software

**MAS 112, Human Diseases 5-0-5** (Prerequisites: AHS 1011, AHS 104, AHS 109, BUS 1130, ENG 1010, MAS 101, MAS 106, MAT 1012, SCT 100. Corequisites: MAS 103, MAS 108, MAS 110) Provides clear, succinct, and basic information about common medical conditions. Taking each body system, the disease condition is highlighted following a logical formation consisting of: description, etiology, signs and symptoms, diagnostic procedures, treatment, prognosis, and prevention. Topics include: introduction to disease and diseases of body systems.

**MAS 113, Maternal and Child Care 5-0-5** (Prerequisites: AHS 1011, AHS 109, AHS 104, MAT 1012, PSY 1010, BUS 1130, ENG 1010, SCT 100, MAS 101, MAS 103, MAS 106, MAS 108, MAS 112, MAS 114. Corequisites: MAS 109, MAS 115) Focuses on the reproductive system, care of the mother in all stages of pregnancy, the normal and emotional growth of the healthy child, and care of the sick child. Topics include: introduction to obstetrics, female and male reproductive systems, intrauterine development, prenatal care, principles of specialized testing, labor and delivery, postpartum care, patient education, and methods of contraception. Child development and common pathophysiology from newborn through adolescence.

**MAS 114, Medical Administrative Procedures I 2-3-3** (Prerequisites: AHS 1011, AHS 104, AHS 109, BUS 1130, ENG 1010, MAT 1012, PSY 1010, SCT 100, MAS 101, MAS 106; Corequisites: MAS 103, MAS 108, MAS 112) Emphasizes essential skills required for the typical medical office in the areas of computers and medical transcription. Topics include: introduction to the computer and medical transcription.

**MAS 115, Medical Administrative Procedures II 1-2-3-3** (Prerequisites: AHS 1011, AHS 104, AHS 109, BUS 1130, ENG 1010, MAT 1012, PSY 1010, SCT 100, MAS 101, MAS 103, MAS 108, MAS 112, MAS 114. Corequisites: MAS 109, MAS 113) Emphasizes essential skills required for the typical medical office. Topics include: accounting procedures, and insurance preparation and coding.

**MAS 117, Medical Assisting Externship 0-24-8** (Prerequisites: AHS 1011, AHS 104, AHS 109, BUS 1130, ENG 1010, MAS 101, MAS 103, MAS 106, MAS 108, MAS 109, MAS 110, MAS 11, MAS 112, MAT 1012, PSY 1010, SCT 100. Corequisites: MAS 118 and MAS 150) Provides students with an opportunity for in-depth application and reinforcement of principles and techniques in a medical office job setting. This clinical practicum allows the student to become involved in a work setting at a professional level of technical application and requires concentration, practice, and follow-through. Topics include: application of classroom knowledge and skills; functioning in the work environment; communication; and following directions.

**MAS 118, Medical Assisting Seminar 4-0-4** (Prerequisites: AHS 1011, AHS 104, AHS 109, BUS 1130, ENG 1010, MAS 101, MAS 103, MAS 106, MAS 108, MAS 109, MAS 110, MAS 11, MAS 112, MAT 1012, PSY 1010, SCT 100. Corequisite: MAS 117 and MAS 150) Seminar focuses on job preparation and maintenance skills and review for the certification examination. Topics include: letters of application, resumes, job applications, job interviews, letters of resignation and review of program competencies for employment and certification.

**MAS 151, ICD-9 MEDICAL PROCEDURES CODING 2-3-3** (Prerequisites: AHS 1011, AHS 109 or BUS 211, BUS 1130, SCT 100, ENG 1010; Corequisite: MAS 112) Provides an introduction to medical coding skills and application of international coding standards for billing of health care services. Topics include: international classification of diseases, code books format, guidelines and conventions, and coding techniques.

**MAS 152, ICD-9 MEDICAL PROCEDURES CODING II 2-3-3** (Prerequisite: MAS 151. Corequisite: MAS 153, ENG 1012) Continues development of skills and knowledge presented in MAS 151 and provides for patient disease and medical procedure coding for billing purposes by health care facilities. Topics include: medical records coding techniques, coding hospital records and coding outpatient records.

**MAS 153, CPT-4 PHYSICIAN'S PROCEDURAL CODING 3-0-3** (Prerequisite: MAS 151. Corequisite: MAS 152, ENG 1012) Provides the knowledge and skills to apply the coding of procedures for billing purposes using the Physician's Current Procedural Terminology (CPT) manual. Topics include: format of CPT manual, CPT manual coding guidelines, and coding using the CPT manual.

**MAT 096, Math II 5-0-5 I.C.** (Prerequisite: MAT 095 or admission placement testing.) Lab may be substituted, as needed, for class hours on a 2 to 1 basis. Teaches the student basic arithmetic skills needed for the study of mathematics related to specific occupational programs. Topics include: number theory, whole numbers, fractions, decimals, measurement, and word problems. Homework assignments reinforce classroom learning.

**MAT 097, Math III 5-0-5 I.C.** (Prerequisite: Admission placement testing.) Emphasizes in-depth arithmetic skills needed for the study of mathematics related to specific occupational programs and for the study of basic algebra. Topics include: number theory, fractions, decimals, ratio/proportion, percent, measurement/geometric formulas, and word problems. Homework assignments reinforce classroom learning.

**MAT 098, Pre-Algebra 5-0-5 I.C.** (Prerequisite: MAT 097 or admission placement testing.) Introduces pre-algebra concepts and operations which will be applied to the study of beginning algebra. Topics include: number theory, arithmetic review, signed numbers, algebraic operations, and introduction to algebra word problems. Homework assignments reinforce classroom learning.

**MAT 099, Intermediate Algebra 5-0-5 I.C.** (Prerequisite: MAT 098 or admission placement testing) This course is designed for students who require additional skills in algebra prior to taking College Algebra. The major topics include: operations with algebraic expressions, linear and quadratic equations, inequalities, and functions, graphing techniques, rational expressions and equations, exponents, radicals, and complex numbers, and simultaneous equations.

**MAT 1012, Foundations of Mathematics 5-0-5** (Prerequisite: MAT 097 or admission placement testing) Emphasizes the application of basic mathematical skills used in the solution of occupational and technical problems. Topics include: fractions, decimals, percents, ratios and proportions, measurement and conversion, formula manipulation, technical applications, and basic statistics.

**MAT 1013, Algebraic Concepts 5-0-5** (Prerequisite: MAT 098 or admission placement testing) Introduces concepts and operations which can be applied to the study of algebra. Course content emphasizes: basic mathematical concepts; basic algebraic concepts; and intermediate algebraic concepts. Class includes lecture, applications, and homework to reinforce learning.

**MAT 1015, Geometry and Trigonometry 5-0-5** (Prerequisite: A grade of "C" or better in MAT 1013 or MAT 103) Introduces and develops basic geometric and trigonometric concepts. Course content emphasizes: geometric concepts and trigonometric concepts.

**MAT 1017, Trigonometry 5-0-5** (Prerequisite: A grade of "C" or better in MAT 1013 or MAT 103) Emphasizes trigonometric concepts. Introduces logarithms and exponential functions. Topics include: geometric formulas, trigonometric concepts, and logarithms and exponentials.

**MAT 1101, Mathematical Modeling 5-0-5** (Prerequisite: MAT 0099, MAT 1013, or MAT 103) with associate degree level placement testing or admission placement testing.). This course is designed as an alternative to College Algebra for those students who will not take Trigonometry, Precalculus, or Calculus. It is an applications-driven course that introduces functions using real-world phenomena as models. Topics include: fundamental concepts of algebra; functions and graphs; linear, quadratic, polynomial, exponential, and logarithmic functions and models of real-world phenomena; systems of equations; and additional topics in algebra.

**MAT 1111, College Algebra 5-0-5** (Prerequisite: MAT 0099, MAT 1013, or MAT 103 with associate degree level placement testing or admission placement testing.). This course emphasizes techniques of problem solving using algebraic concepts. Topics include: fundamental concepts of algebra; equations and inequalities; functions and graphs; systems of equations; optional topics including sequences, series, and probability; and analytic geometry.

**MAT 1113, Precalculus 5-0-5** (Prerequisite: A grade of "C" or better in MAT 1111 or MAT 191) This course prepares students for Calculus. The topics discussed include an intensive study of polynomial, rational, exponential, logarithmic, and trigonometric functions and their graphs. Applications include simple maximum and minimum problems, exponential growth and decay.

**MAT 1131, Differential Calculus 5-0-5** (Prerequisite: A grade of "C" or better in MAT 1113 or MAT 194) Emphasizes the use of differential calculus. Applications of techniques include extreme value problems, motion, and graphing. Topics include: derivatives and applications, differentiation of transcendental functions, and an introduction to integration and applications.

**MCA 201, Advanced Milling I 5-5-7** (Prerequisites: MCH 115 and 116) Provides instruction in advanced techniques of milling machine operations. Emphasis is placed on skill development through laboratory practice. Topics include: vertical milling, horizontal milling, compound angles, and gear cutting.

**MCA 205, Advanced Lathe Operations I 5-5-7** (Prerequisites: MCH 109 and 110) Provides instruction in advanced lathe operations and procedures. Emphasis is placed on skill development through laboratory experience. Topics include: thread cutting, precision boring, precision knurling, and tapers.

**MCA 211, CNC Fundamentals 6-4-7** (Prerequisite: MCH 116) Provides a comprehensive introduction to computer numerical controlled (CNC) machining processes. Topics include: math review, safety, jigs and fixtures, tooling and tool holders, reference points, tool offsets, and program loading and editing.

**MCA 213, CNC Mill Manual Programming 6-4-7** (Prerequisite: MCA 211) Provides instruction for the safe operation and manual programming of computer numerical controlled (CNC) milling machines. Topics include: machine safety, command codes, program loading, machine set-up, process control, and practical application.

**MCA 215, CNC Lathe Manual Programming 6-4-7** (Prerequisite: MCA 211) Provides instruction for the safe operation and manual programming of computer numerical controlled (CNC) lathes. Topics include: machine safety, command codes, program loading, machine set-up, process control, and practical application.

**MCA 217, CNC Practical Applications 1-9-4** (Prerequisites: MCA 213, and MCA 215) Provides instruction in specialty tooling and multi-axis machining. Students will also gain experience in process control. Topics include: specialty tooling, EDM/ECM, multi-axis machining, process control, and laboratory practice.

**MCA 219, CAD/CAM Programming 5-5-6** (Prerequisite/Corequisite: MCA 211) Emphasizes the development of skills in computer aided design (CAD) and computer aided manufacturing (CAM). The student will design and program parts to be machined on computer numerical controlled machines. Topics include: hardware and software, digitizer, pen plotter, drawing manipulations, tool path generation, and program uploading and downloading.

**MCH 101, Introduction to Machine Tool 2-8-6** (Prerequisite: Provisional admission) Introduces the fundamental concepts and procedures necessary for the safe and efficient use of basic machine tools. Topics include: use of hand and bench tools, use of power tools, analysis of measurements, saw and blade selection, feed and speeds determination, use of coolants, saw and blade maintenance, sawing operations, and drilling setup and operation.

**MCH 102, Blueprint Reading for Machine Tool 5-0-5** (Prerequisite: Provisional admission) Introduces the fundamental concepts necessary to interpret drawings and produce sketches for machine tool applications. Topics include: interpretation of blueprints and sketching.

**MCH 107, Characteristics of Metals/Heat Treatment I 3-2-4** (Prerequisite: Provisional admission) Introduces the properties of various metals, production methods, and identification of ferrous and non-ferrous metals. Topics include: metallurgy and heat treatment.

**MCH 109, Lathe Operations I 2-8-6** (Prerequisites/Corequisites: MCH 101 or IFC 100, MCH 102 or IDS 107, MAT 1012 or 103) Provides opportunities for students to develop skill in the use of bench grinders and lathes. Topics include: lathes, bench grinders, bench grinder operations, lathe calculations, lathe setup, and lathe operations.

**MCH 110, Lathe Operations II 2-8-6** (Prerequisite/Corequisite: MCH 109) Provides further instruction for students to develop skill in the use of lathes. Topics include: lathes, lathe setup, and operations.

**MCH 112, Surface Grinder Operations 1-4-3** (Prerequisite: Provisional admission) Provides instruction in the set-up, operations, maintenance, and assembly operations of surface grinders. Topics include: surface grinders and surface grinder maintenance, surface grinder set-up, and surface grinder operations.

**MCH 114, Blueprint Reading II 5-0-5** (Prerequisite/Corequisite: MCH 102) Continues the development of blueprint reading competencies as applied to Machine Tool Technology. Topics include: advanced sectioning, geometric dimensioning, geometric tolerancing, and assembly drawings.

**MCH 115, Mill Operations I 2-8-6** (Prerequisite: MCH 109) Provides instruction in the setup and use of the milling machine. Topics include: milling machines, milling machine calculations, milling machine setup, and milling machine operations.

**MCH 116, Mill Operations II 2-8-6** (Prerequisite: MCH 115) Provides further instruction for students to develop skills in the use of milling machines. Topics include: vertical and horizontal mill calculations, vertical and horizontal mill setups, and vertical and horizontal mill operations.

**MCH 152, Industrial Machine Applications 2-8-6** (Prerequisites: MCH 110, MCH 112, MCH 116) Provides an opportunity to perform creative and critical thinking skills needed to fabricate, modify, and maintain complex machine assemblies. Emphasis is placed on bench work, lathe, mill, and grinder operations; tool selection; and sequencing fabrication operations. Topics include: job planning, preparation for machining operations, and machining operations.

**MCM 201, Introduction to Graphics Design 6-4-8** (Prerequisite: Program admission) Introduces fundamental concepts and operation necessary to use graphic design software and hardware. Topics include: introduction to the MAC environment, cross platforming, file management, file organization, file formats, image resolution, font and font management, printers, scanners, and digital cameras.

**MCM 202, Advanced Graphic Design 3-4-3-6** (Prerequisites: PGT 103, MCM 201) Provides application of advanced design techniques in the production of graphic design. Visualization progresses from concept stage to the final comprehensive design. Topics include: use of color, important text and graphics, operation of graphic design software, provides hands-on experience with vector based illustration software, page layout and photo manipulation software.

**MCM 203, Graphic Layout and Production 3-4-3-6** (Prerequisites: PGT 103, MCM 201) Provides further application of advanced design techniques in the layout and rendering of media related products. Visualization progresses from concept state through the final comprehensive design and beyond to distribution processes. Topics include: layout design, thumbnailing, common design pitfalls, advanced media production, job specifications, and pricing techniques.

**MCM 204, Retail Graphics/Advertising Design 2-0-4-4** (Prerequisites: PGT 103, MCM 201) Introduces the preparation of art / photography for printing in newspapers, magazines, and other media publications. Topics include: operating of advertising layout software, printing processes and medium, advertising formats, designing to solve clients needs, design consistencies, designing collateral material, point-of-sale, high end media products, collection of data, and post production issues.

**MCM 205, Multimedia for Graphic Design 2-0-4-4** (Prerequisites: PGT 103, MCM 201) Emphasizes the use of multimedia creation software for alternate delivery methods. Focus is on design and production of various types of interactive media. Topics include: storyboarding, frames, timelines, slides, audio files, motion files, animating text and gif files, use of color and light.

