

Changing Lives Creating Jobs Providing Hope

Asheville-Buncombe Technical Community College

www.abtech.edu

Catalog of Courses

Day and Evening College Volume 49 2011-2012

Asheville Campus

 340 Victoria Road
 Campus Police and Security:

 Asheville, NC 28801
 828/279-3166

 Phone: 828/254-1921
 Fax: 828/251-6355

Enka Site

4646 U.S. Hwy. 25-70 Marshall, NC 28753

Madison Site

Phone: 828/254-1921 Ext. 5802 Fax: 828/281-9842

1459 Sand Hill Road

Candler, NC 28715

Campus Police and Security: 828/301-7150

Phone: 828/649-2947 Fax: 828/281-9859

Governed by: Asheville-Buncombe Technical Community College Board of Trustees

Recognized and approved by:

- North Carolina State Board of Community Colleges
- N.C. State Approving Agency for the Use of Veterans Military and Educational Benefits

Program Accreditors/Approvals:

- American Association of Medical Assistants
- American Culinary Federation
- American Dental Association, Commission on Dental Accreditation
- American Veterinary Medical Association Committee on Veterinary Technician Education and Activities
- · Commission on the Accreditation of Allied Health Education Programs
- Joint Review Committee on Education in Radiologic Technology
- National Accrediting Agency for Clinical Laboratory Sciences
- National Association for the Education of Young Children
- National Automotive Technicians Education Foundation, Inc.
- North Carolina Board of Nursing
- · North Carolina Office of Emergency Medical Services
- North Carolina State Board of Cosmetic Art Examiners

Asheville-Buncombe Technical Community College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award associate degrees.

Catalog changes:

This catalog should not be considered a contract between Asheville-Buncombe Technical Community College and the student. Adjustments in program or course content, sequence, schedule, and faculty may be made as necessary. A minimum enrollment may be required to offer a course or continue a program. Charges for tuition and fees are subject to change. The College Calendar dates or events may change because of inclement weather or for other reasons. If changes become necessary, efforts will be made to inform those who are involved.



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Curriculum Programs

Accounting Accounting Level I Accounting Level II Air Conditioning, Heating and Refrigeration Technology Basic Intermediate Advanced Automotive Systems Technology Automotive Systems Technology AST - Basic Auto Repair AST - Drive Trains AST - Electrical/Electronics AST - Under-Car Baking and Pastry Arts Basic Law Enforcement Training Biotechnology **Business Administration** Carpentry Basic Carpentry **Basic Cabinetry** Civil Engineering Technology College Transfer: Associate in Arts Associate in Arts Associate in Science Associate in Science Associate in Fine Arts Concentration in Art Associate in Fine Arts Concentration in Drama Computed Tomography & Magnetic Resonance Imaging Technology Computed Tomography Magnetic Resonance Imaging Computer-Aided Drafting Technology Computer-Aided Drafting Architectural Drafting Landscape Architecture Drafting Computer Engineering Technology PC and Network Maintenance Computer Information Technology Database Management Geospatial Database Technology Microcomputer Applications PC Installation and Maintenance Construction Management Technology Construction Management Technology Cosmetology Cosmetology Cosmetology Instructor Criminal Justice Technology Culinary Arts Dental Assisting Dental Hygiene Diesel-See Heavy-Equipment and Transport Technology

Credential Schedule

A.A.S. Degree Certificate Certificate Diploma Certificate Certificate Certificate A.A.S. Degree Diploma Certificate Certificate Certificate Certificate A.A.S. Degree Certificate A.A.S. Degree A.A.S. Degree Diploma Certificate Certificate A.A.S. Degree A.A. Degree A.A. Diploma A.S. Degree A.S. Diploma A.F.A. Degree A.F.A. Degree Diploma Certificate Certificate A.A.S. Degree Certificate Certificate Certificate A.A.S. Degree Certificate A.A.S. Degree Certificate Certificate Certificate Certificate A.A.S. Degree Certificate A.A.S. Degree Diploma Certificate A.A.S. Degree A.A.S. Degree Diploma A.A.S. Degree Day

Day/Evening Day Day Day/Evening Day/Evening Day/Evening Evening Day/Evening Day/Evening Day/Evening Day/Evening Day/Evening Day/Evening Day Day/Evening Day Day/Evening Day Evening Evening Day/Evening Day/Evening Day/Evening Day/Evening Day/Evening Day Day Day Day Day Day Evening Evening Evening Day/Evening Day/Evening Day/Evening Day/Evening Day/Evening Day/Evening Day/Evening Evening Evening Day/Evening Day/Evening Day Day/Evening Day Day

Program

Digital Media Technology	A.A.S. Degree
Digital Video Interactive Multimedia	Certificate
Geospatial Analysis and Visualization	Certificate
Early Childhood Associate	A.A.S. Degree
Early Childhood	Certificate
Infant/Toddler Care	Certificate
Special Education	Certificate
Early Childhood/School-Age Education	A.A.S. Degree
Electrical/Electronics Technology	A.A.S. Degree
Electrical/Electronics Technology	Diploma
Building Automation & Controls	Certificate
Electrical Wiring	Certificate
Instrumentation and Control	Certificate
Electronics Engineering Technology	A.A.S. Degree
Emergency Medical Science	A.A.S. Degree
Entrepreneurship	A.A.S. Degree
Entrepreneurship	Certificate
Esthetics Technology	Certificate
Fire Protection Technology	A.A.S. Degree
Fire Protection Technology	Certificate
Food Service Technology (Pending Approval)	Diploma
General Occupational Technology	A.A.S. Degree
General Occupational Technology	Diploma
Health Information Technology	A.A.S. Degree
*Associates offered in collaboration with McDowell Technical Community College	
Heavy Equipment and Transport Technology	A.A.S. Degree
Heavy Equipment and Transport Technology	Diploma
Heavy Equipment and Transport Technology	Certificate
Hospitality Management	A.A.S. Degree
Hospitality Management	Certificate
Human Resources Management	A.A.S. Degree
Human Resources Management	Certificate
Human Services Technology	A.A.S. Degree
Human Services & Substance Abuse Studies	Certificate
Industrial Systems Technology	A.A.S. Degree
Basic Maintenance	Certificate
Metal Fabrication	Certificate
Information Systems Security	A.A.S. Degree
Machining Technology	A A S Degree
Machining Technology	Diploma
Basic Machining	Certificate
CNC Programming	Certificate
Advanced CNC Programming	Certificate
Manicuring/Nail Technology	Certificate
Marketing and Retailing	A.A.S. Degree
Retail Marketing	Certificate
Mechanical Engineering Technology	A.A.S. Degree
Plastic Injection Molding Certificate	Certificate
Mechanical Drafting Certificate	
	Certificate
Quality and cGMP Certificate	Certificate Certificate

Credential Schedule

Day/Evening ee Day/Evening Day/Evening Day/Evening Day ee Day/Evening Day/Evening Day/Evening Day ee Day/Evening ee Evening Day/Evening Day/Evening Day/Evening Day/Evening ee Day ee Day ee Day/Evening Day/Evening Day/Evening ee Day/Evening Day ee Day/Evening Day/Evening ee* Day/Evening ee Evening Day Day Day ee Day/Evening Evening ee Evening Day ee Day Day/Evening ee Day Day/Evening Day/Evening Day/Evening ee Day/Evening ee Day/Evening Day/Evening Day/Evening Day/Evening Day/Evening Day/Evening ee Day/Evening Day ee Day/Evening Day/Evening Day/Evening Day

Program

Medical Laboratory Technology Medical Office Administration Medical Coding Medical Sonography Medical Transcription Networking Technology Basic Network Administration **CCNA** Preparation Nursing Associate Degree Nursing Associate Degree Nursing RIBN Option Practical Nursing * Dual Enrollment option with Western Carolina University Office Administration Office Administration Office Management Word Processing/Desktop Publishing **Ophthalmic Medical Assistant** *Diploma offered in collaboration with Caldwell Community College & Technical Institute Phlebotomy Public Administration (Pending Approval) Radiography Real Estate Appraisal Real Estate Licensing Surgical Technology Surgical Technology Surveying Technology Civil/Surveying CAD Surveying Fundamentals Sustainability Technology Therapeutic Massage Therapeutic Massage Veterinary Medical Technology Web Technologies Web Designer Web Programming Welding Technology Welding Technology Welding Technology - Basic Welding I Welding Technology - Ornamental Ironwork

Credential Schedule

A.A.S. Degree Dav Diploma Day/Evening Certificate Day/Evening A.A.S. Degree Day Diploma Day/Evening A.A.S. Degree Day/Evening Certificate Day/Evening Certificate Day/Evening A.A.S. Degree Day/Evening/Weekend A.A.S. Degree* Day/Evening/Weekend Diploma Day/Evening A.A.S. Degree Day Diploma Day Certificate Day/Evening Certificate Day/Evening Diploma* Day Certificate Day A.A.S. Degree Pending A.A.S. Degree Day Certificate Evening Certificate Evening A.A.S. Degree Day Diploma Day A.A.S. Degree Day/Evening Certificate Day/Evening Day/Evening/Weekend Certificate A.A.S. Degree Day Day/Evening A.A.S. Degree Day/Evening Diploma A.A.S. Degree Day A.A.S. Degree Day/Evening Certificate Day/Evening Certificate Day/Evening A.A.S Degree Day Diploma Day Certificate Evening

Certificate

Day

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Address correspondence to the appropriate office in care of: Asheville-Buncombe Technical Community College 340 Victoria Road Asheville, NC 28801

Tel: 828/254-1921 Fax: 828/251-6355 Internet: www.abtech.edu

Directory of College Services and Offices

Academic SuccessDea
Holly Building, Asheville Campus, Ext. 763
Academic Learning Center
Ferguson Building, Asheville Campus, Ext. 22
Developmental Studies
Ferguson Building, Asheville Campus, Ext. 88
Academic Related Instruction Coordinate Ferguson Building, Asheville Campus, Ext. 19
Library
Holly Building, Asheville Campus, Ext. 30
Service Learning
Admistrative Services
Campus Police and Security
Plant Operations Director, Plant Operation Chestnut Building, Asheville Campus, Ext. 48
Business and Finance
BookstoreBookstor Bailey Student Services Center, Asheville Campus, Exts. 274, 20
Business Development, Incubation, and Small Business Center
Center for Business and Technology Incubation, Enka Site, Ext. 585
Business Services
Parking Permits
Bailey Student Services Center, Asheville Campus, Ext. 752
Payments, Student AccountsBusines
Bailey Student Services Center, Asheville Campus, Exts. 152, 156, 15