**MET 101, Manufacturing Processes 4-2-0-5** This course introduces the student to industrial manufacturing techniques that employ the processes of material shaping, joining, machining and assembly. Topics include: casting, shaping and forming of metal, ceramics and polymers, particulate processing of metals and ceramics, machining, sheet metal working, joining and assembling, surface treatment, and manufacturing design considerations. Emphasis is provided on manufacturing techniques, product design, quality and cost. The course includes demonstration lab exercises on the industrial processes and techniques used to produce industrial products.

**MET 191, Computer Applications for MET 3-0-3-4** (Prerequisite: MAT 191) This course prepares the student for using various computer application programs for technical functions in industry. Topics include: solving engineering problems using computer programs, preparing critical path schedules using project software, simulating and evaluating processes, preparing presentations, and analyzing engineered components using 3D graphic programs. Emphasis is placed on the utilization of computer application programs for technical, project and process communication. Laboratory exercises focus on defining, designing and preparing technical information as well as solving problems, evaluating processes, assembling technical information, and analyzing engineering components using computer application programs.

**MET 201, Manufacturing Processes I 4-3-5** Introduces basic industrial manufacturing processes employing material shaping, joining, and assembly technologies. Topics include: casting, molding, and related processes, particulate processing for metals and ceramics, metal forming and sheet metal working, gauging, joining and assembly processes, non-destructive examination, and surface processing operations. Laboratory work parallels class work.

**MET 202, Engineering Materials 4-0-3-5** (Prerequisite/Corequisite: MET 101, CHM 193) This course introduces the fundamentals of metallurgy and engineering material science. Topics include: chemical, physical and mechanical properties of materials, material limitations, metallurgy, material structures and applications, material extraction processing techniques, material treating and treatments, and material testing. Emphasis is provided on material strength, design considerations and the effects of heat treatment, creep and fatigue. The course includes performance lab exercises that demonstrate the applications of the topics covered such as; material testing (i.e. tensile and hardness testing), material treatment (i.e. heat treatment), and inspection (i.e. NDE).

**MET 203, Statics 5-0-0-5** (Prerequisite/Corequisite: MAT 195) Emphasizes the study of forces and their effects on bodies at rest. Static principles are applied in analyzing structural systems. Topics include: resultants, equilibrium of force systems, trusses and frames, and properties of areas.

**MET 204, Computer Aided Drafting 2-6-4** (Prerequisite: DDF 191) Emphasizes the use of interactive computing techniques in engineering drafting and design. Topics include: use of system hardware and software, CAD concepts, engineering design, and drafting applications. Laboratory work parallels class work.

**MET 207, (CAD/CAM) Computer Aided Design and Manufacturing 2-7-4** (Prerequisites: DDF 191 and TDG 120 or MET 201) Integrates computer aided design, computer aided manufacturing, and computer aided engineering functions. Assigned projects present a computer CAD/CAM path. Topics include: manufacturing engineering technologies, computer-aided part design, process planning, computer-aided tool path generation, and automated production systems. Laboratory work parallels class work.

**MET 208, Strength of Materials 4-0-3-5** (Prerequisite: MAT 195, MET 203) Provides an overview of the behavior of materials when subjected to different loadings and restraints, and the prediction of materials behavior in different situations. Topics include: concepts of stress, concepts of strain, torsion, biaxial stress, column analysis, and beam bending. Laboratory work parallels class work.

**MET 209, Machine Design 3-0-6-5** (Prerequisite: MET 204, MET 208; Corequisite: MET 251 ) Presents the basic theories and techniques used in the design of machine parts. Topics include: machine design concepts, shafting, gears, belts and chains, clutches and brakes, springs, mechanical fabrication, CAD hardware overview, CAD software overview, CAD system customization, techniques of computer modeling, and creating wire frame models for engineering applications. Laboratory work parallels class work.

**MET 210, Manufacturing Quality Control 3-0-3-4** (Prerequisite: MET 191) This course introduces statistical quality control and quality assurance techniques in manufacturing processes. Topics include: fundamentals of Six Sigma methodology, creating customer focus, statistical control techniques, control charts, process capability, failure modes and effects analysis (FMEA), teams and teamwork, leadership and strategic planning, optimization and reliability studies, lean manufacturing, and inspection tools and practices. The course is an effective training aid for those preparing to take the American Society for Quality (ASQ) Certified Quality Inspector (CQI) examination. Students will perform lab exercises applying quality concepts, tools and techniques to realistic industry examples.

**MET 215, Solids Modeling 2-6-4** (Prerequisite: DDF 191) Provides advanced study of computer aided design, creating 3-D computer parametric solids models that may be used for engineering analysis as well as for numerical control machining applications, rendering applications, and animation. Topics include: introduction to parametric solids, modeling concepts, boundary primitives, constructing solid geometry, modifying solids, mass properties extraction, applications of solid models, and introduction to finite element analysis. Laboratory work parallels class work.

**MET 216, Presentation Graphics and Animation 2-6-4** (Prerequisite: DDF 191) Provides advanced study of computer graphics used to communicate and animate the design project. Topics include: modeling, rendering and animation, and exporting the design into engineering documents. Laboratory work parallels class work.

**MET 226, Fluid Power 3-3-4** (Prerequisite: MAT 1111) Introduces the application, storage, control, and transport of energy in hydraulic and pneumatic systems. Covers system components, symbols, operations, and basic theory, as well as common industrial circuits. Topics include: application of fluid power, fundamental theory, basic components, and basic systems. Laboratory work illustrates the construction and behavior of hydraulic systems and components.

**MET 250, Thermodynamics and Heat Transfer 4-0-4** (Prerequisites: MAT 1131 and PHY 291) Provides a study of the basic laws of thermodynamics and the principles of heat transfer. Topics include: laws of thermodynamics, principles of heat transfer, liquids and gases, and energy management.

**MET 251, Dynamics 5-0-5** (Prerequisites: MAT 1131, MET 203, and PHY 1111) Emphasizes the study of bodies in motion. Topics include: applied kinematics and kinetics of particles and rigid bodies.

**MET 260, MET Final Projects 2-0-6-4** (Prerequisites/Corequisites: EGT 100, MET 101, MET 201, MET 203, MET 208, MET 209, MET 226, MET 210, MAT 195, EET 102, MET 204, MET 215, CHM 193) This course has the student combine subject matter from MET program courses and core courses into an advanced project activity. The student will create or construct a product, mechanism or component using the engineering skills developed through previous courses and course work. The project activity includes conceptualization, detailed planning, detailed design, developing specifications, production considerations, cost and quality assurance. In addition the course assesses the student's cognitive aptitude of the MET program curriculum and the institute effectiveness by evaluating student learning outcomes with program educational objectives.

**MKT 100, Introduction to Marketing 5-0-5** (Prerequisite: Provisional admission) Emphasizes the study of trends and the dynamic forces that affect the marketing process and the coordination of the marketing functions. Topics include: marketing strategies, marketing mix, marketing trends, and dynamic forces affecting the market.

**MKT 101, Principles of Management 5-0-5** (Prerequisite: ENG 1010 or ENG 1101) Develops skills and behaviors necessary for successful supervision of people and job responsibilities. Emphasis will be placed on personnel management, the basic supervisory functions, supervisory skills and techniques, and the special challenges and demands of supervising employees. Topics include: management theories, including total quality management, motivation, supervision, and evaluating of employees, recruitment, screening, and selection of employees, supervision techniques, and functions of management.

**MKT 103, Business Law 5-0-5** (Prerequisite: Provisional admission) Introduces the study of contracts and other business obligations in the legal environment. Topics include: creation and evolution of laws, court decision processes, sales contracts, commercial papers, risk-bearing devices, and the Uniform Commercial Code.

**MKT 104, Principles of Economics 5-0-5** (Prerequisite: Program admission level math competency) Provides a study of micro and macro economic principles, policies and applications. Topics include: supply and demand, money and the banking system, the business cycle, and economic systems.

**MKT 106, Fundamentals of Selling 5-0-5** (Prerequisite: Provisional admission) Emphasizes sales strategy and techniques to assist the student in the sales process. Topics include: customer relations, professional image, product/service knowledge, selling techniques and procedures, sales presentations, and ethics of selling.

**MKT 108, Advertising 3-2-4** (Prerequisite: Program admission) Introduces the fundamental principles and practices associated with advertising activities. Topics include: purposes of advertising, principles of advertising, budgeting, marketing and advertising, plans, regulations and controls, media evaluation, target marketing, and selection, campaign planning, and trends in advertising.

**MKT 109, Visual Merchandising 3-2-4** (Prerequisite: Provisional admission) Focuses on the components of display necessary for the effective visual presentation of goods and services. Opportunities will be provided to utilize the principles and techniques that are common to display work in various types of businesses. Emphasis will be placed on design, color, tools, and materials of display, and installation of displays. Topics include: design principles, color principles, tools and materials of the trade, props and fixtures, lighting and signing, installation of displays, store planning, and safety.

**MKT 110, Entrepreneurship 6-4-8** (Prerequisite: Program admission level math competency) Provides an overview of the activities that are involved in planning, establishing, and managing a small business enterprise. Topics include: planning, location analysis, financing, and development of a business plan.

**MKT 122, Buying and Merchandise Management 5-0-5** (Prerequisite: Level math achievement) Introduces the fundamental principles of buying, merchandising, and accounting for products and services. Topics include: assortment planning; locating resources; ordering merchandise; just-in-time or quick response inventory control; pricing for profit; and financial statements, ratios, and accounting vocabulary, principles of merchandising, traffic patterns, basic stock and inventory, inventory control, mark-ups and mark-downs, and types of discounts.

**MKT 123, Small Business Management 5-0-5** Summarizes competencies included in the entrepreneurship specialization and provides opportunities for application and demonstration of skills. Topics include: management principles, marketing functions, financial applications, and entrepreneurial growth potential.

**MKT 130, Marketing Administration O.B.I. 0-10-3** (Prerequisites: Program admission, MKT 101 and ENG 1010 or ENG 1101) Introduces students to the application and reinforcement of marketing administration and employability principles in an actual job placement or practicum experience. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into marketing administration applications on the job. Topics include: problem solving, adaptability to the job setting, use of proper interpersonal skills, application of marketing administration techniques, and professional development. The occupation-based instruction is implemented through use of written individualized training plans, written performance evaluation, a required weekly seminar, and required practicum or on-the-job training.

**MKT 131, Marketing Administration O.B.I. II 0-10-3** (Prerequisite/Corequisite: MKT 130) Focuses on the application and reinforcement of marketing administration and employability principles in an actual job placement or practicum experience. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into marketing administration applications on the job. Topics include: problem solving, adaptability to the job setting, use of proper interpersonal skills, application of marketing administration techniques, and professional development. The occupation-based instruction is implemented through the use of written individualized training plans, written performance evaluation, a required weekly seminar, and required practicum or on-the-job training.

**MKT 134, Entrepreneurship O.B.I. I 0-10-3** (Prerequisites: Program admission, ENG 1010 or ENG 1101, MKT 101) Introduces the application and reinforcement of entrepreneurship and employability principles in an actual job placement or practicum experience. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into entrepreneurship applications on the job. Topics include: problem solving, adaptability to the job setting, use of proper interpersonal skills, application of entrepreneurship techniques, and professional development. The occupation-based instruction is implemented through the use of written individualized training plans, written performance evaluation, required weekly seminar, and required practicum or on-the-job training.

**MKT 135 - Entrepreneurship O.B.I. II 0-10-3** (Prerequisite/Corequisite: MKT 134) Focuses on the application and reinforcement of entrepreneurship and employability principles in an actual job placement or practicum experience. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into entrepreneurship applications on the job. Topics include: problem solving, adaptability to the job setting, use of proper interpersonal skills, application of entrepreneurship techniques, and professional development. The occupation-based instruction is implemented through the use of written individualized training plans, written performance evaluation, required weekly seminar, and required practicum or on-the-job training.

**MKT 161, Service Industry Business Environment 2-0-2** Introduces students to the services industry. Topics include: an introduction to the service industry business environment, an introduction to life-long learning, work ethic and positive behaviors required for exceptional customer service, and an introduction to customer relations, working together successfully on teams, and basic business principles.

**MKT 162, Customer Contact Skills 6-0-6** (Prerequisite/Corequisite: MKT 161) Provides students with skills necessary to communicate with customers and successfully manage the relationships in both telephone and face-to-face situations. Topics include: skills to effectively communicate with customers, developing rapport with customers, problem-solving in customer service, telephone skills, sales skills in the service environment, managing the difficult customer, and managing the multicultural customer. Computer-Based Training (CBT) is used to allow students to practice skills using simulated business situations.

**MKT 163, Computer Skills for Customer Service 3-0-3** (Prerequisite/Corequisite: MKT 162) Provides students with the fundamentals of computer skills used in a customer service environment. Topics include: introduction to computer technology, introduction to the Windows environment, introduction to word processing, introduction to spreadsheets, introduction to databases, introduction to E-mail, and credit card processing.

**MKT 164, Business Skills for the Customer Service Environment 3-0-3** (Prerequisite/Corequisite: MKT 163) Provides students with the fundamentals of basic business skills used in the customer service environment. Topics include: introduction to business correspondence, basic business calculations, change management, managing multiple tasks and priorities, and tools for team problem-solving and service improvement.

**MKT 165, Personal Effectiveness in Customer Service 1-0-1** (Prerequisite/Corequisite: MKT 164) Provides students with skills that will allow them to present a positive image to both co-workers and customers. Topics include: personal wellness and stress management, positive image, and job interview skills.

**MSD 100 Management Principles 5-0-5** (Prerequisite: Provisional admission) Develops skills and behaviors necessary for successful supervision of people and job responsibilities. Emphasis will be placed on real life concepts, personal skill development, applied knowledge and managing human resources. Course content is intended to help managers and supervisors deal with a dramatically changing workplace being affected by technology changes, a more competitive and global market place, corporate restructuring and the changing nature of work and the workforce. Topics include: understanding the manager's job and work environment, building an effective organizational culture, leading, directing, and the application of authority, planning, decision-making, and problem-solving, human resource management, administrative management, organizing, and controlling.

**MSD 101 – Organizational Behavior 5-0-5** (Prerequisite: Provisional admission) Provides a general knowledge of the human relations aspects of the senior-subordinate workplace environment. Topics include: employee relations principles, problem solving and decision making, leadership techniques to develop employee morale, human values and attitudes, organizational communications, interpersonal communications, and employee conflict.

**MSD 102 – Employment Law 5-0-5** (Prerequisite: Provisional admission) Develops a working knowledge of the laws of employment necessary for managers. Topics include: Employment Law, the Courts, and Alternative Dispute Resolution (ADR), Discrimination Law, Selecting Applicants Under the Law, OSHA and Safety, Affirmative Action, At-Will Doctrine, Right to Privacy, Fair Labor Standards Act (FLSA), Family Medical Leave Act (FMLA), Worker's Compensation, Unemployment Compensation, and National Labor Relations Act.

**MSD 103, Leadership 5-0-5** (Prerequisite: Provisional admission) Familiarizes the student with the principles and methods of sound leadership and decision-making. Topics include: basic leadership principles and how to use them to solicit cooperation, use of leadership to develop the best possible senior-subordinate relationships, the various decision making processes, the ability to make sound and timely decisions, leadership within the framework of the major functions of management, and delegation of authority and responsibility.