College Advancement

A-B Tech Foundation	Executive Director
	Fernihurst Building, Asheville Campus, Ext. 176
Grants	Grants Writer/Coordinator Simpson Administration Building, Asheville Campus, Ext. 7561
Scholarships	

College Services & Information

Job Placement	
Mountain Tech Lodge	
C	Magnolia Building, Asheville Campus, Ext. 248
News, Publications	Director of College Relations and Marketing Simpson Administration Building, Asheville Campus, Ext. 117

Curriculum ProgramsVice President, Instructional Services Simpson Administration Building, Asheville Campus, Ext. 105
Allied Health and Public Service EducationDean Rhododendron Building, Asheville Campus, Ext. 250
Arts and Sciences
Business and Hospitality Education
Career Pathways Partnership
Emergency Services Academy Associate Dean Hemlock Building, Asheville Campus, Ext. 353
Engineering and Applied Technology
Grade ChangesClass Instructor
Hospitality Education Associate Dean Magnolia Building, Asheville Campus, Ext. 232
Instructional Support and Online LearningExecutive Director Holly Building, Asheville Campus, Ext. 439
TutoringClass Instructor
Economic and Workforce Development/Continuing Education
Haynes Technology Center, Enka Site, Ext. 5837
Basic Skills
Business Development, Incubation, and Small Business CenterCenter for Business and Technology Incubation, Enka Site, Ext. 5851
Community Enrichment Programs Director Pines Building, Asheville Campus, Ext. 134
Emergency Services Academy Associate Dean Hemlock Building, Asheville Campus, Ext. 353
GED Preparation
GED Test Scheduling
GED Test Results/TranscriptsGED Examiner Pines Building, Asheville Campus, Ext. 312
Occupational and Public Service TrainingExecutive Director Haynes Technology Center, Enka Site, Ext. 5836
Workforce DevelopmentExecutive Director Haynes Technology Center, Enka Site, Ext. 5823
Human Resources & Organizational Development
ADA Coordinator
Organizational and Professional Development
Information Systems Jechnology Vice President/CIO Haynes Technology Center, Enka Site, Ext. 5829

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Student Services
Admissions
Counseling Counselors Bailey Student Services Center, Asheville Campus, Exts. 146, 164, 209, 441, 141
Bailey Student Services Center, Asheville Campus, Exts. 7520
Disability Services
Emergencies and Campus Police Ext. 125 or 9-911
Financial AidFinancial Aid Bailey Student Services Center, Asheville Campus, Ext. 7520
Graduation Application
Intramurals
International Student Services International Student Advisor Bailey Student Services Center, Asheville Campus, Ext. 441
Student Academic Records
Student Activities Director of Student Activities Coman Student Activity Center, Asheville Campus, Ext. 203
Student Services Center
Transcript Request
Transfer Credits Director of Admissions Bailey Student Services Center, Asheville Campus, Ext. 202
Transfer-to-Senior-Institution Information
Veterans
Visiting the Campus

College Calendar 2011–2012

All dates in this calendar are subject to change.

Fall Semester – 2011

Registration Begins	April 18
Last Day to Pay Tuition and Fees	August 16
Classes Begin	August 17
4-Week Minimester I	August 17 – September 14
8-Week Minimester I	August 17 – October 17
Labor Day College Holiday	September 5
4-Week Minimester II	September 15 – October 17
Professional Development Day	October 5
Student Fall Break	October 6 – 8
4-Week Minimester III	October 18 – November 14
8-Week Minimester II	October 18 – December 17
4-Week Minimester IV	November 15 – December 17
Thanksgiving Student Holiday	November 23 – 26
Thanksgiving College Holiday	November 24 – 25
Optional Makeup Day/No Classes Scheduled	December 13
Last Day of Class/Examinations	December 17
Winter College Holidays	December 23 - January 2

Spring Semester – 2012

Registration Begins	October 31
Classes Begin	January 9
4-Week Minimester I	January 9 - February 6
8-Week Minimester I	January 9 - March 5
Martin Luther King Jr. Day College Holiday	January 16
4-Week Minimester II	February 7 - March 5
4-Week Minimester III	March 6 - March 30
8-Week Minimester II	March 6 - May 11
Student Spring Break	April 2 – April 7
Spring College Holiday	April 6
4-Week Minimester IV	April 10 - May 11
Summer/Fall Registration begins	April 15
Last Day of Class/Examinations	May 7
Spring Graduation	May 12

Summer Session – 2012

Registration Begins	April 15
Classes Begin	May 21
5-Week Minimester I	May 21 - June 25
Memorial Day College Holiday	May 28
5-Week Minimester II	June 26 - August 1
Student Holiday	July 3
Independence Day College Holiday	July 4
Last Day of Class/Examinations	August 1

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Summary of Performance Measures 2010 Report

	Performance Measure	Standard Met	A-B Tech Results
1.	Progress of Basic Skills Students	YES	80% making progress
	Standard: 75% making progress		
2.	Passing Rates for Licensure and Certification Exams for First-Time Test Takers	YES	93% aggregate passing rate
	Standard: 80% aggregate passing rate		
3.	Performance of College Transfer Students	YES	91.3% of college transfer students had a GPA of 2.0 or above
	Standard: 83% with a GPA of 2.0 or higher after two semesters		
4.	Passing Rates of Students in Developmental Courses	YES	91% passing rate
	Standard: 75% passing rate with a grade of "C" or better.		
5.	Success of Developmental Students in Subsequent College Courses	YES	80% Pass Rate
	Standard : 80% of students who took developmental courses will perfor which the developmental course serves as a prerequisite	ass the "gatekeep	er" English and/or mathematics course
6.	Satisfaction of Completers and Non-Completers	YES	96% satisfaction rate
	Standard: 90% satisfied with the quality of college programs and se	rvices	
7.	Curriculum Student Retention and Graduation	YES	72% retention, graduation or transfer rate
	Standard: 72% of fall degree seeking students will either re-enroll, t	ransfer or gradua	te by the subsequent fall
8.	Business/Industry Satisfaction with Services Provided	YES	93% satisfaction rate
	Standard: 90% of respondents will rate services provided as "very	good" or "excelle	ent"

For each measure met, the college may retain and carry forward into the next fiscal year one-fourth of one percent (1/4 of 1%) of its final fiscal year General Fund appropriation. If a college meets all eight performance funding measures, and:

1) achieves a 70% or greater passing rate on all licensure/certification exams and

2) its college transfer performance equals or exceeds the performance of native UNC students, it is classified as an "Exceptional" institution and is eligible for additional funding which is distributed equally among Exceptional colleges.

"Exceptional" College Status

Must meet all of the above performance measures in addition to:

2a.	Passing Rates for Licensure and Certification Exams	YES	All required exams achieved a 70% minimum passing rate
	Standard: 70% minimum passing rate for all exams		
3a.	Performance of College Transfer Students	YES	91.3% of college transfer students had a GPA od 2.0 of above

Standard: 86% equivalent to or greater than native UNC sophmores and juniors

Site Locator Map Madison Site ladison 4646 U.S. Hwy. 25-70 Marshall, NC 28753 TEC Phone: 828/649-2947 hevill Turnel Re Exit 44 sheville Campu Asheville Campus 340 Victoria Road Asheville, NC 28801 ind Hitt Rd Phone: 828/254-1921 Exit 2 E 28 Enka Site 6.8 604 Mail 1459 Sand Hill Road Candler, NC 28715 Phone: 828/254-1921, Ext. 5801

Enka Site Facilities Map





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Asheville Campus Facilities

Thomas W. Simpson Administration Building

Admistrative Services Business and Finance Community Relations and Marketing Grants Instructional Services Lecture Room President Research and Planning

Balsam Computer Technology Center

Cisco Networking Academy Computer Information Technology Digital Media Technology Information Systems Security Medical Coding Medical Office Administration Medical Transcription Networking Technology Office Administration Web Technologies Word Processing/ Desktop Publishing

Birch Building

Accounting Business Administration Cosmetology Cosmetology Instructor Early College Entrepreneurship Esthetics Technology Human Resources Management Manicuring/Nail Technology Marketing and Retailing Therapeutic Massage

Chestnut Building Plant Operations

Coman Student Activity Center

A-B Tech Café Art Studio Gym Health and Physical Education Intramurals Recruiter Student Government Association Student Activities Student Lounge

Dogwood Building

Air Conditioning, Heating, and Refrigeration Technology Automotive Systems Technology Carpentry Construction Management Technology Electrical/Electronics Technology Heavy Equipment and Transportation Technology Industrial Systems Technology Machining Technology Mechanical Engineering Technology Sustainability Technology Welding Technology

Elm Building

Civil Engineering Technology Computer-Aided Drafting Technology Communications Electronics Engineering Technology Enalish Flexible Automated Manufacturing Training Center Humanities/Foreign Languages Mathematics Nursing Assistant Levels I and II Psychology/Sociology Surveying Technology Transfer Advising Center

Ferguson Building

Academic Learning Center Academic Related Instruction Developmental Studies Ferguson Auditorium

Fernihurst

Baking and Pastry Arts Conference Rooms Culinary Arts Dining Rooms Hospitality Management Food Service Technology (Pending Approval) Foundation Scholarship

Fernihurst Annex A

Drama and Performing Arts

Fernihurst Annex B

Arts and Sciences Instructors

Hemlock Building

Emergency Services Academy Basic Law Enforcement Training Criminal Justice Technology Emergency Medical Science Fire Protection Technology Early Childhood Associate Early Childhood/ School-Age Education Human Services Technology

Holly Building

Computer Lab Faculty Resource Center Instructional Support and Online Learning Library Service-Learning Center Ivy Building Decorative Restoration

K. Ray Bailey Student

Success and Advocacy Center

Admissions Business Bookstore Career Center Counseling Center Disability Services Financial Aid International Student Services Placement Testing Records Office (Registrar) Student Service Center Veterans Representative

Magnolia

Baking and Pastry Arts Culinary Arts Demonstration Hall Dining Rooms Food Service Technology (Pending Approval) Hospitality Management Mountain Tech Lodge

Maple Building

JobLink Career Center Mountain Area Workforce Development Board Administrative Staff Police Department Shipping/Receiving and Duplication

Maple Annex

Lab - Carpentry, Electrical, HVAC, Plumbing, etc.