**MSD 104 – Human Resource Management 5-0-5** (Prerequisite: Provisional admission) This course is designed as an overview of the Human Resource Management (HRM) function and the manager and supervisor's role in managing the career cycle from organizational entry to exit. It acquaints the student with the authority, responsibility, functions, and problems of the human resource manager, with an emphasis on developing familiarity with the real world applications required of employers and managers who increasingly are in partnership with HRM generalists and specialists in their organizations. Topics include: strategic human resource management, contemporary issues in HRM: ethics, diversity and globalization; the human resource/supervisor partnership; human resource planning and productivity; job description analysis, development, and design; recruiting, interviewing, and selecting employees; performance management and appraisal systems; employee training and development: disciplinary action and employee rights; employee compensation and benefits; labor relations and employment law; and technology applications in HRM.

**MSD 105 – Labor Management Relations 5-0-5** (Prerequisite: Provisional admission) Provides a student with an overview of the relationship of rank and file employees to management in business organizations. The nature of the workplace, the economic foundations of work organizations, and the history of the relationship between management and labor is examined. The course acquaints the student with the principles of developing positive relationships between management and labor within the context of the legal environment governing labor relations. Topics include: the nature of the American workplace, the economic history of business organizations, the historical roots of labor-management relations, adversarial and cooperative approaches to labor relations, the legal framework of labor relations, employee-employer rights, collective bargaining and union organizing processes, union and nonunion grievance procedures, international labor relations, and the future of labor-management relations in a changing economy. Case studies, readings, and role-plays are used to simulate workplace applications in labor relations.

**MSD 106 – Performance Management 5-0-5** (Prerequisite: Provisional admission) Develops an understanding of how fostering employer/employee relationships in the work setting improves work performance. Develops legal counseling and disciplinary techniques to use in various workplace situations. Topics include: the definitions of coaching, counseling, and discipline; importance of the coaching relationship; implementation of an effective counseling strategy; techniques of effective discipline; and performance evaluation techniques.

**MSD 107 – Employee Training and Development 5-0-5** (Prerequisite: Provisional admission) Addresses the challenges of improving the performance and career potential of employees, while benefiting the student in their own preparation for success in the workplace. The focus is on both training and career and personal development. Shows the student how to recognize when training and development is needed and how to plan, design, and deliver an effective program of training for employees. Opportunities are provided for the student to develop their own career plans, assess their work-related skills, and practice a variety of skills desired by employers. Topics include: developing a philosophy of training, having systems approach to training and development, the context of training, conducting a needs analysis, critical success factors for employees, learning principles, designing and implementing training plans, conducting and evaluating training, human resource development and careers, personal career development planning, and applications in interpersonal relationships and communication.

**MSD 113, BUSINESS ETHICS 5-0-5** (Prerequisite: Provisional admission) Provides students with an overview of business ethics and ethical management practices, with emphasis on the process of ethical decision-making and working through contemporary ethical dilemmas faced by business organizations, managers and employees. The course is intended to demonstrate to the students how ethics can be integrated into strategic business decisions and can be applied to their own careers. The course uses a case study approach to encourage the student in developing analytical, problem-solving, critical thinking and decision-making skills. Topics include: An overview of business ethics; moral development and moral reasoning; personal values, rights, and responsibilities; frameworks for ethical decision-making in business; justice and economic distribution; corporations and social responsibility; corporate codes of ethics and effective ethics programs; business and society; consumers and the environment; ethical issues in the workplace; business ethics in a global and multicultural environment; business ethics in cyberspace; and business ethics and the rule of law.

**MSD 114 - Management Communication Technologies 5-0-5** (Prerequisite: Provisional admission) This course focuses on communication, supervision, and organizations in the age of technology. It builds on the basic computer skills introduced in SCT 100 using computer-based technology to develop skills in applying information technology. The student will create written, verbal, and electronic communication applied to supervisory functions in the work place. Topics include: word processing applications; spreadsheet applications; database applications; presentation technology and applications; graphical interface applications; interpersonal communications; organizational communications; applications that come from communications, human resource management, and general business.

**MSD 202, Production/Operations Management 5-0-5** (Prerequisite: Program admission) This course provides the student with an intensive study of the overall field of production/operations management. Topics include: role of production management/production managers, operational design, capacity planning, aggregate planning, inventory management, project management, and quality control/assurance.

**MSD 205 – Service Sector Management 5-0-5** This course focuses on supervision in the service sector with special emphasis on team building, quality management, and developing a customer focus. The challenge of providing world-class customer service is addressed through sections on principles of service industry supervision, career development, problem solving, stress management, and conflict resolution. Topics include: principles of service industry supervision, team building, customer service operations, TQM in a service environment, business software applications, communication in the service sector, introduction to information systems, selling principles and sales management, retail management, and legal issues in the service sector.

**MSD 206- Project Management 5-0-5** (Prerequisite: Provisional admission) Provides a basic understanding of project management functions and processes. Topics include: team selection and management; project planning, definition and scheduling of tasks; resource negotiation, allocation, and leveling; project control, monitoring, and reporting; computer tools for project planning and scheduling; managing complex relationships between project team and other organizations; critical path methodology; and total quality management.

**MSD 210 – Team Project 5-0-5** (Prerequisite: Program admission and program advisor approval) This course utilizes team methodologies to study the field of management. It encourages students to discuss their perception of management practices which have been studied during the management program. Topics include: current issues and problems in management and supervision and state-of-the-art management and leadership techniques. Students will be put into teams, will work on team projects to demonstrate their understanding of the competencies of this course, and will do peer evaluation.

**MSD 220 - Management Occupation-Based Instruction 1 0-10-3** (Prerequisite: Program admission) Reinforcement of management, supervision, and employability principles in an actual job placement or through a practicum experience. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into management and supervisory applications on the job. Topics include: problem solving, adaptability to the job setting, use of proper interpersonal skills, application of management and supervisory techniques, and professional development. The occupation-based instruction is implemented through the use of a practicum or internship and all of the following: written individualized training plans, written performance evaluation, and a required weekly seminar.

**MSD 234 – Introduction to Mining Management, 5-0-5** (Prerequisite: Program admission and advisor approval) Introduces and develops skills and behaviors necessary for successful management of people and facilities in the crushed stone industry. Course content is designed to help managers and supervisors deal with a changing workplace being affected by safety issues, technology changes, a more competitive market place, corporate restructuring and the changing nature of the workforce. Topics include: Time Management, Safety Training, Drilling and Blasting, Community Relations, Communication, Maintenance, Leadership, Plant Operations, Financial Management, Environmental Sustainability and Employment Practices.

**MUS 1101, Music Appreciation 5-0-5** (Prerequisite: ENG 1101 with “C” or better.) Explores the analysis of well-known works of music, their composition, and the relationship to their periods through writing. Students practice various modes of writing, ranging from exposition to argumentation and persuasion. The course includes a brief review of standard grammatical and stylistic usage in proofreading and editing. An introduction to locating, acquiring, and documenting information resources lays the foundation for research. Topics include: the creative and critical process, the themes of music, the formal elements of composition, and the placing of music in the historical context, writing analysis, practice, revision, and research about a musical composition or compositions.

**NPT 112, Medical Surgical Nursing I Practicum I 0-21-7** (Prerequisites: AHS 102, AHS 103, and NSG 110. Corequisite: NSG 112) Focuses on health management and maintenance and the prevention of illness, care of the individual as a whole, and deviations from the normal state of health. The definition of client care includes using the nursing process, performing assessments, using critical thinking, and providing client education. Topics include: health management and maintenance and prevention of illness, care of the individual as a whole, and deviations from the normal state of health in the cardiovascular, respiratory, endocrine, urinary, and gastrointestinal systems; client care, treatments, pharmacology, medication administration, and diet therapy related to the cardiovascular, respiratory, endocrine, urinary, and gastrointestinal systems; and standard precautions.

**NPT 113, Medical Surgical Nursing II Practicum II 0-21-7** (Prerequisites: AHS 102, AHS 103, NPT 112, NSG 110, and NSG 112. Corequisite: NSG 113) Focuses on health management and maintenance and the prevention of illness, care of the individual as a whole, and deviations from the normal state of health. The definition of client care includes using the nursing process, performing assessments, using critical thinking, and providing client education. Topics include: health management and maintenance and prevention of illness, care of the individual as a whole, and deviations from the normal state of health in the musculoskeletal, neurological, integumentary, and sensory systems, mental health, and oncology; client care, treatments, pharmacology, medication administration, and diet therapy related to the musculoskeletal, neurological, integumentary, and sensory systems, mental health, and oncology; and standard precautions.

**NPT 212, Pediatric Nursing Practicum 0-6-2** (Prerequisites: AHS 102, AHS 103, NPT 112, NPT 113, NSG 110, NSG 112, and NSG 113. Corequisites: NPT 213, NSG 212, and NSG 213) Focuses on health management and maintenance and the prevention of illness, care of the family as a whole, care of the child as a whole, and deviations from the normal state of health. The definition of client care includes using the nursing process, performing assessments, using critical thinking, and providing client education. Topics include: health management and maintenance and prevention of illness, care of the child as a whole, and deviations from the normal state of health in the pediatric client; client care, treatments, pharmacology, medication administration, and diet therapy of the pediatric client; growth and development; and standard precautions.

**NPT 213, Obstetrical Nursing Practicum 0-9-3** (Prerequisites: AHS 102, AHS 103, NPT 112, NPT 113, NSG 110, NSG 112, and NSG 113. Corequisites: NPT 212, NSG 212, and NSG 213) Focuses on health management and maintenance and the prevention of illness, care of the individual as a whole, and deviations from the normal state of health. The definition of client care includes using the nursing process, performing assessments, using critical thinking, and providing client education. Topics include: health management and maintenance and prevention of illness, care of the individual as a whole, and deviations from the normal state of health in the reproductive system, obstetric clients, and the newborn; client care, treatments, pharmacology, medication administration, and diet therapy related to the reproductive system, obstetric clients, and the newborn; and standard precautions.

**NPT 215, Nursing Leadership Practicum 0-7-2** (Prerequisites: AHS 102, AHS 103, NPT 112, NPT 113, NSG 110, NSG 112, and NSG 113. Corequisites: NPT 212, NPT 213, NSG 212, NSG 213, and NSG 215) Builds on the concepts presented in prior nursing courses and develops the skills necessary for successful performance in the job market. Topics include: application of the nursing process, critical thinking, supervisory skills, client education methods, group and other TQM processes, and conflict resolution.

**NSG 110, Nursing Fundamentals 5-12-10** (Prerequisites: Program admission. Corequisites: AHS 102, AHS 103) An introduction to the nursing process. Topics include: orientation to the profession, ethics and law, community health; client care which is defined as using the nursing process, using critical thinking, and providing client education and includes principles and skills of nursing practice, documentation, and an introduction to physical assessment; geriatrics; customer/client relationships; and standard precautions.

**NSG 112, Medical Surgical Nursing I 9-0-9** (Prerequisites: AHS 102, AHS 103, and NSG 110. Corequisite: NPT 112) Focuses on health management and maintenance and the prevention of illness, care of the individual as a whole, and deviations from the normal state of health. The definition of client care includes using the nursing process, performing assessments, using critical thinking, and providing client education. Topics include: health management and maintenance and prevention of illness, care of the individual as whole, and deviations from the normal state of health in the cardiovascular, respiratory, endocrine, urinary, and gastrointestinal systems; client care, treatments, pharmacology, and diet therapy related to the cardiovascular respiratory, endocrine, urinary, and gastrointestinal systems; and standard precautions.

**NSG 113, Medical Surgical Nursing II 9-0-9** (Prerequisites: AHS 102, AHS 103, NPT 112, NSG 110, and NSG 112. Corequisite: NPT 113) Focuses on health management and maintenance and the prevention of illness, care of the individual as a whole, and deviations from the normal state of health. The definition of client care includes using the nursing process, performing assessments, using critical thinking, and providing client education. Topics include: health management and maintenance and prevention of illness, care of the individual as a whole, and deviations from the normal state of health in the musculoskeletal, neurological, integumentary, and sensory systems, mental health, and oncology; client care, treatments, pharmacology, and diet therapy related to the musculoskeletal, neurological, integumentary, and sensory systems, mental health, and oncology; and standard precautions.

**NSG 212, Pediatric Nursing 5-0-5** (Prerequisites: AHS 102, AHS 103, NPT 112, NPT 113, NSG 110, NSG 112, and NSG 113. Corequisites: NPT 212, NPT 213, and NSG 213) Focuses on health management and maintenance and the prevention of illness, care of the child as a whole, and deviations from the normal state of health. The definition of client care includes using the nursing process, performing assessments, using critical thinking, and providing client education. Topics include: health management and maintenance and prevention of illness, care of the child as a whole, and deviations from the normal state of health in the pediatric client; client care, treatments, pharmacology, and diet therapy of the pediatric client; growth and development; and standard precautions.

**NSG 213, Obstetrical Nursing 5-0-5** (Prerequisites: AHS 102, AHS 103, NPT 112, NPT 113, NSG 110, NSG 112, and NSG 113. Corequisites: NPT 212, NPT 213, and NSG 212) Focuses on health management and maintenance and the prevention of illness, care of the individual as a whole, and deviations from the normal state of health. The definition of client care includes using the nursing process, performing assessments, using critical thinking, and providing client education. Topics include: health management and maintenance and prevention of illness, care of the individual as a whole, and deviations from the normal state of health in the reproductive system, obstetric clients, and the newborn; client care, treatments, pharmacology, and diet therapy related to the reproductive system, obstetric clients, and the newborn; and standard precautions.

**NSG 215, Nursing Leadership 2-0-2** (Prerequisites: AHS 102, AHS 103, NPT 112, NPT 113, NSG 110, NSG 112, and NSG 113. Corequisites: NPT 212, NPT 213, NPT 215, NSG 212, and NSG 213) Builds on the concepts presented in prior nursing courses and develops the skills necessary for successful performance in the job market. Topics include: application of the nursing process, critical thinking, supervisory skills, client education methods, group and other TQM processes, and conflict resolution.

**OTA 101, Introduction to Occupational Therapy 2-3-3** (Prerequisite: Program admission. Corequisites: OTA 104, OTA 105, PSY 1101) Explains the philosophy and history of occupational therapy and its relationship to other health care providers. Topics include: foundations, history, and philosophical base of the profession and its personnel, role of OTA within health care team, role of OTA within various practice sites, definition of OT, introduction to AOTA code of ethics and standards of practice, introduction to OT theories, models of practice, and frames of reference, introduction to the OT process, and role delineation.

**OTA 102, Growth and Development 5-0-5** (Prerequisites: PSY 1101, OTA 101, OTA 104, OTA 105. Corequisites: OTA 103, PSY 2250, SCT 100) Introduces the range of responses and reactions to human growth, and the activities to enhance body functions. Topics include: normal growth and development patterns across life span, and occupational therapy principles which emphasize the use of purposeful activities and occupations to promote health and prevent diseases.

**OTA 103, Developmental Tasks 1-4-3** (Prerequisites: PSY 1101, OTA 101, OTA 104, OTA 105. Corequisites: OTA 102, PSY 2250, SCT 100) Studies human tasks and activities across the developmental life span. Through learning and teaching occupations, students will utilize therapeutic self, group and dyadic interaction to analyze, grade and adapt purposeful activities and occupations to foster occupational performance within each stage of life. Topics include: uniform terminology, performance and teaching of life tasks and activities, activity analysis, multicultural purposeful activities and occupations across the life span, and grading and adapting purposeful activities while implementing safety precautions.

**OTA 104, Conditions in Occupational Therapy 5-0-5** (Prerequisites: AHS 109, BIO 2113, BIO 2114, ENG 1101, HUM 1101, MAT 1101 or MAT 1111, SOC 1101. Corequisites: OTA 101, OTA 105, PSY 1101) Overview of the etiology, clinical course, prognosis, and prevention of disease processes and traumatic injuries. Includes problems associated with individuals and family who have difficulty with social cultural expectations. Emphasis is on the effect of such conditions on occupational performance and ways to promote health.