The Pines

Adult Basic Education (ABE) Community Enrichment Programs Compensatory Education/ Traumatic Brain Injury Continuing Education Business and Registration English as a Second Language (ESL) General Educational Development (GED) Human Resources Development Program (HRD)

Poplar Building Early Education Center

Rhododendron Building

Associate Degree Nursing Dental Assisting Dental Hygiene Medical Assisting Medical Laboratory Technology Medical Sonography Phlebotomy Practical Nursing Radiography Surgical Technology Veterinary Medical Technology

Smith-McDowell House Museum (Leased to WNC Historical Association) Museum of WNC History

Sunnicrest

ADA Coordinator Career Pathways Partnership Human Resources Organizational and Professional Development

Sycamore Building

Biology Chemistry/Physics/Astronomy/ Geology Video Conference Center

Enka Site Facilities

Harvey L. Haynes Corporate Technology Training and Conference Center

Economic & Workforce Development/Continuing Education Executives Division Business and Registration Information Technology Occupational and Public Service Training Training/Meeting Facilities Workforce Development Customized Training Programs Quality Initiatives ACT Test Site Computer Labs

Center for Business and Technology Incubation

Security

BioNetwork/BioBusiness Center Biotechnology BioWork Classroom/Lab Business Incubator Commercial Kitchen Small Business Center Student Business Incubator Technology Commercialization Center Plant Operations

Madison Site Facilities

Liston B. Ramsey Building

Administration Auditorium Classrooms Computer Lab Conference Room Shop



Organization

History

Asheville-Buncombe Technical Community College has served as the community's premier technical educator for many years. Originally funded by a bond election, the institution was established Sept. 1, 1959 and named the Asheville Industrial Education Center.

Following legislation creating the North Carolina System of Community Colleges that was enacted in 1963 by the General Assembly, the name was changed on Jan. 9, 1964 to Asheville-Buncombe Technical Institute. This legislation enabled the College to confer the Associate in Applied Science degree for the first time at graduation ceremonies in August 1964.

The Board of Trustees approved a third name change to Asheville-Buncombe Technical College on Aug. 6, 1979. A final name change occurred Nov. 2, 1987 when the Board of Trustees approved Asheville-Buncombe Technical Community College, an action that became official when endorsed by the Buncombe County Commissioners on Nov. 3, 1987.

In October 1988, the College received approval to offer associate degree programs. In September 1989, the College enrolled its first class for the Associate in Science degree. The Associate in Arts degree was first offered during summer quarter 1990-91.

On Jan. 18, 1990, A-B Tech officially opened a site in Madison County. The College had served the county out of temporary quarters at the Marshall Elementary School since Dec. 12, 1984.

By the fall term of 1997, the College had reengineered all programs and converted to the semester system.

On Oct. 23, 2000, BASF Corporation donated nearly 37 acres and three buildings to A-B Tech to establish a satellite site in Enka that includes a Business Development and Incubation Program, a Small Business Center, Pro-Bono Professional Services, a student incubation program, a technology training and conference center, a bio-business center, an institute for sustainability and technology, and a commercial kitchen.

Administration

The College was initially administered by the Asheville City School Board of Education. Following the establishment of the North Carolina System of Community Colleges, control passed to an independent board of trustees.

From the beginning, prominent Asheville and Buncombe County business and community leaders have helped to guide the College. In addition, each academic program has an advisory committee made up of local practitioners. Several hundred local citizens provide guidance for the educational programs of the College.

Curricula

The first program offered by the College was Practical Nursing. Electronics Engineering Technology and the Machinist programs were started in 1960. These three curricula are still offered along with many other career and College transfer programs.

The College offers the Associate in Arts, the Associate in Science, the Associate in Fine Arts, and the Associate in Applied Science degrees, diplomas, and certificates.

The Associate in Arts, Associate in Science, and Associate in Fine Arts degree programs are offered in the Division of Arts and Sciences. All career curricula and courses are offered through three divisions: Allied Health and Public Service Education, Business and Hospitality Education, and Engineering and Applied Technology. In addition, noncredit academic, avocational, practical skills, and occupational classes and activities are offered through the Continuing Education Division.

Economic and Workforce Development/Continuing Education courses are generally offered, with sufficient enrollment, on demand. Curriculum courses are usually offered on planned schedules in both the day and evening/weekend programs. Many curriculum classes are also offered in clusters for unclassified students. Some Economic and Workforce Development/ Continuing Education courses-including Adult Basic Education, Human Resources Development, New and Expanding Industry Training, Total Quality Management, and Focused Industrial Training activities-are ongoing or are repeated on a regular basis.

Both curriculum and Economic and Workforce Development/Continuing Education programs are supported through the activities of the GED Testing program, Developmental Studies, the Academic Learning Center, and the Library. Classes meet on campus and at various off-campus sites. Course requirements are the same without regard to meeting times or locations.

Campus Facilities

On March 15, 1961 the Industrial Education Center moved into two newly constructed buildings off Victoria Road in Asheville. Over the years, the Board of Trustees has acquired land that today totals 144 acres.

Twenty-three buildings house academic programs and campus services. Included in this total is the Smith-McDowell House, the oldest brick house in Buncombe County, leased to the Western North Carolina Historical Association.

On Jan. 18, 1990 the College established a site in Madison County. The satellite operation provides adult education and College credit courses for the people of Madison County.

Over the years, a combination of special funding has provided for campus expansion. Since 1985, the North Carolina General Assembly has approved \$5 million in special legislation for campus construction.