**OTA 105, Analysis of Human Movement 4-4-6** (Prerequisites: AHS 109, BIO 2113, BIO 2114, ENG 1101, HUM 1101, MAT 1101 or MAT 1111, SOC 1101. Corequisites: OTA 101, OTA 104, PSY 1101) Introduces the phenomenon of human motion within the context of occupational performance. Topics include: introduction to movement, principles of gravity and basis biomechanics and their effect on movement; and survey of the skeletal system, articular system, muscular system, and nervous system. May include instruction in goniometric measurements and muscle testing utilizing safety procedures within the framework of OT.

**OTA 201, Psychosocial Dysfunction 6-3-7** (Prerequisites: All 100 level OTA courses, OTA 206, OTA 207, PSY 2250. Corequisites: OTA 202, OTA 209) Studies occupational therapy to service recipients for the prevention or remediation of psychosocial dysfunction or maintenance of mental health. Introduces the psychiatric disorders in different stages of human life. Encompasses OT concepts and principles in psychosocial dysfunctions which emphasize purposeful activity and role function. Topics include: psychosocial conditions commonly referred to occupational therapy, screening, evaluation, and standardized procedures for psychosocial OT, participation in the development of the OT intervention plan, collaboration with OTR on intervention implementation, reevaluation and intervention termination, psychosocial dysfunction intervention documentation procedure, and utilization of safety procedures during the OT process.

**OTA 202, Psychosocial Dysfunction Treatment Methods 0-9-3** (Prerequisites: All 100 level OTA courses, OTA 206, OTA 207, PSY 2250. Corequisites: OTA 201, OTA 209) Focuses on intervention of the psychiatric disorders occurring in different stages of human life through practical methods. Topics include: assistance with data collection and documentation which includes administering standardized and nonstandardized tests and assessment tools appropriate to the role of the OTA in the practice area of psychosocial dysfunction, contribution to the formation of OT goals and objectives on evaluation, use of self and dyadic and group interaction, and provision of the therapeutic intervention related to occupational performance areas in psychosocial dysfunction.

**OTA 204, Pediatric Issues 3-5-5** (Prerequisites: All OTA 100 level courses, OTA 201, OTA 202, OTA 206, OTA 207, OTA 209, PSY 2250. Corequisites: OTA 212, OTA 213) Covers childhood to early adulthood occupational therapy related issues, including development disabilities. Topics include: participation in the screening, evaluation, intervention planning, therapeutic intervention, and discharge/follow-up with the pediatric population within the context of occupational performance in order to promote health and prevent disease. Emphasizes the importance of patient, family/significant other/caregiver education and documentation to ensure reimbursement in today's healthcare environment.

**OTA 206, Physical Dysfunction 6-3-7** (Prerequisites: all 100 level courses, PSY 2250. Corequisites: OTA 207, ENG 1105 or SPC 1101) Studies occupational therapy to service recipients for the prevention or remediation of physical dysfunction or maintenance of quality of life. Introduces physical dysfunction in different stages of human life. Encompasses OT concepts and principles in physical dysfunctions which emphasize purposeful activity and role function. Topics include: physical conditions commonly referred to occupational therapy, screening, evaluation, and standardized procedures for physical dysfunction intervention, participation in the development of the OT intervention plan, collaboration with OTR on intervention implementation, reevaluation and intervention termination, physical dysfunction intervention documentation procedure, and utilization of safety procedures during the OT process.

**OTA 207, Physical Dysfunction Treatment Methods 0-9-3** (Prerequisites: All 100 level OTA courses, PSY 2250. Corequisites: OTA 206, ENG 1105 or SPC 1101) Focuses on OT intervention and evaluations principles through practical applications. Topics include: assistance with data collection and documentation which includes administering standardized and nonstandardized tests and assessment tools appropriate to the role of OTA in the practice area of physical dysfunction, contribution to the formation of OT goals and objectives on evaluation, use of self and dyadic and group interaction, and provision of the therapeutic intervention related to occupational performance areas in physical dysfunction.

**OTA 209, Geriatric Issues 3-5-5** (Prerequisites: All 100 level OTA courses, OTA 206, OTA 207. Corequisites: OTA 201, OTA 202) Covers occupational therapy related geriatric issues. Topics include: participation in the screening, evaluation intervention planning, therapeutic intervention, and discharge/follow-up with the geriatric population within the context of occupational performance in order to promote health and prevent disease. Emphasizes the importance of patient, family/significant other/caregiver education and documentation to ensure reimbursement in today's healthcare environment.

**OTA 212, Occupational Therapy Trends and Issues 2-3-3** (Prerequisites: All 100 level OTA courses, OTA 201, OTA 202, OTA 206, OTA 209. Corequisites: OTA 204, OTA 213) Teaches the roles and responsibilities in the administration of occupational therapy services. Topics include: assistance with the management of departmental operations, including safety issues, inventory control, budgeting, scheduling of service recipients, development of values, attitudes, and behaviors congruent with OT standards and ethics, the role of OTA in occupational therapy, research publication, and program evaluation, supervisory requirements, certification and licensure, reimbursement issues including documentation to insure accountability, personnel training and supervision, continued learning, professional behaviors of time management, personal goal setting and career development, and promotion of the Occupational Therapy profession. Resources for the life long learning and professional support are provided and promoted, including job finding skills such as interviewing and negotiation. Preparation for the national certification examination is provided as well as preparation for Level II fieldwork.

**OTA 213, Therapeutic Adaptations 3-5-5** (Prerequisites: All 100 level OTA courses, OTA 201, OTA 202, OTA 206, OTA 209. Corequisites: OTA 204 and OTA 212) Occupational therapy issues that promote human quality of life are addressed through class, demonstration, and practical activities. Topics include: applications of therapeutic adaptation for accomplishing purposeful activities including family training, community programming, basic orthotics and prosthetics, assistive devices, equipment, and other OT technologies, utilization of safety procedures, and assistance with planning and implementation of group and individual programs to promote health, function, and quality of life.

**OTA 221, Level II Fieldwork – A 0-36-12** (Prerequisites: All 100 level OTA courses, OTA 201, OTA 202, OTA 204, OTA 206, OTA 207, OTA 209, OTA 212, OTA 213) Provides the opportunity to practice occupational therapy for eight weeks in a supervised health care facility. Topics include: application of learned skills through presentation of a case study or special project, and supervised clinical applications of principles learned in the curriculum and appropriate to the learning needs of the students.

**OTA 222, Level II Fieldwork - B 0-36-12** (Prerequisites: All 100 level OTA courses, OTA 201, 202, 204, 206, 207, 209, 212, 213) Provides the opportunity to practice occupational therapy for eight weeks in a supervised health care facility. Topics include: application of learned skills through presentation of a case study or special project, and supervised clinical applications of principles learned in the curriculum and appropriate to the learning needs of the students.

**PGT 101, Introduction to the Printing Industry 6-4-8** (Prerequisite: Provisional admission) Introduces all major phases of the graphic arts industry and those basic and necessary skills specific to graphic arts activities in subsequent specialized courses. Topics include: industry overview, paste-up/layout composition, reproduction photography, image assembly, offset duplicator, bindery, measurement, safety and first aid, printers math, and job application skills.

**PGT 102, Basic Publications Design 3-4-3-6** (Prerequisite: PGT 101) Introduces beginning students to basics and principles of publications design. Topics include: safety, design principles, basic desktop publishing, software, file management, typography, measurement, page layout, and quality issues.

**PGT 103, Advanced Publications Design 3-4-3-6** (Prerequisite: PGT 102) Focuses on the advanced study of publications design. Topics include: safety, page layout, basic scanning, graphics, file formats, font management, color theory, and quality issues.

**PGT 107, Color Photo Manipulation and Scanning 3-4-3-6** (Prerequisite: PGT 101) Emphasizes the overview and the fundamentals of color photo manipulation and scanning. Topics include: safety, color theory, color scanning techniques, color correction, duotone and multitone, color separation techniques, special effect and filters, process control, and industry standards/quality control (SWOP – standard web offset practices).

**PGT 109, Color Digital Production 3-4-3-6** (Prerequisite: PGT 101) Focuses on color digital production process. Topics include: first aid and safety, process color assembly, color separation production, trapping operations, color proofing operations, process color production, press proof/inspection, densitometry/color, industry overview, and printers math.

**PGT 110, Practicum/Internship 0-36-12** (Prerequisite: PGT 101) Provides an approved industry like setting where the student develops and sharpens skills. Emphasis is placed on production standards achievement and quality control. Topics include one or more of the following: process black and white and color assembly, black and white and color separation production, digital manipulation, and industry production techniques.

**PGT 111, Basic Press Operations I 6-4-8** (Prerequisite: PGT 109) Introduces students to the basics of press operations. Topics include: safety, plating making press operations, paper handling, chemistry, printing methods, press and bindery equipment, ink technology, and control devices.

**PGT 112, Basic Press Operations II 3-6-6-8** (Prerequisite: PGT 111) Emphasizes the basic press operations. Topics include: first aid and safety, press production methods, troubleshooting, substrate properties, inspection and maintenance, operational settings, basic finishing, ink mixing, image registration, signature imposition, and color control.

**PGT 113, Advanced Press Operations I 3-6-6-8** (Prerequisite: PGT 111) Introduces students to advanced press operations. Topics include: first aid and safety, waste disposal, multi-pass production, operational control methods, scheduling and production standards, advanced production techniques, densitometry, troubleshooting, and production control.

**PGT 114, Advanced Press Operations II 3-6-6-8** (Prerequisite: PGT 111) Emphasizes the advanced pre operations. Topics include: first aid and safety, parking and pressure settling, process color printing, dot gain printing, folding/cutting operations finishing operations, coating process, and quality control requirements.

**PGT 115, Image Output and Preflight 3-4-3-6** (Prerequisite: PGT 102) Introduces the students to the study of image output and assembly. Topics include: safety, basic film assembly, film processing/chemistry, basic multicolor assembly, outputting files, film composition and contacting, proofing and plate making, registration methods, and output control (preflighting), imposition, trapping, color proofing and calibration/quality control.

**PGT 120, Basic Offset Press I 6-4-8** (Prerequisite: PGT 109) Introduces the student to offset press technology. Topics include: safety, duplicator platemaking, fundamentals of paper technology for duplicator operations, ink technology for duplicator operations, make ready, single-color printing operations, fountain chemistry pH, planning and scheduling, recording, and cleaning and maintenance.

**PGT 122, Basic Offset Press II 6-4-8** (Prerequisite: PGT 120) Emphasizes the advanced offset press technology. Topics include: safety and advanced duplicator, specialty inks, duplicator attachments for specialty printing, controls and aids for register specialty printing, controls and aids for register printing, advanced printing on various substrates, multicolor printing and various quality control teaching, planning and scheduling, and process printing.

**PGT 124, Advanced Offset Press Operations 6-4-8** (Prerequisite: PGT 120) Provides instruction in advanced press operations. Platemaking ink technology and paper technology are covered in-depth. Topics include: safety in press operations, plate making for press operations, ink technology for large press operations, fountain chemistry for press operations, planning and scheduling, single color printing, positioning and registration, make and ready for press operations, press adjustments, quality control, and cleaning and maintenance.

**PGT 128, Black and White Photo Manipulation and Scanning 3-4-3-6** (Prerequisite: PGT 109) Focuses on the overview and fundamentals of black and white photo manipulation and scanning. Topics include: safety, scanning operations, resolution, sizing/scaling, file formats, photo manipulation software, halftone gray scale theory, gray scale, and quality control and calibration. OCR software, file conversion, digital input, digital manipulation, digital output, multitasking, industry production techniques and industry standards/quality control.

**PGT 150, Directed Individual Study (0 Class Hours - 3 to 36 Lab Hours - 1 to 12 Credit Hours )** (Prerequisite: PGT 101) Provides the instructor and student an opportunity to develop special learning environments. Instruction is delivered through occupational work experiences, practicums, advanced projects, industry sponsored workshop, seminar, or specialized and/or innovative learning arrangements. Topics include: application of occupational/technical skills, adaptability to the work environment, and problem solving. Each course should be documented with a written agreement between the instructor and the student detailing expected requirements. This course is offered with variable credit ranging from one quarter hour credit minimum to 12 quarter hour credit maximum. Credit hours are to be computed on the basis of three hours per week for the duration of a quarter equaling one quarter hour credit (3 to 1 ratio).

**PHL 103, Introduction to Venipuncture 3-2-4** (Prerequisites: AHS 1011 or BIO 2113 and 2114, AHS 109, AHS 104, ENG 1010 or ENG 1101, and MAT 1012 or MAT 1111, PSY 1010, SCT 100. Corequisite: PHL 105) Provides an introduction to the field of phlebotomy. Topics include: roles and responsibilities of the phlebotomist, safety and infection control, blood function and composition, equipment for specimen collection, performing venipuncture, specimen processing and quality assurance and risk management.

**PHL 105, Clinical Practice 0-24-8** (Prerequisites: AHS 1011 or BIO 2113 and 2114, AHS 109, AHS 104, ENG 1010 or ENG 1101, and MAT 1012 or MAT 1111, PSY 1010, SCT 100. Corequisite: PHL 103) Provides practical experience in a clinical setting performing venipunctures. Topics include: equipment for specimen collection, performing venipuncture, specimen processing, and quality control.

**PHR 100, Pharmaceutical Calculations 4-2-5** (Prerequisite: MAT 1111 for degree or MAT 1012 for diploma) Develops knowledge and skills in pharmaceutical calculations procedures. Topics include: systems of measurement, medication dispensing calculations, pharmacy mathematical procedures, and calculation tools and techniques.

**PHR 101, Pharmacy Technology Fundamentals 5-1-5** (Prerequisites: AHS 1011 or BIO 2113 and BIO 2114, AHS 109, ENG 1010 or ENG 1101, and MAT 1012 or MAT 1111) Provides an overview of the pharmacy technology field and develops the fundamental concepts and principles necessary for successful participation in the pharmaceutical field. Topics include: orientation to the pharmacy technology field, hospital organizational structure, pharmacy policies and procedures, cardiopulmonary resuscitation (CPR), infection control, quality control, definitions, terms, ethics, and laws which govern pharmacy practice.

**PHR 102, Principles of Dispensing Medications 4-4-6** (Prerequisites: AHS 102, AHS 105, PHR 101, and PSY 1010 or PSY 1101) Introduces the student to pharmacy practices. Topics include: purchasing, inventory control procedures, packaging and labeling, dispensing, distribution and documentation. Other topics include: specific drugs, reference sources, filing systems, pharmacy math, aseptic technique, compounding and control of drugs, and use of pharmaceutical equipment. This course provides laboratory and clinical practice.

**PHR 103, Principles of Sterile Medication Preparation 4-4-6** (Prerequisites: PHR 100, PHR 101, AHS 1015. Corequisite: PHR 104) Continues the development of student knowledge and skills applicable to the pharmacy technology program. Topics include: sterile techniques, parental admixtures, hyperalimentation, chemotherapy, filtering, disinfecting, and contamination.

**PHR 104, Pharmacology 5-0-5** (Prerequisites: PHR 100, PHR 101, AHS 1015. Corequisite: PHR 103) Introduces the students to principles and knowledge about all classifications of medications. Topics include: disease states and treatment modalities, pharmaceutical side effects and drug interactions, control substances, specific drugs, and drug addiction and abuse.