Since 1987, Buncombe County voters have approved \$13.5 million in bonds to be used for campus additions and renovations. In statewide bond referendums, voters approved \$5 million in 1993 and \$14 million in 2000 for capital projects at A-B Tech.

Buncombe County Commissioners purchased property for A-B Tech belonging to St. Genevieve Gibbons Hall, a private school that merged with Asheville Country Day School to form the Carolina Day School. The Board of Trustees acquired the title to these 12.77 acres and four buildings on Sept. 23, 1987. Additionally, in 1990 the Commissioners purchased 16.75 acres contiguous to the west boundaries of the campus. This purchase included Sunnicrest, the only remaining lodge constructed by George Vanderbilt. The lodge has been renovated to house College offices.

On Oct. 21, 1987, A-B Tech in cooperation with Buncombe Child Development opened a Child Care Center, which offers day service to students and faculty.

On Oct. 23, 2000, BASF Corporation donated nearly 37 acres and three buildings to A-B Tech to establish a satellite site in Enka that includes a Business Development and Incubation Program, a Small Business Center, Pro-Bono Professional Services, a student incubation program, a technology training and conference center, a bio-business center, an institute for sustainability and technology, and a commercial kitchen.

Asheville-Buncombe Technical Community College Foundation

The Asheville-Buncombe Technical Community College Foundation was established in 1996 as a separate 501(c) (3) non-profit corporation. Its sole purpose is to provide financial support for the students and programs of Asheville-Buncombe Technical Community College. The A-B Tech Foundation meets critical needs that cannot be addressed in the College's normal operating budget. All gifts are tax deductible as allowed by law.

Current Status

A-B Tech, with strong local support, has grown in facilities and land acquisition, in enrollment, in curricula, and in expanded services to the community. The College has the largest total headcount enrollment of any institution of higher education in Western North Carolina, serving more than 26,000 in 2008-09.

Location

The Asheville campus is located on Victoria Road in Asheville, North Carolina, a city repeatedly named as one of the most livable towns in America. Situated near major interstates and on local bus routes, the College is convenient to the citizens it serves.

The Madison Site is located in Marshall, NC. The Enka Site is located in the Enka community near Asheville, NC.

College Mission and Vision

College Mission Statement

A-B Tech, the community's college, is dedicated to student success. As a comprehensive community college, A-B Tech is committed to providing accessible, quality, educational opportunities for lifelong learning to meet the diverse and changing needs of our community.

College Vision Statement

A-B Tech's vision is to develop strategies for student success through Invitational Education.

Nondiscrimination Policy

Asheville-Buncombe Technical Community College does not discriminate on the basis of sex, race, color, national origin, age, disability, or religion in the educational programs or activities which it operates. The College is required by Title IX of the Education Amendment of 1972 not to discriminate on the basis of sex, and under other Federal legislation the College will not discriminate on the basis of race, color, national origin, age, disability, or religion. The requirement not to discriminate in education programs and activities extends to employment in the College and to admission into its programs.

Inquiries or complaints concerning the application of Title IX, the ADA, and other Federal nondiscrimination legislation to Asheville-Buncombe Technical Community College should be referred to:

Director of Human Resources Asheville-Buncombe Technical Community College 340 Victoria Road Telephone: 828/254-1921, Ext. 113 Asheville, North Carolina 28801 TDD: 254-1921, Ext. 444 Sunnicrest Building Internet: www.abtech.edu

Organization

Individuals with Disabilities

Individuals with disabilities (as defined in the Americans with Disabilities Act of 1990, "ADA") wishing to make a request for reasonable accommodation, auxiliary communication aids or services, or materials in alternative accessible formats should contact the Disability Services Counselor in the Bailey Student Services Center. Persons who wish to file a complaint of alleged discrimination on the basis of disability should contact the Director of Human Resources listed above.

Communicable Disease Policy

Asheville-Buncombe Technical Community College shall not discriminate against applicants, employees, students, or persons utilizing A-B Tech services who have or are suspected of having a communicable disease. As long as employees are able to perform satisfactorily the essential functions of the job, and there is no medical evidence indicating that the employee's condition is a threat to the health or safety of the individual, coworkers, students, or the public, an employee shall not be denied continued employment. Applicants shall not be denied employment, nor shall students be denied admission to the campus or classes, nor shall persons utilizing A-B Tech services be denied services based on whether they are suspected of having a communicable disease so long as there is no threat to the health and safety of students, staff, or others involved. A-B Tech will consider the educational or employment status of individuals with a communicable disease or suspected of a communicable disease on an individual, case-by-case basis following any procedures outlined by the President.

Internet and Campus Network Acceptable Use Policy

Asheville-Buncombe Technical Community College provides campus network and computing facilities including Internet access for the use of faculty, staff, students, and other authorized individuals in support of the research, educational, and administrative purposes of the College.

The College has extensive information technology resources and systems available for both instruction and administrative applications. Faculty, staff, and students are encouraged to become familiar with College technology resources and systems and to use them on a regular basis. Users are expected to exercise responsible, ethical behavior when using these resources and to adhere to the following guidelines:

1. The Internet and associated resources contain a wide variety of material and information. Information available on the Internet is not generated or selected by Asheville-Buncombe Technical Community College. The College is not responsible for the accuracy or quality of the information obtained through or stored on the campus network.