**PHR 105, Pharmacy Technology Practicum 0-21-7** (Prerequisites: PHR 103 and 104. Corequisite: PHR 102) Orients students to the clinical environment and provides experiences with the basic skills necessary for the pharmacy technician. Topics include: aseptic and sterile technique, purchasing, packaging, labeling, storage and control, documentation, inventory, filing, compounding, parental admixtures, filtering, disinfection, and medication delivery.

**PHR 106, Advanced Pharmacy Technology Principles 4-2-5** (Prerequisites: PHR 102, and 105. Corequisite: PHR 107) Provides the advanced concepts and principles needed in the pharmacy technology field. Topics include: disease states, treatment modalities, pharmaceutical side effects, drug addiction and abuse, controlled substances, interpreting physicians orders, developing patient profiles, computerized pharmacy data systems, and job readiness.

**PHR 107, Advanced Pharmacy Technology Practicum 0-21-7** (Prerequisites: PHR 102, PHR 105. Corequisite: PHR 106.) Continues the development of student knowledge and skills applicable to pharmacy technician practice. Topics include: dispensing medications, interpreting physician orders, controlled substances, hyperalimentation, chemotherapy, developing patient profiles, and pharmacology data systems.

**PHY 1110, Introductory Physics 4-3-5** (Prerequisite: MAT 1101 or MAT 1111 with a grade of "C" or better.) The course is an introduction to some of the basic laws of physics. Topics include: systems of units and conversion of units; vector algebra; Newtonian mechanics; fluids and thermodynamics; heat; light, and optics; mechanical waves; electricity and magnetism; and modern physics. Laboratory experience supports classroom learning. Computer use is an integral part of class and laboratory assignments.

**PHY 1111, Mechanics 4-3-5** (Prerequisites: CIS 191 or EET 191 and MAT 1113 with a grade of "C" or better.) The first course of three algebra and trigonometry based courses in the physics sequence. This course introduces the classical theories of mechanics. Topics include: measurements and systems of units; Newton's laws; work energy, and power; momentum and collisions; one and two dimensional motion; circular motion and law of gravity; and rotational dynamics and mechanical equilibrium. Laboratory exercises supplement class work. Computer use is an integral part of class and laboratory assignments.

**PHY 1112, Electricity and Magnetism 4-3-5** (Prerequisites: PHY 1111 with a grade of "C" or better.) The second of three algebra and trigonometry based courses in the physics sequence. This course introduces theories of electricity and magnetism. Topics include: electric charge, forces, and fields; electric potential, energy, and capacitance; magnetism; electric current, resistance, and basic electric circuits; alternating current circuits; and electromagnetic waves. Laboratory exercises supplement class work. Computer use is an integral part of class and laboratory assignments.

**PHY 1113, Fluids, Heat, Sound, and Light 4-3-5** (Prerequisite: PHY 1111 with a grade of "C" or better.) The third of three algebra and trigonometry based courses in the physics sequence. This course introduces the classical theories of fluids, heat, sound, and light. Topics include: statics and dynamics of fluids; gas laws; heat transfer; thermodynamics; harmonic motion; wave motion; sound; and properties of light. Laboratory exercises supplement class work. Computer use is an integral part of class and laboratory assignments.

**PLS 101, Introduction To Law and Ethics 5-0-5** (Prerequisite: Provisional Admission) Emphasizes the American legal system, the role of the lawyer and legal assistant within that system, and the ethical obligations imposed upon attorneys and legal assistants. Topics include: survey of American jurisprudence, code of professional responsibility and ethics overview, legal reasoning and problem solving, and introduction to sources of law and legal vocabulary.

**PLS 102, Legal Research 5-0-5** (Prerequisites: Program admission level verbal achievement, provisional admission level math achievement, PLS 101) Introduces the student to the competencies involved with legal bibliography and research methodology so that the student can effectively research issues of both state and federal law. The student will also learn to properly cite legal research sources. Topics include: identification of legal issues, sources of state and federal statutes and case law, citation of legal authorities, and computer assisted legal research.

**PLS 103, Legal Writing 5-0-5** (Prerequisites: Program admission, ENG 1101, PLS 101, PLS 102) Focuses on the application and reinforcement of basic writing skills, familiarizes the student with types of writing typically engaged in by lawyers and legal assistants, and prepares the student for legal writing tasks. The student learns to write business letters as well as advisory documents. Topics include: legal analysis and legal correspondence and composition.

**PLS 104, Family Law 5-0-5** (Prerequisite: Program admission. Corequisite: PLS 101) Introduces the student to the issues which may arise in family law cases and to the role of the paralegal in assisting the attorney in the development and presentation of such cases. Topics include: issues associated with client and witness interviews, marriage validity and dissolution, litigation support in family law matters, issues concerning children, special matters in family law, and attorney and paralegal ethical obligations.

**PLS 105, Real Estate Law 5-0-5** (Prerequisite: Program admission. Corequisite: PLS 101) Introduces the student to the basic concepts of real property law as they pertain to common types of real estate transactions. Additionally, emphasis will be placed on practical skills such as document preparation and title examination. Topics include: real estate contracts, plat reading and legal descriptions, types and purposes of deeds, title searches, common real estate mortgages and documentation, real estate closing and closing statements, recordation statutes and requirements, and elements of the lease.

**PLS 108, Criminal Law and Criminal Procedure 5-0-5** (Prerequisite: Program admission. Corequisite: PLS 101) Introduces the student to the basic concepts of substantive criminal law and its procedural aspects with an emphasis on the constitutionally protected rights of the accused in the criminal justice system. Topics include: substantive criminal law, criminal procedure from arrest to post-conviction, constitutional issues of criminal law and procedure, and criminal litigation support.

**PLS 109, Civil Litigation 5-0-5** (Prerequisite: Program admission, PLS 101) Emphasizes competencies and concepts of civil litigation in both federal and state courts. Topics include: federal and state litigation; trial and pretrial proceedings; litigation ethics; and litigation documents, exhibits, investigations, and interviews.

**PLS 110, Wills, Trusts, Probate, and Administration 5-0-5** (Prerequisite: Program admission. Corequisite: PLS 101) Provides a general framework of the substantive theory of wills, trusts, and estates. The student receives practical information to better enable him or her to assist in the drafting of wills and other documents, and in the probate and administration process. Topics include: wills, trusts, and powers of attorney; probate of wills and administration of estates; document preparation for other probate proceedings; general jurisdiction of the probate court; terminology of wills and estate practice; client interviews; and document preparation.

**PLS 111, Tort Law 5-0-5** (Prerequisite: Program admission. Corequisite: PLS 101) Introduces the student to the basic concepts of substantive tort law. Additionally, emphasis will be placed on the fact investigation process. Topics include: concepts of tort, intentional and unintentional; causation and liability concepts; damages and defenses; and business torts

**PLS 112, Law Office Management** (Prerequisite: Program admission. Corequisite: PLS 101) Introduces the student to common forms of law practice. The student will be exposed to methods of billing and time-keeping, automation in the law office, the law office library, the appropriate role of support staff in the law office, and ethical concerns relevant to law office management. Topics include: forms of law practice and insurance needs, support systems, support staff, and ethical responsibilities.

**PLS 116 - Contracts and Commercial Law 5-0-5** (Prerequisite: Program admission. Corequisite: PLS 101) Introduces the student to the basic concepts of legal rules commonly applicable in commercial settings and to the basic concepts of substantive contract law. Topics include: Constitutional Law and government regulations, Uniform Commercial Code, essential elements of a contract and related legal principles, and standard forms utilization.

**PLS 117 - Advanced Research and Writing 1-0-13-5** (Prerequisites: PLS 103, ENG 1102) Continues to develop writing skills focusing on legal memoranda preparation. Additionally, students develop skills in conducting legal research. Topics include: legal bibliography and research methodology, legal memoranda preparation, and substantive law research.

**PLS 118 - Paralegal O.B.I. 0-36-12** (Prerequisite: All previous coursework and advisor approval) Focuses on the application and reinforcement of paralegal skills in an actual workplace environment, or at the discretion of the instructor, in a school practicum with simulated work experiences. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into paralegal applications on the job. Topics include: problem solving, adaptability to the job setting, use of proper interpersonal skills, application of paralegal skills in a workplace setting, and professional development.

**PSY 151, Master Student Techniques 3-0-3** Provides methods, procedures, and skills for improving time management, study skills, test taking, communication skills, and stress management.

**PSY 1010, Basic Psychology 5-0-5** (Prerequisite: admission placement testing) This course presents the basic principles of human behavior and their application to everyday life and work. Topics include: introduction to psychology; social environments; communications and group processes; personality; emotions and motives; conflicts, stress, and anxiety; perception and learning; life span development; and abnormal psychology.

**PSY 1101, Introduction to Psychology 5-0-5** (Prerequisite: associate degree placement testing) This course emphasizes the basics of psychology. Topics include: science of psychology; social environments; life stages; physiology and behavior; personality; emotions and motives; conflicts, stress, and anxiety; abnormal behavior; and perception, learning, and intelligence.

**PSY 2250, Abnormal Psychology 5-0-5** (Prerequisite: PSY 1101) Studies the nature and causes of various forms of behavior disorder. Topics include: types of abnormalities; psychopathology; assessment and classification of mental disorders; symptomatology of major mental disorders; and critical evaluation of current theories.

**PWC 100, Public Works Infrastructure 5-0-5** This course introduces the student to the methods of maintaining the most common public works infrastructure. Emphasis will be on the different aspects of roadway maintenance, utility maintenance, and fleet management.

**PWC 105, Construction Methods/Cost Estimating 5-0-5** This course introduces the student to roadway and bridge construction methods and to cost estimation methods for a roadway project or project components.

**PWC 110, Plan Reading 5-0-5** This course introduces the reading and interpretation of construction drawings. Plans include right-of-way, construction, bridge plans, and shop drawings. Topics include: scales, plan notation and symbols, and specifications.

**PWC 115, Highway Design 5-0-5** This course provides students with a basic understanding of design and construction of roadway and highway systems. Major topics include: geometric design, drainage design and computation, erosion control and storm management.

**PWC 120, Project Management 5-0-5** This course introduces the student to the basic concepts and procedures used in managing a highway construction project. Emphasis will be placed on administering the contract, and ensuring that construction is completed according to the contract.

**PWC 140, Internship 5-15-10** This course provides student work experience in the occupational environment. Topics include: application of civil technology knowledge and skills, appropriate employability skills, problem solving, adaptability to job setting, progressive productivity, and acceptable job performance.

**RAD 101, Introduction to Radiography 4-2-5** (Prerequisite: Program admission) Provides the student with an overview of radiography and patient care. Students will be oriented to the radiographic profession as a whole. Emphasis will be placed on patient care with consideration of both physical and psychological conditions. Topics include: ethics, medical and legal considerations, "Right to Know Law," professionalism, basic principles of radiation protection, basic principles of exposure, equipment introduction, health care delivery systems, hospital and departmental organization, hospital and technical institution affiliation, body mechanics/ transportation, medical emergencies, pharmacology/contrast agents/media, OR and mobile procedures, patient preparation, and death and dying.

**RAD 107, Principles of Radiographic Exposure I 3-3-4** (Prerequisite: RAD 101) Introduces knowledge of the factors that govern and influence the production of the radiographic image on radiographic film. Laboratory experiences will demonstrate applications of theoretical principles and concepts. Emphasis will be placed on knowledge and techniques required to process radiographic film. Topics include: radiographic density, radiographic contrast, recorded detail, distortion, exposure latitude, film holders and intensifying screens, processing area considerations, chemicals, handling and storage of film, characteristics of films utilized in radiographic procedures, automatic processor, artifacts, silver recovery, processing quality assurance concepts, and state and federal regulations; and basic principles of digital imaging.

**RAD 108, Radiographic Procedures I-A 2-4-0-4** (Corequisite: RAD 101) Introduces the knowledge required to perform radiographic procedures applicable to human anatomy. Emphasis will be placed on the production of quality radiographs, and laboratory experiences will demonstrate the application of theoretical principles and concepts. Topics include: introduction to radiographic procedures, positioning terminology, positioning considerations, procedures, anatomy, and topographical anatomy related to body cavities, upper extremities, and the shoulder girdle, anatomy and routine projections of the lower extremities, and anatomy and routine projections of the pelvic girdle.

**RAD 110, Radiographic Procedures II-A 3-3-4** (Prerequisites: RAD 101 and RAD 108) Continues to develop the knowledge required to perform radiographic procedures. Topics include: anatomy and routine projections of the spine, anatomy and routine projections of the bony thorax-gastrointestinal (GI) procedures; genitourinary (GU) procedures; and anatomy and procedures of the biliary system.

**RAD 112, Radiographic Procedures III-A 3-3-4** (Prerequisite: RAD 110) Continues development of the knowledge and skills required prior to execution of radiographic procedures in the clinical setting. Topics include: anatomy and routine projections of the cranium; anatomy and routine projections of the facial bones; sectional anatomy of the head, thorax, and abdomen; and minor system procedures.

**RAD 116, Principles of Radiographic Exposure II 3-0-3** (Prerequisite: RAD 107) Continues to develop knowledge of the factors that govern and influence the production of the radiographic image on radiographic film and digital image acquisition. Topics include: beam limiting devices, beam filtration, scattered/secondary radiation, control of the remnant beam, technique formation, and exposure calculations.

**RAD 117, Radiographic Imaging Equipment 3-3-4** (Prerequisite: RAD 116) Provides knowledge of equipment routinely utilized to produce diagnostic images. Various recording media and techniques are discussed. Topics include: radiographic equipment, image intensified fluoroscopy, recording media and techniques, image noise, other imaging equipment, digital imaging/PACS, monitoring and maintenance, and state and federal regulations.

**RAD 119, Radiography Pathology and Medical Terminology 3-0-3** (Prerequisite: RAD 101) Provides the student with an introduction to the concepts of disease. Pathology and disease as they related to various radiographic procedures are discussed. Topics include: pathology fundamentals, trauma/physical injury, systemic classification of disease and medical terminology.

**RAD 120, Principles of Radiation Biology and Protection 5-0-5** (Prerequisite: RAD 134) Provides instruction on the principles of cell radiation interaction. Radiation effects on cells and factors affecting cell response are presented. Acute and chronic effects of radiation are discussed. Topics include: radiation detection and measurement, patient protection, personnel protection, maximum permissible dose (MPD), agencies and regulations, introduction to radiation biology, cell anatomy, radiation/cell interaction, and effects of radiation.

**RAD 123, Radiologic Science 5-0-5** (Prerequisite: RAD 134) Introduces the concepts of basic physics and emphasizes the fundamentals of x-ray generating equipment. Topics include: atomic structure, structure of matter, magnetism and electromagnetism, electrodynamics, and control of high voltage and rectification, x-ray tubes, x-ray circuits, and production and characteristics of radiation.

**RAD 126, Radiologic Technology Review 4-0-4** (Prerequisite: RAD 134) Provides a review of basic knowledge from previous courses and helps the student prepare for national certification examinations for radiographers. Topics include: principles of radiographic exposure, radiographic procedures, anatomy, physiology, pathology, and terminology, radiologic science and equipment, radiation protection, and patient care techniques.

**RAD 132, Introductory Clinical Radiography I 0-2-12-5** (Corequisites: RAD 101, RAD 108) Introduces students to the hospital clinical setting and provides an opportunity for students to participate in or observe radiographic procedures. Topics include: orientation to hospital areas and procedures, orientation to mobile/surgery, orientation to radiography and fluoroscopy, participation in and/or observation of procedures related to body cavities, the shoulder girdle, and upper extremities. Activities of students are under direct supervision.

**RAD 133, Clinical Radiography II 0-21-7** (Prerequisites: RAD 101, RAD 108, RAD 132. Corequisites: RAD 110, RAD 107) Continues introductory student learning experiences in the hospital setting. Topics include: equipment utilization, exposure techniques, participation in and/or observation of routine projections of the lower extremities, pelvic girdle, spine, and bony thorax, and participation in and/or observation of procedures related to the gastrointestinal (GI), genitourinary (GU), and biliary systems. Execution of radiographic procedures will be conducted under direct and indirect supervision.

**RAD 134, Clinical Radiography III 0-21-7** (Prerequisite: RAD 133. Corequisites: RAD 112, RAD 116) Provides students with continued hospital setting work experience. Students improve skills in executing procedures introduced in Radiographic Procedures and practiced in previous clinicals. Topics include: equipment utilization, exposure techniques, participation in and/or observation of gastrointestinal (GI), genitourinary (GU), and biliary system procedures, and participation in and/or observation of cranial and facial radiography. Execution of radiographic procedures will be conducted under direct and indirect supervision..

**RAD 135, Clinical Radiography IV 0-21-7** (Prerequisites: RAD 112 and RAD 134, Corequisites: RAD 120 and RAD 123) Provides students with continued hospital setting work experience. Students continue to develop proficiency in executing procedures introduced in Radiographic Procedures. Topics include: patient care; behavioral and social competencies; sterile techniques, participation in and/or observation of minor special procedures, special equipment use, and genitourinary system procedures, and participation in and/or observation of cranial and facial radiography. Execution of radiographic procedures will be conducted under direct and indirect supervision.

**RAD 136, Clinical Radiography V 0-21-7** (Prerequisite: RAD 135. Corequisite: RAD 119) Provides students with continued hospital setting work experience. Students demonstrate increased proficiency levels in skills introduced in Radiographic Procedures and practiced in previous clinical radiography courses. Topics include: advanced radiographic anatomy, equipment utilization, exposure techniques, sterile techniques, participation in and/or observation of angiographic, interventional, minor special, and special genitourinary system procedures, and participation in and/or observation of special equipment use; patient care; and behavioral and social competency. Execution of radiographic procedures will be conducted under direct and indirect supervision.

**RAD 137, Clinical Radiography VI 0-4-24-10** (Prerequisite: RAD 136. Corequisite: RAD 117) Provides a hospital setting in which students continue to develop proficiency levels in skills introduced in previous Radiographic courses and practiced in previous clinical radiography courses —Topics include: patient care; behavioral and social competency; equipment utilization; exposure techniques; and participation in and/or observation of routine and special radiographic procedures. Execution of radiographic procedures will be conducted under direct and indirect supervision.

**RAD 138, Clinical Radiography VII 0-4-24-10** (Prerequisite: RAD 137. Corequisite: RAD 126) Provides a culminating hospital setting work experience which allows the students to synthesize information and procedural instruction provided throughout the program. Topics include: patient care; behavioral and social competency; equipment utilization; exposure techniques; participation in and/or observation of routine and special radiographic procedures; and final completion of all required clinical competencies. Execution of radiographic procedures will be conducted under direct and indirect supervision.

**RDG 096, Reading II 5-0-5 I.C.** (Prerequisite: Admission placement testing) Emphasizes the strengthening of fundamental reading competencies. Topics include: vocabulary development, comprehension skills, study skills, and occupational/survival reading.

**RDG 097, Reading III 5-0-5 I.C.** (Prerequisite: Admission placement testing) This course emphasizes vocabulary, comprehension, and critical reading skills development. Topics include: vocabulary skills, comprehension skills, critical reading skills, study skills, and content area reading skills.

**RDG 098, Reading IV 5-0-5 I.C.** (Prerequisite: RDG 097 or admission placement testing) This course provides instruction in vocabulary and comprehension skills with emphasis on critical reading skills. Topics include: vocabulary skills, comprehension skills, critical reading skills, study skills, and content area reading skills.

**RTT 111, Pharmacology 5-0-5** (Prerequisites: RTT 193, RTT 112, RTT 113. Corequisites: RTT 209, RTT 210, RTT 211) Introduces the physiologic and pharmacologic basis of pulmonary and cardiac medications. Focuses on the preparation and calculation of dosages and mixtures and general principles of pharmacology. Topics include: drug preparation, dosage calculation, mixture preparation, pharmacology principles, bronchoactive drugs, and cardiopulmonary system related drugs such as neuromuscular blocking agents, central nervous system depressants, cardiovascular agents, and diuretics.

**RTT 112, Introduction to Respiratory Therapy 5-0-5** (Corequisites: RTT 193, RTT 113) Provides students with the principles of chemistry and physics as they apply to Respiratory Care Technology. Emphasizes specific modes of respiratory care in order to understand principles of application to patients, indications, hazards, contraindications, evaluation of therapy and patient assessment. Topics include: respiratory therapy chemistry and physics principles, patient assessment, medical gases, humidity/aerosol therapy, positive pressure breathing, incentive spirometry, postural drainage, percussion/vibration, universal precautions, and hospital safety.

**RTT 113, Respiratory Therapy Lab I 0-10-5** (Corequisites: RTT 193 and RTT 112) Provides students with the opportunity to gain hands-on experience with basic Respiratory Care Technology equipment. Students perform simulated clinical exercises as well as bedside assessments and cardiopulmonary resuscitation. Topics include: patient assessment, medical gases, humidity/aerosol therapy, positive pressure breathing, incentive spirometry, postural drainage, and percussion/vibration.

**RTT 193, Cardiopulmonary Anatomy and Physiology 10-0-10** (Prerequisite: Program admission) Provides an in-depth study of cardiac and pulmonary anatomy and physiology, and the diagnostic procedures commonly used in the hospital to evaluate these systems. Emphasizes the heart-lung relationship and clinical applications of these phenomena in the cardiopulmonary system. Topics include: respiratory function, ventilatory mechanisms, gas transport, laboratory analysis, natural and chemical regulation of breathing, circulation, blood flow and pressure, and cardiac function, and renal physiology.

**RTT 209, Clinical Practice I 0-8-2** (Prerequisites: RTT 112, 113, and 193. Corequisites: RTT 111, RTT 210, RTT 211) Introduces students to clinical practice in basic respiratory care procedures. Topics include: introduction to clinical affiliate, medical gas therapy, oxygen therapy, aerosol therapy, incentive spirometry, patient assessment, and cardiopulmonary resuscitation.

**RTT 210, Clinical Practice II 0-8-2** (Corequisites: RTT 111, RTT 209, RTT 211) Continues to develop skills used in the clinical practice I. Topics include: medical gas therapy, oxygen therapy, aerosol therapy, incentive spirometry, and patient assessment.

**RTT 211, Pulmonary Disease 5-0-5** (Prerequisites: RTT 112, RTT 113, and 193. Corequisites: RTT 111, RTT 209, RTT 210) Provides students with information concerning assessment of etiology, pathophysiology, treatment and prognosis of common cardiopulmonary, cardiovascular, and pulmonary diseases and conditions. Topics include: infectious diseases and conditions, respiratory diseases and conditions, neuromuscular diseases and conditions, cardiovascular diseases and conditions, patient assessment, laboratory testing, chest radiography, and trauma.

**RTT 212, Critical Respiratory Care 5-0-5** (Prerequisites: RTT 111, RTT 209, RTT 210, RTT 211. Corequisites: RTT 213, RTT 218, RTT 219) Provides students with knowledge on all phases of adult critical care and continuous mechanical ventilation. Topics include: mechanical ventilation history, adult critical care, continuous mechanical ventilation, ventilator implementation, ventilation monitoring, ventilator weaning, and ventilator discontinuance.

**RTT 213, Mechanical Ventilation Equipment and Airway Care 2-7-5** (Prerequisites: RTT 111, RTT 209, RTT 210, RTT 211, Corequisites: RTT 212, RT 218, RTT 219) Provides instruction in the theory, set-up, operation, and maintenance of mechanical ventilators and equipment used to establish and maintain both adult and pediatric airways, and emergency airway disorders. Topics include: ventilator operation, ventilator maintenance, emergency airway disorders, adult airway establishment and maintenance, pediatric airway establishment and maintenance, fiberoptic bronchoscopy, thoracentesis, chest tube maintenance, and arterial blood gas sampling.

**RTT 214, Advanced Critical Care Monitoring 2-0-2** (Prerequisites: RTT 212, RTT 213, RTT 218, RTT 219. Corequisites: RTT 220) Provides a study of advanced critical care techniques for hemodynamic and noninvasive monitoring. Topics include: arterial pressure monitoring, central venous catheters, pulmonary artery catheters, cardiac output measurement, and noninvasive monitoring techniques.

**RTT 215, Pulmonary Function Testing 1-1-1** (Prerequisites: RTT 111, RTT 193, RTT 209, RTT 210, RTT 211.) Provides knowledge on normal and abnormal pulmonary functions. Emphasizes performance, interpretation, and evaluation of various pulmonary function studies. Topics include: pulmonary function testing, pulmonary function interpretation, pulmonary function evaluation, and blood gas analysis.

**RTT 216, Pediatric and Neonatal Respiratory Care 3-0-3** (Prerequisites: RTT 212, RTT 213, RTT 218, and RTT 219.) Provides concepts on the processes of growth and development related to respiratory care from the fetus to the adolescent. Relates physiologic function to respiratory care and assessment. Topics include: fetal growth and development, neonatal growth and development, fetal assessment, neonatal assessment, neonatal respiratory care, neonatal pathology, pediatric pathology, adolescent assessment, and adolescent respiratory care.

**RTT 217, Advanced Respiratory Care Seminar 5-0-5** (Prerequisites: RTT 214, RTT 220) Review of Respiratory Care Technology as it pertains to the national credential examination administered by the NBRC. Emphasizes decision making and problem solving as they relate to clinical respiratory care. Topics include: medical ethics, basic computer literacy, CRTT exam preparation, and RRT exam preparation.

**RTT 218, Clinical Practice III 0-8-2** (Prerequisites: RTT 111, RTT 209, RTT 210, RTT 211) Provides experience in which students continue to develop proficiency levels in clinical skills introduced in Clinical Practice I and II. In addition, intermittent positive pressure breathing, chest physiotherapy, and airway care are introduced. Case presentations are required to integrate clinical and classroom theory. Topics include: intermittent positive pressure breathing, chest physiotherapy, airway care, medical gas therapy, oxygen therapy, aerosol therapy, incentive spirometry, and patient assessment.

**RTT 219, Clinical Practice IV 0-8-2** (Prerequisites: RTT 111, RTT 209, RTT 210, RTT 211) Provides experience in which students continue to develop proficiency in skills introduced in clinical practicals I, II, and III. In addition, the student is introduced to critical respiratory care. Case presentations are required to integrate clinical and classroom theory. Topics include: intermittent positive pressure breathing, chest physiotherapy, airway care, medical gas therapy, oxygen therapy, aerosol therapy, incentive spirometry, patient assessment, and basic respiratory care of the critical patient.

**RTT 220, Clinical Practice V 0-16-5** (Prerequisites: RTT 212, RTT 213, RTT 218, RTT 219) Continues development of skills required in the intensive care of the respiratory patient. Case presentations are required to integrate clinical and classroom theory. Topics include: basic respiratory care of critical care patients, airway management, ventilator monitoring, arterial blood collection, blood gas analysis, and EKG.

**RTT 222, Clinical Practice VI 0-32-10** (Prerequisites: RTT 214, RTT 216, RTT 220, RTT 227. Corequisite: RTT 217) Provides students with an opportunity for in-depth application and reinforcement of adult intensive care. In addition, students are provided an opportunity for application and reinforcement of pediatric and neonatal intensive care, advanced diagnostics, and rehabilitation/home care. Topics include: mechanical ventilation initiation, patient stabilization, critical care monitoring, hemodynamic measurement, hemodynamic evaluation, bronchial hygiene, weaning mechanics, extubation, arterial line sampling, and specialty rotation through neonatal/ pediatrics, advanced diagnostics, and rehabilitation/home care.

**RTT 227, Rehabilitation and Home Care 1-1-1** (Prerequisites: RTT 212, RTT 213, RTT 218, RTT 219) Provides an overview of the concepts, procedures and equipment used in rehabilitation and in the delivery of long-term care to persons with chronic pulmonary disorders. Topics include: cardiopulmonary rehabilitation/home care concepts, cardiopulmonary rehabilitation/home care procedures, and cardiopulmonary rehabilitation/home care equipment.

**SCT 100, Introduction to Microcomputers 1-4-3** (Prerequisite: Provisional admission) Introduces fundamental concepts and operations necessary to use microcomputers. Emphasis is placed on basic functions and familiarity with computer use. Topics include: computer terminology, introduction to the Windows environment, introduction to networking, introduction to word processing, introduction to spreadsheets, and introduction to databases.

**SMB 101, Planning For Success 5-0-5** Provides the student with an understanding of the planning process as it relates to owning and operating a business. Students choose an idea for a new business and then evaluate, refine, and expand that initial concept into a written feasibility business plan.

**SMB 102, Business Startup Fundamentals 5-0-5** Provides the student with the various options available when considering legal structure and financing. Presents an overview of licensing and permitting requirements as well as the importance of keeping good financial records, risk management, market research and analysis, budgeting, pricing, and market penetration methods related to the business plan.

**SMB 103, Legal Environment for Small Business 5-0-5** Introduction to law and its relationship to business. Combines legal theory with actual cases providing practical answers to common dilemmas often faced by beginning entrepreneurs thus saving time and money.

**SOC 1101, Introduction to Sociology 5-0-5** (Prerequisite: associate degree placement testing) Explores the sociological analysis of society, its culture, and structure. Sociology is presented as a science with emphasis placed on its methodology and theoretical foundations. Topics include: basic sociological concepts; socialization; social interaction and culture; social groups and institutions; deviance and social control; social stratification; social change; and marriage and family.

**SPC 1101, Public Speaking 5-0-5** (Prerequisite: associate degree placement testing) Introduces the fundamentals of oral communication. Topics include: selection and organization of materials; preparation and delivery of individual and group presentations; analysis of ideas presented by others; and professionalism.

**SUR 101, Introduction to Surgical Technology 5-2-6** (Prerequisite: Program admission. Corequisites: AHS 104, SUR 108, SUR 109, and SUR 110.) Provides an overview of the surgical field and develops the fundamental concepts and principles necessary for successful participation on a surgical team. Topics include: orientation to Surgical Technology, asepsis and the surgical environment, basic instrumentation and equipment, principles of the sterilization process, and application of sterilization principles.

**SUR 102, Principles of Surgical Technology 4-3-5** (Prerequisite: SUR 101. Corequisite: SUR 112) Provides continued study of surgical team participation by wound management and technological sciences for the operating room. Topics include: biomedical principles; minimal invasive surgery; outpatient surgical procedures; hemostasis; wound healing; surgical dressings, catheters and drains; incisions; and tissue handling techniques.

**SUR 108, Surgical Microbiology 3-0-3** (Prerequisite: Program admission. Corequisites: AHS 104, SUR 101, SUR 109, SUR 110) Introduces the fundamentals of surgical microbiology. Topics include: historical development of microbiology, cell structure and theory, microbial function, human and pathogen relationships, infectious process, bloodborne and airborne pathogens, defense microorganisms, infection control, and principles of microbial control and destruction.