- 2. The creation, display, or transmittal of illegal, malicious, or obscene material is prohibited.
- 3. Asheville-Buncombe Technical Community College will not be liable for the actions of anyone connecting to the Internet through College facilities. All users shall assume full liability (legal, financial, or otherwise) for their actions.
- 4. The user is responsible for complying with laws protecting software or other accessed information. Downloading programs and files may violate United States copyright laws that protect information and software. Although the Internet provides easy access to software distributed by companies on a trial basis, this does not mean that the software is free or that it may be distributed freely. All files downloaded from a source external to the campus must be scanned for viruses.
- 5. Because of the insecure nature of transmitting files electronically, no right of privacy exists with regard to e-mail, Internet sessions, or electronic file storage and transmission. When sending or forwarding e-mail over the campus network or the Internet, users shall identify themselves clearly and accurately. Anonymous or pseudonymous posting is expressly forbidden.
- 6. Asheville-Buncombe Technical Community College computing and telephone facilities maintain usage statistics in archived log files for the purpose of monitoring system performance and usage patterns. Users must not perform tasks they would not want logged.
- 7. College employees may make reasonable personal use of the campus network, e-mail, and the Internet as long as the direct measurable cost to the public is none or is negligible, and there is no negative impact on employee's performance of duties.
- 8. All users of the Internet by way of College facilities must comply with all relevant policies and procedures of the College.
- 9. Use of the Internet for commercial gain or profit is not allowed from a College site.

Failure to comply with any of these provisions will result in disciplinary action as provided for under the disciplinary policies and procedures of the College.

A-B Tech provides access to the Internet by way of the State of North Carolina Wide Area Network. As such, all users are subject to the governing policies established by the North Carolina State Chief Information Officer in addition to the above A-B Tech Internet and Campus Network Acceptable Use Policy. The current policy governing use of the North Carolina Wide Area Network and the Internet can be reviewed at: www.scio.state.nc.us/sitPolicies.asp.

Guidelines for Digital Communications

In E-communication (email, Discussion Forums, Blogs, etc) the traditional verbal and non-verbal cues such as tone, inflection, body language, and gestures are missing and thus the chances of misunderstanding or miscommunication are increased. The following etiquette for online communication will foster the clear and invitational style of communication we all desire and expect from one another. Guidelines are listed below.

- 1. Avoid ad hominem attacks. Attack ideas, not the person expressing the ideas.
- 2. Avoid personal agendas. If you have issues with individuals or college policies and procedures, pursue these through the appropriate college channels.
- 3. Be cautious with sarcasm and humor. Others may not share your sense of humor and expressions you find commonplace may be offensive to others.
- 4. Be cautious with the content of your communication. Assume the content of what you write may be forwarded or become public.

- 5. Do not use profanity or obscenities. This is unprofessional and inappropriate for any college related communication.
- 6. Respect the diversity of ideas and opinions. View your communication as part of a panel discussion and not a pulpit.
- 7. Provide a sound rationale for your position. Appeal to facts and reasons to defend your position. Avoid emotive language.
- 8. Verify the information you pass on. This will prevent chain-letter and gossipy-type mischief.
- 9. Do not use all upper case letters. It is the equivalent of screaming.
- 10.Do not use all lower case letters. It is the equivalent of mumbling.
- 11.Proofread and edit messages before sending. Do not rely solely on spell check.
- 12.Use proper grammar and syntax. Avoid sentence fragments and errors in paragraphing and punctuation.

Economic & Workforce Development/ Continuing Education

The Economic & Workforce Development/ Continuing Education Division offers classes and training to support the economic development of the community and its citizens. Needs for higher academic education, employment skills, basic educational skills, job training and retraining, personal growth and development, and business and economic development are continually identified through a variety of assessments.

Different learning approaches to meet community needs involve traditional classroom instruction, individualized instruction, computer-assisted learning, community-based learning centers, on-site classes and training for business and industry, and apprenticeships. Also available is assessment, consultation, and technical assistance for individuals, businesses, industries, and public and private sector agencies.

The educational offerings of the Economic & Workforce Development/ Continuing Education Division are built on the concept of lifelong learning. Classes and training are provided in different formats, at a variety of times, and at locations where the needs of students can conveniently be met.

Some of the Economic & Workforce Development/ Continuing and Off-Campus Education Programs are coordinated with the Workforce Investment Act (WIA) or the WorkFirst programs of other agencies. These and other similar programs represent joint efforts to bring education and training services to the community. Training and coursework may earn Continuing Education Unit (CEU) credit applicable to certain professions.

The Economic & Workforce Development/ Continuing Education Division provides programs for adults age 18 or older. Minors can enroll for some classes with special permission and if space allows.

Costs

Costs for Economic & Workforce Development/ Continuing Education classes vary. Fees may be charged for books, materials, supplies, and accident insurance. For some classes, North Carolina residents age 65 or older are exempt from registration fees. There are no registration fees for Basic Skills classes.

Course Repetition

There is a limit to the number of times a student may enroll in a particular Economic & Workforce Development/ Continuing Education class. The Economic & Workforce Development/ Continuing Education Course Repetition policy guides enrollment in selected types of classes.

Occupational Training courses may not be taken more than twice within a five-year period without the student paying the full cost of the course as determined by the College. Students may repeat Occupational Training courses more than once if the repetitions are required for certification, licensure, or recertification.