**SUR 109 - Surgical Patient Care 2-2-0-3** (Prerequisite: Program admission. Corequisites: AHS 104, SUR 101, SUR 108, and SUR 110) Introduces a complex diversity of surgical patients. Topics include: Biopsychosocial diversities and needs, preoperative routine, intraoperative patient care, postoperative patient care, and health and wellness.

**SUR 110, Surgical Pharmacology 2-2-3** (Prerequisite: Program admission. Corequisites: SUR 101, SUR 108, SUR 109) Introduces the fundamentals of intraoperative pharmacology, and emphasizes concepts of anesthesia administration. Topics include: weights and measurements, drug conversions, interpretation of drug orders, legal intraoperative pharmacologic agents, legal aspects of drug administration, and anesthesia fundamentals.

**SUR 112, Introductory Surgical Practicum 0-21-7** (Prerequisites: AHS 104, SUR 101 - taken no longer than 6 months prior to enrollment in SUR 112, SUR 108, SUR 109, SUR 110. Corequisite: SUR 102) Orients students to the clinical environment and provides experience with basic skills necessary to the surgical technologist. Topics include: scrubbing, gowning, gloving, and draping, assistance with patient care, processing of instruments and supplies, creation and maintenance of a sterile field, basic instrumentation, and environmental sanitation.

**SUR 203, Surgical Procedures I 5-2-6** (Prerequisites: SUR 102, SUR 112. Corequisite: SUR 213). Continues introduction to surgical procedures, incisions, wound closure, operative pathology, and common complications as applied to general and specialty surgery. Topics include: general surgery and special techniques, obstetrical and gynecological surgery, gastrointestinal surgery, genitourinary surgery, head and neck surgery, and plastic and reconstructive surgery.

**SUR 204, Surgical Procedures II 5-2-6** Prerequisites: SUR 203 and SUR 213. Corequisites: SUR 214 and SUR 224.) Continues development of student knowledge and skills applicable to specialty surgery areas. Topics include: ophthalmic surgery, orthopedic surgery, thoracic surgery, vascular surgery, cardiovascular surgery, and neurosurgery..

**SUR 213, Specialty Surgical Practicum 0-24-8** (Prerequisites: SUR 102, SUR112. Corequisite: SUR 203. ) Continues development of surgical team participation through clinical experience. Emphasis is placed on observation/participation in routine procedures and procedures for general and specialty surgery. Topics include: participation in and/or observation of general surgery, gastrointestinal surgery, obstetrical and gynecological surgery, genitourinary surgery, head and neck surgery, and plastic and reconstructive surgery.

**SUR 214, Advanced Specialty Surgical Practicum 0-24-8** (Prerequisites: SUR 203 and SUR 213. Corequisites: SUR 204 and SUR 224. ) Provides opportunity for students to complete all required surgical technology procedures through active participation in surgery in the clinical setting. Topics include: primary scrub on specialty surgical procedures, participation as a surgical team conducting ophthalmic, orthopedic, thoracic, vascular, cardiovascular, and neurosurgery procedures, independent case preparation and implementation of intraoperative skills, and demonstration of employability skills.

**SUR 224, Seminar in Surgical Technology 3-0-3.** (Prerequisites: SUR 203 and SUR 213. Corequisites: SUR 204 and SUR 214.) Prepares students for entry into careers as surgical technologists and enables them to effectively review for the national certification examination. Topics include: professional credentialing, certification review, and test-taking skills.

**TDG 110, Statics and Strength of Materials 4-3-5** (Prerequisites: MAT 1015 and MET 100) Emphasizes the study of forces and moments and the resulting stresses in structural components. Topics include: forces, moments, normal stress, shearing stress, deformation, strain, bending, torsion, factors of safety, shear and moment diagrams, properties of areas, stress concentrations and standards cross-sections. Laboratory work parallels class work.

**TDG 111, Architectural Site, Floor Plan Graphics 2-6-4** (Prerequisite: DDF 191) Orients the student to small commercial architectural projects and gives a basic understanding of CAD used in practice to produce a set of building construction documents. The student will be required to create a floor plan and site plan and a building section using CAD. An understanding of architectural and construction terminology and procedures will be taught.

**TDG 112, Architectural, Mechanical, and Electrical Planning and Drawing 2-6-4** (Prerequisites: DDF 191 and TDG 111) An extension of TDG 111, this course completes the building floor plan and site plan to add the plumbing, mechanical and electrical (MEP) components to a small commercial building. The student will gain an understanding of the basic terminology and concepts, and will apply this information to produce CAD drawings showing the MEP building layout.

**TDG 113, Architectural, Mechanical, and Construction Methods 2-6-4** (Prerequisites: DDF 191, TDG 111) The student will follow the construction of small commercial buildings from the footings to the roofing and focuses on the order of construction and various materials used in the construction following the 16 section CSI materials format. Light gage metal, wood, masonry and steel construction shall be examined. Wall sections of a various materials comparing construction types shall be produced on CAD.

**TDG 114, Computer-aided System Customizing 2-6-4** (Prerequisites: MET 204 or TDG 111) Emphasizes the customizing of CAD software by creating macros or sub routines to execute drawing procedures designed to increase productivity. Programming languages such as AutoLISP are studied and drawings are created using student generated procedures.

**TDG 116 Architectural Presentation, 2-6-4** (Prerequisites: DDF 191, TDG 111) Focuses on the study of architectural presentation methods. Presentation graphics and concepts for architectural presentations will be presented using a 3D architectural CAD package and graphics illustration and animation packages such as 3D Studio Max, 3D Studio Viz, or Revit.

**TDG 120 Manufacturing Processes, 3-3-4** (Prerequisite: MAT 1013) Introduces the student to basic modern manufacturing processes. Topics include: hot and cold metal working, forming and joining, manufacturing using ceramic and polymers materials.

**TDG 121 Major Project 1-6-3** (Prerequisites: MET 215 or TDG 112) A project from the students' major specialization is developed from conception to final presentation. The project includes function and design analysis, concept sketches, working drawings and presentation techniques.

**TEL 108 Network Installation and Repair I 4-0-6-6** (Prerequisite: Provisional admission) Teaches the installation, testing, and repair of simple and complex network systems. Extensive laboratory activities give practical hands-on experience with various telephone systems. Topics include: straight line station apparatus and wiring, special apparatus systems, multi-line systems, isolation faults, line testing, key systems programming, and customer relations.

**TEL 110 Network Transmission Concepts 3-2-0-4** (Prerequisite: Provisional admission) Provides an introduction to the basic concepts of network transmission. Topics include: introduction to frequency and bandwidth, delineation of signal types and characteristics, methods of modulation and detection, transmission modes, characteristics of transmission media, noise and distortion levels, and multiplexing.

**VAS 110, Vascular Fundamentals 3-0-3-4.** (Prerequisites: Provisional Admission. Corequisites: AHS 104, CVT 103, CVT 110, CVT 111.) Introduces the basic principles and applications of physical assessment of non-invasive cardiovascular procedures. Topics include: patient and equipment skills related to vascular technology; basic views, terminology, physical principles, and instrumentation. Emphasis is placed on learning methods, patient care techniques and issues related to sonography, introduction to ultrasound procedures, sonographic terminology, patient interviews, elementary principles of sound waves, sonographic imaging techniques, communication and cultural diversity skills, ethic and professionalism, development of critical thinking skills, legal issues, and issues concerning the clinical environment. Topics include hospital and departmental organization and proper body mechanics when scanning, safety procedures and bloodborne pathogens.

**VAS 136, Basic Extremity Testing 3-2-3-5.** (Prerequisites: CVT 104, DMS 133, DMS 136, VAS 141. Corequisites: AHS 102, DMS 202, VAS 136, VAS 143.) This course provides lecture and group discussions to understand and demonstrate proficiency in measuring ankle/brachial pressure ratios; aorta/renal ratios; resistance and pulsatility index; carotid artery ratios; velocity changes in vessels; B-mode measurements including diameter and area, and to identify normal vascular flow patterns and waveform. Topics include: test validation, measurements, and quantitative principles of noninvasive vascular testing and aorta, renal and carotid quantitation.

**VAS 141, Basic Cerebrovascular & Extremity Venous 2-2-3-4.** (Prerequisites: CVT 103, CVT 110, CVT 111, AHS 104, VAS 110. Corequisites: CVT 104, DMS 133, DMS 136, ECH 155, VAS 141.) This course will provide a thorough understanding of the cerebrovascular anatomy, physiology, and pathology. The clinical assessment of patients for cerebrovascular disease will be discussed to include normal and abnormal anatomy. This course will discuss non-invasive and invasive tests for cerebrovascular procedures. Patient factors and patient histories will be described. The course will also provide a thorough understanding of the anatomy, physiology and pathology of extremity venous procedures. As well as, the clinical assessment of patients with acute and chronic venous disease will be discussed. A description of noninvasive tests used to evaluate extremity venous vascular examinations will be discussed. Topics include: extremity venous anatomy, laboratory results, test validation, noninvasive tests: duplex imaging and plethysmography, patient history, risk factors and contributing disease, extremity venous pathology, treatment of venous disease, cerebrovascular anatomy, invasive cerebrovascular tests, sonographic appearance of cerebral artery disease, non-invasive cerebrovascular exams, and physical examination.

**VAS 143, Vascular Clinical I 0-0-24-8.** (Prerequisites: CVT 104, VAS 141, DMS 133, DMS 136, ECH 155. Corequisites: AHS 102, DMS 202, VAS 136.) Provides the student opportunities to observe and participate in the diagnostic procedures performed in the noninvasive vascular laboratory and radiology departments that are clinical affiliates. Procedures are performed under the direct supervision of an appropriately credentialed technologist. Topics include: equipment utilization; patient history, identifying risk factors, and contributing disease; procedural skills and patient care; extremity venous vascular procedures, cerebrovascular testing, indirect testing, and proper ergonomic scanning.

**VAS 144, Vascular Clinical II 0-0-24-8.** (Prerequisites: AHS 102, DMS 202, VAS 136, VAS 143. Corequisites: VAS 202, VAS 203.) Provides the student opportunities to participate and perform competencies achieved in the noninvasive vascular laboratories and radiology departments. Also, the student will practice competencies to include abdominal, visceral and extremity venous vascular procedures. Topics include: equipment utilization; patient history, identifying risk factors, and contributing disease; procedural skills and patient care; extremity venous vascular procedures, cerebrovascular testing, advanced cerebrovascular testing, extremity arterial vascular procedures, and indirect testing.

**VAS 202, Advanced Cerebrovascular 2-0-3-3.** (Prerequisites: AHS 102, DMS 202, VAS 136, VAS 143. Corequisites: VAS 203, VAS 144.) This course provides a thorough understanding of the cerebrovascular anatomy, physiology, and pathology. The clinical assessment of patients for cerebrovascular disease is discussed, including normal and abnormal anatomy. Patient factors and patient histories are described. Topics include: cerebrovascular anatomy, invasive cerebrovascular tests, physical examination, noninvasive cerebrovascular exams, cerebral artery disease, TCDs, and carotid artery studies.

**VAS 203, Arterial Duplex 2-0-3-3.** (Prerequisites: AHS 102, DMS 202, VAS 136, VAS 143. Corequisites: VAS 202, VAS 144.) The course will provide a thorough understanding of the anatomy, physiology and pathology of extremity arterial vascular procedures. The clinical assessment of patients with acute and chronic arterial disease will be discussed. A description of noninvasive tests used to evaluate extremity arterial vascular examinations. Topics include: anatomy, physical examination, noninvasive physiologic testing of extremity, patient history, arterial vascular procedures, contributing diseases, and risk factors.

**VAS 205, Therapeutic and Interventional 2-2-0-4.** (Prerequisites: VAS 144, VAS 202, VAS 203. Corequisites: VAS 230, VAS 242, VAS 245.) This course includes a description and explanation of therapeutic intervention and other diagnostic tests that may be performed at locations other than a vascular lab to diagnosis venous, cerebral and arterial diseases. Topics include: therapeutic intervention, compression therapy, medical therapy, invasive diagnostic tests, surgical therapy, noninvasive diagnostic tests, and nonsurgical intervention.

**VAS 215, Vascular Physical Principles & Instrumentation Registry Review 2-0-0-2.** (Prerequisites: VAS 205, VAS 230, VAS 242, VAS 245. Corequisites: VAS 220, VAS 246.) Provides a review of basic knowledge from previous courses and helps the student prepare for a national certification examinations for sonography. Information concerning test taking skills will also be reviewed. Course review includes physics, patient care, equipment/image manipulation, scanning procedures, bioeffects and safety. Emphasis will be placed on those items/issues/topics which are part of the certification examination. Topics include: propagation of ultrasound through tissues, principles of pulse echo imaging, quality assurance of ultrasound instruments, elementary principles, bioeffects and safety, ultrasound transducers and pulse echo instruments.

**VAS 220, Comprehensive Vascular Technology Registry Review 2-0-0-2.** (Prerequisites: VAS, 205, VAS 230, VAS 242, VAS 245. Corequisites: VAS 215, VAS 246.) This course will provide the student with an overall review of Vascular Ultrasound Technology and prepare the student for the registry exam. Topics include: normal and abnormal vascular anatomy; pharmacology; pathophysiology; hemodynamics /physics; test validation and measurements; vascular diagnostic procedures; and laboratory values.

**VAS 230, Essentials of Vascular Sonography (Non-invasive) 1-0-3-2.** (Prerequisites: VAS 202, VAS 203, VAS 144. Corequisites: VAS 205, VAS 242, VAS 245.) This course is designed as an introduction into the field of vascular sonography. The general practitioner will be required to perform venous examinations of the lower extremity, arterial studies of the neck, and some Doppler studies within the abdomen. For these areas much greater depth will be reached. The field of vascular sonography is much wider and encompassing than these three areas. The broader field of vascular sonography will be introduced but not studied at length or in depth. Emphasis is on the functional workings and settings associated with Doppler signals and waveforms. Topics include: machine/image settings for Doppler imaging; venous imaging of the lower extremities; arterial imaging of the neck; and vascular imaging of the abdomen, including aorta and its primary branches, vena cava, portal and hepatic veins, and renal arteries and veins.

**VAS 242, Abdominal Vascular 3-0-3-4.** (Prerequisites: VAS 144, VAS 202, VAS 203. Corequisites: VAS 205, VAS 230, VAS 245.) Lecture and laboratory course provides instruction in abdominal and visceral vascular anatomy and physiology. This includes the sonographic appearance, testing modalities, and test results in normal and abnormal body systems using duplex imaging. Topics include: patient history, laboratory results, duplex imaging, risk factors and contributing diseases, mechanisms of disease, anatomy, physical examination, and pathology.

**VAS 245, Vascular Clinical III 0-0-24-8.** (Prerequisites: VAS 202, VAS 203, VAS 144. Corequisites: VAS 205, VAS 230, VAS 242, VAS 145.) This course provides opportunities for the student to participate in and perform with assistance procedures performed in noninvasive vascular laboratories, radiology departments, imaging centers, and surgical departments. Continued participation by the student will progressively lead to the unassisted performance of diagnostic procedures under the supervision of an appropriately credentialed technologist. Emphasis is placed on medical therapy, surgical therapy, and other diagnostic tests performed in settings other than vascular laboratories. Topics include: equipment utilization; patient history; procedural skills and patient care; cerebrovascular procedures; therapeutic intervention; diagnostic tests for vascular diseases; carotid, arterial, venous, limited TCD, and limited abdominal duplex; and imaging and measuring abdominal organs and recognizing normal and abnormal echo patterns.

**VAS 246, Vascular Clinical IV 0-0-30-10.** (Prerequisites: VAS 205, VAS 230, VAS 242, VAS 245. Corequisites: VAS 215, VAS 220.) This course provides a culminating clinical setting experience which allows students to analyze information and procedural instruction provided throughout the program. In a variety of settings, students perform all noninvasive vascular procedures independently with the supervision of an appropriately credentialed technologist. They also participate in procedures such as abdominal and visceral, extremity venous, extremity arterial, and cerebrovascular. Emphasis is placed on skill level improvement and final completion of all required clinical competencies presented in previous courses and practiced in previous clinical vascular courses. Topics include: professional conduct; infection control techniques; patient history; imaging and measuring abdominal organs and recognizing normal and abnormal echo pattern; scope of practice of a vascular technologist; transporting patients; duplex, indirect, and TCD machine utilization; equipment utilization; procedural skills and patient care; and vascular procedures.

**VCM 224, Web Graphics 2-2-3-4** (Prerequisites: Program admission) Emphasizes the creation of web-ready graphics using image-editing software. Topics include: compression, file formats, rollover states, transparency, background files, image levels, global slicing and hot spots, and global color space.

**VCM 227, Introduction to Web Design 2-2-3-4** (Prerequisites: VCM 224) Provides a study of web page design. Topics include: history of the Internet terminology, using web page applications, site planning, navigation, plug-ins, project planning, storyboarding, special effects and graphics, and relational database.

**VCM 230, Web Animation 2-2-3-4** (Prerequisites: PGT 103 or VCM 227 or MCM 201) Introduction to animated sound and image files and their application to the Internet. Topics include: storyboarding, frames, timing, tweening, motion, file formats, exporting files, scripts, animating text, layering, and bandwidth.

**VCM 233, Advanced Web Design 2-2-3-4** (Prerequisites: PGT 103) Provides a further application of design and marketing skills. Topics include: navigation design, web site, interactive programs, incorporating animation to websites, incorporating sound with websites, advanced interface design, advanced special effects, and video streaming.

**VCM 240, Portfolios and Presentations Exit Review 1-4-3** (Prerequisites: PGT 103 or MCM 205 or VCM 233, VCM 227) Provides an opportunity to prepare marketing strategies and materials, to revise and develop portfolio presentations, and to benefit from industry review before entering job market. Topics include: understanding portfolio variations, portfolio pacing, interviewing skills, self promotion, marketing, and self editing.

**VID 100, Television Production I 5-0-5** (Prerequisite: Program admission) Introduces the function and operation of the primary tools of TV production (video, audio, and lighting) to develop the student's awareness and understanding of studio procedures. The course includes the concepts, terminology and equipment of multi-camera, live-on-tape production.

**VID 101, Television Production II 3-6-5** (Prerequisite: VID 100) This is a studio-based television production course that builds on basic skills developed in ENT 100. Students will enhance their understanding of the roles of staff and crew persons in video production. Simple pre-production of audio, graphics and video elements will be required for laboratory exercises.

**VID 103, Digital Post-Production 3-6-5** (Prerequisite: VID 101) Introduces the function and operation of the primary tools of TV production (video, audio, and lighting) to develop the student's awareness and understanding of studio procedures. The course includes the concepts, terminology and equipment of multi-camera, live-on-tape production.

**VID 104, Broadcast Law and Ethics 2-0-2** (Prerequisite: Program admission) A study of the legal and ethical issues facing the mass media. The course will focus on the rights, constraints and responsibilities under the U.S. Constitution, federal and state statutes, administrative law, common law and voluntary codes of ethics. Specific topics include: libel, privacy, contempt, copyright, broadcast regulation, the court systems, commercial speech, prior restraint, access, the civil and criminal judicial processes and obscenity.

**VID 205, Field Video Production 2-9-5** (Prerequisites: VID 101 and VID 103) Students will learn the concepts and practices of field and remote video production. Emphasis will be on electronic field production. Students will produce projects, organize staff and edit work into a final broadcast ready product.

**WLD 100, Introduction to Welding Technology 4-4-6** (Prerequisite: Provisional admission) Provides an introduction to welding technology with an emphasis on basic welding laboratory principles and operating procedures. Topics include: industrial safety practices, hand tool and power machine operations, measurement, laboratory procedures, introduction to codes and standards, welding career potentials, basic electricity and power sources, and metals characteristics, preparation, and testing procedures. Laboratory demonstrations parallel class work.

**WLD 101, Oxyfuel Cutting 2-2-4-4** (Prerequisite/Corequisite: WLD 100) Introduces fundamental principles, safety practices, equipment, and techniques necessary for metal heating and oxyfuel cutting. Topics include: metal heating and cutting principles, safety procedures, use of oxyfuel cutting torch and flame cutting apparatus, metal heating and cutting techniques, cutting with manual and automatic cutting machines, and oxyfuel pipe cutting. Practice in the laboratory is provided.

**WLD 103, Blueprint Reading I 1-4-3** (Prerequisite/Corequisite: MAT 1012) Introduces the knowledge and skills necessary for reading welding and related blueprints and sketches. Topics include: basic lines, sketches, basic views, notes and specifications, dimensions, structural shapes, isometrics, sectional views, joint design, and detail and assembly prints.

**WLD 104, Shielded Metal ARC Welding I 3-4-3-6** (Prerequisite: WLD 100) Introduces the fundamental theory, safety practices, equipment, and techniques required for shielded metal arc welding (SMAW) in the flat position. Qualification tests, flat position, are used in the evaluation of student progress toward making industrial standard welds. Topics include: SMAW safety and health practices, SMAW theory, basic electrical principles, introduction to SMAW machines, equipment set-up, identification and selections of low hydrogen, mild steel, and other common electrodes, joint design, selection and preparation of materials, production of materials, and production of beads and joints in the flat position.

**WLD 105, Shielded Metal ARC Welding II 3-4-3-6** (Prerequisite: WLD 104) Introduces the major theory, safety practices, and techniques required for shielded metal arc welding (SMAW) in the horizontal position. Qualification tests, horizontal position, are used in the evaluation of student progress toward making industrial standard welds. Topics include: SMAW safety and health practices, production of welds of uniform width and height, manipulation of electrodes to produce specification welds, horizontal joints, and uses of low hydrogen, mild steel, and other common electrodes in horizontal position welding.

**WLD 106, Shielded Metal ARC Welding III 3-4-3-6** (Prerequisite: WLD 105) Introduces the major theory, safety practices, and techniques required for shielded metal arc welding (SMAW) in the vertical position. Qualification tests, vertical position, are used in the evaluation of student progress toward making industrial standard welds. Topics include: SMAW safety and health practices, production of welds of uniform width and height, manipulation of electrodes to produce specification welds, vertical joints, and applications of low hydrogen, mild steel, and other common electrodes in vertical position welding.

**WLD 107, Shielded Metal ARC Welding IV 3-4-3-6** (Prerequisite: WLD 106) Introduces the major theory, safety practices, and techniques required for shielded metal arc welding (SMAW) in the overhead position. Qualification tests, overhead position, are used in the evaluation of student progress toward making industrial standard welds. Topics include: SMAW safety and health practices, production of welds of uniform width and height, manipulation of electrodes to produce specification welds, overhead joints, and applications of low hydrogen, mild steel, and other common electrodes in overhead position welding.

**WLD 108, Blueprint Reading II 1-4-3** (Prerequisites: WLD 103 and MAT 1012) Emphasizes welding symbols and definitions through which the engineer or designer communicates with the welder. Welding symbols are considered an integral part of blueprint reading for the welder. Topics include: weld symbols and abbreviations, basic joints for weldment fabrications, fillet welds, groove welds, back or backing and melt-thru welds, plug and slot welds, surfacing welds, flash welds and upset welds, and flange, spot, projection, and seam welds.

**WLD 109, Gas Metal ARC Welding (GMAW/MIG) 3-4-3-6** (Prerequisite: WLD 100) Provides knowledge of theory, safety practices, equipment, and techniques required for successful gas metal arc welding. Qualification tests, all positions, are used in the evaluation of student progress toward making industrial standard welds. Topics include: GMAW safety and health practices, GMAW theory, machines, and set-up, wire specifications, joint design, shielding gases, and production of GMAW beads, bead patterns, and joints in all positions.

**WLD 110, Gas Tungsten ARC Welding (GTAW/TIG) 2-2-3-4** (Prerequisite: WLD 100) Provides knowledge of theory, safety practices, inert gas, equipment, and techniques required for successful gas tungsten arc welding. Qualification tests, all positions, are used in the evaluating of student progress toward making industrial standard welds. Topics include: safety and health practices, metals weldable using GTAW, shielding gases, metal cleaning procedures, GTAW machines and equipment set-up, selection of filler rods, GTAW weld positions, and production of GTAW beads, bead patterns, and joints in all positions.

**WLD 112, Preparation for Industrial Qualification 2-6-4** (Prerequisite: WLD 107) Introduces industrial qualification methods, procedures, and requirements. Students are prepared to meet the qualification criteria of selected national welding codes and standards. Topics include: qualification test methods and procedures, codes and standards, fillet and groove weld test specimens, and national industrial student preparation for qualification and job entry.

**WLD 133 - Metal Welding and Cutting Techniques 2-0-3-3** Provides instruction in the fundamental use of the electric arc welder and the oxyacetylene cutting outfit. Emphasis is placed on safe setup and use of equipment. Topics include: arc welding, flame cutting, safety practices, oxyfuel welding, and brazing.

**WLD 150 Advanced Gas Tungsten Arc Welding (Elective) 2-2-6-5** (Prerequisite: WLD 110) Provides knowledge of theory, safety practices, inert gas, equipment, and techniques required for successful advanced gas tungsten arc welding (GTAW). Qualification tests, all positions, are used in the evaluation of student progress toward making advanced level industrial standard welds. Topics include: GTAW safety and health practices; shielding gases; metal cleaning procedures; GTAW machines and equipment set up; selection of filler rods; GTAW weld positions; and advanced production of GTAW beads, bead patterns, and joints.

**WLD 152 Pipe Welding (Elective) 2-2-6-5** (Prerequisites: WLD 107 and WLD 108) Provides the opportunity to apply skills to pipe welding operations. Topics include: pipe welding safety and health practices, pipe welding nomenclature, pipe layout and preparation, pipe joint assembly, horizontal welds on pipe (2G), vertical welds on pipe (5G), and welds on 45 degree angle pipe (6G). A 3.0 GPA or higher is required for passing.

**WLD 153 Flux Cored Arc Welding 2-2-4-5** (Prerequisite: WLD 100) Provides knowledge of theory, safety practices, equipment, and techniques required for successful flux cored arc welding (FCAW). Qualification tests, all positions, are used in the evaluation of student progress toward making industrial standards welds. Topics include: FCAW safety and health practices, FCAW theory, machine set up and operation, shielded gas selection, and FCAW joints in all positions.

**WLD 201, Advanced Pipe Welding 4-16-10** (Prerequisite: Graduate of the Welding Program with B or higher) Provides opportunity to apply skills to pipe welding operations. Topics include: fixed position welds on horizontal pipe, and fixed position welds on vertical and 45 pipe.

## *Faculty and Staff*

**Willie C. Adams, Mail Clerk**

**Nancy Aldridge-Dye, Community Training Center Coordinator, Instructor, EMS**

**Charles Allen, Jr., Instructor, Youth Development Center; Diploma, Augusta Technical College**

**Michael J. Anchor, Coordinator, Safety, Security & Environmental; A.A.S., Augusta Technical College**

**Denise Anderson, Academic Compliance Coordinator; B.S., Brenau University; A.A.S., Truett-McConnell College; Diploma, Augusta Technical College**

**Frances Anthony, Financial Aid Assistant; Diploma, Augusta Technical College**

**John W. Arena, Jr., Department Head, Computer Programming; M.B.A., B.B.A, Brenau University; A.S., Georgia Military College; Diploma, Augusta Technical College**

**Julio Arrieta, Department Head, Industrial Systems Technology; M.S., Troy University; B.S., Southern Illinois University Carbondale; A.E.T., Georgia Military College**

**Jerry Asbach, Department Head, Fire Science; A.S., South Georgia College**

**Louis Audet, Instructor, Learning Support Mathematics; M.B.A., Brenau University; B.A., Moravian College**

**Sarah Ayetey, Accounting Assistant; B.A., University of Cape Coast**

**Kevin Baldwin, Instructor, Electronic Technology; B.S., Southern Illinois University Carbondale**

**Christine Ball, Instructor, Learning Support, Reading; Ed.S., Augusta State University; M.Ed. Troy University; B.A., Paine College**

**Steve Ballard, PC Support Technician**

**Barbara Banning, Instructor, Occupational Therapy Assistant, Fieldwork Coordinator; M.Ed., Troy University; B.S., Medical College of Georgia**

**Katherine Beasley, Instructor, Early Childhood Care and Education; M.Ed., B.S., Georgia Southern University; A.S., Dekalb Community College**

**Lisa Beaver, Purchasing Specialist**

**Eric Bennett, PC Support Technician; A.A.T., Augusta Technical College**

**Cameron Bentley, Instructor, English; M.A.T., The Citadel; B.A., Hollins College**

**William H. Blackledge, Department Head, Machine Tool Technology; Diploma, Columbus Technical Institute**

**Leola M. Bouchard, Instructor, Adult Education; B.S., University of Maine**

**Dianne Bowen, Learning Center Tutor; B.S., Georgia Southern University**

**Kurt Bradley, Department Head, Associate of Applied Science, Business Instructor, Accounting; M.B.A., B.B.A., Augusta State University**

**Arthur Brengettsy, Department Head, Electronics Technology; B.S., Georgia Southern University**

**Jo Ann Brooks, Custodian; Certificate, Augusta Technical College**

**Leroy Brooks, Custodian**

**Rose Brooks, Library/Information Assistant; M.Ed., Troy University, B.S., Limestone College; A.A.T., Augusta Technical College**

**Douglas Broughman, Instructor, Air Conditioning Technology; A.A.S., Washtenaw Community College**

**Patricia Brown, Accounts Payable Clerk; B.B.A., Brenau University; A.A.T., Augusta Technical College**

**Warren Brown, Custodian**

**L.Gene Burke, Department Head, Surgical Technology**

**Gayle Burnham, Financial Aid Assistant; B.A., Mercer University**

**Sonya Burns, Instructor, Medical Assisting; B.B.A., Brenau University; A.A.T., Diploma, Augusta Technical College**

**Patricia Bussey, Custodian**

**Julie B. Carter, Administrative Assistant to the President; B.A., Tift College**

**Melanie Carter, One Stop Facilitator; A.A.S., Southern Wesleyan University**

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## **Campus Locations**

### **Augusta Campus**

The Augusta campus of Augusta Technical College is located at 3200 Augusta Tech Drive, Augusta. Easy access is available from Deans Bridge Road (U.S. Highway 1) and from Lumpkin Road. The Augusta campus is located on a beautifully wooded 70-acre site north of I-520, Bobby Jones Expressway.

### **Thomson/McDuffie Campus**

The Thomson/McDuffie Campus is located at 388 Tech Drive N.W., Thomson. Easy access is available from I-20 and Highway 78.

### **Waynesboro/Burke Campus**

The Waynesboro/Burke County Campus facility is located at 216 Highway 24 South, Waynesboro.

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