Economic & Workforce Development/Continuing Education

A course other than Occupational Training may not be taken for more than two consecutive terms without a break of at least one term. Students who are enrolled in Adult Basic Education (ABE), General Education Development (GED), or Compensatory Education courses may continue in the course as long as reasonable educational and/or social progress is being made according to the goals of the program. Students in Compensatory Education classes will be reviewed after no more than two years to determine whether they will continue in the program.

The College reserves the right to modify this policy in general or relative to a given course as necessary to meet the needs of the College and its students.

Services

Economic & Workforce Development/Continuing Education needs are addressed in five domains:

- 1. Basic Skills
- 2. Community Enrichment Programs
- 3. Emergency Services Academy
- 4. Occupational and Public Service Training and Human Resources Development
- 5. Workforce Development

Basic Skills

The **Basic Skills Programs** provide opportunities for upgrading reading, mathematics, English, and life skills. Assessment is a basic part of all these programs. The Adult Basic Education (ABE) Program supports academic remediation in reading comprehension, mathematics, and language skills and provides pre-GED instruction.

The General Educational Development (GED) Program

offers instruction in five subject areas in preparation for taking the high school diploma equivalency (GED) test. Instruction for Basic Skills Programs can be delivered on campus and at community learning centers or workplace sites when there is sufficient demand.

At the **GED Testing Center**, students can take the tests of General Educational Development (GED). The tests cover:

- Writing Skills
- Mathematics
- Social Studies
- Science
- Reading

With passing scores, the student earns a GED which is awarded by the North Carolina Community College System. This certificate is generally accepted on an equal basis with a traditional diploma for employment, promotion, or further education.

To be eligible for testing, an applicant must:

- be at least 18 years old (16- and 17-year-olds may test with special permission).
- be a current North Carolina resident.
- be certified to test through the GED Preparation Program (Call 254-1921, Ext. GED).
- pay the testing fees (\$7.50 for initial testing and \$2.50 for retesting in Writing Skills) at the Continuing Education Business Office, Pines Building, Room 205D or the Business Office in the Bailey Student Services Center and be prepared to present evidence of payment to the test center personnel.

English as a Second Language (ESL) is intended to improve the English reading, speaking, and writing skills of non-native students. American culture, history, and life skills are also taught.

The **Compensatory Education Program** is an academic program specifically for adults with intellectual disabilities. The program features lessons in community living, consumer education, health, language, mathematics, social science, and vocational education. Emphasis is placed on helping each student become as independent as possible, primarily by improving academic, social, survival, and independent-living skills. **Traumatic Brain Injury** (TBI) classes are provided to improve and enhance the skills of adult survivors of traumatic brain injuries. Classes focus on memory, social, and time-management skills as well as community living, consumer education, health, language, and math.

Community Enrichment Programs

The Community Enrichment Programs provide courses, seminars and activities that contribute to the community's overall cultural, civic, and intellectual growth. Courses are designed to assist adults in the development of new skills, or improvement or upgrading of existing ones. With hundreds of classes and events every year, these programs provide lifelong learning opportunities to community members of Buncombe and Madison Counties. The program provides a variety of art classes, from abstract painting to stained glass. The language component includes Mandarin Chinese, French, Italian, Japanese, and Spanish. Dance classes, from Ballroom to Salsa, bring hundreds of couples to the campus each year. Practical Skills classes such as upholstery, sewing, and quilting add to the diversity of the courses offered.

Emergency Services Academy (ESA)

The **Emergency Services Academy (ESA)** was created to establish a single point of contact for students, college personnel, and the community in the fields of Fire Service, Law Enforcement, and Emergency Medical Science. The Academy provides training in both curriculum and continuing education. A significant number of these courses are offered to meet licensure or certification requirements for employment in Fire and Rescue, Criminal Justice and Law Enforcement, and Emergency Medical Science. The Emergency Services Academy also offers numerous specialized classes that meet qualifications and standards that are required by their governing agencies.

Occupational and Public Service Training Programs

Occupational Programs provide education and training for individuals to prepare for new or different employment and to upgrade the skills of individuals in their current employment. These opportunities are available through single courses or a series of courses specifically designed for an occupation. A significant number of these courses are offered to meet licensure or certification requirements. Offerings include programs for many occupational areas including: Computer Training, Health Occupations, and Technical and Industrial Training. Employability skills and life success skills are provided by Human Resources Development.

The Computer Training Department provides hundreds of offerings each year. A-B Tech works to meet the needs of those in the marketplace who want to master emerging technologies, gain the professional certifications that allow them to advance in their professions, or enter a field that promises continued growth. For administrative, technical, customer service and professional workers alike, computer skills are a constant. A-B Tech's programs provide training in a variety of disciplines to help North Carolina's workforce grow and learn. From basic courses to intensive professional programs, A-B Tech provides critical and thorough instruction in areas of software, hardware, and peripherals. Designed for both beginning students and professionals seeking to update their skills, A-B Tech courses and programs cover such timely subjects as administrative and financial software, relational database technology, software-specific training programs, operating systems, and beyond. Courses are offered in traditional instructor-led, online, and hybrid formats.

Health Occupations programs offered include training in healthcare professions such as Nurse Aide I, Nurse Aide II, Medication Aide, MEPAP Activity Professional, Ophthalmic Assisting, and Dental Radiology. Students successfully completing the Nurse Aide I program and state exam will appear on the North Carolina state registry for Nursing Assistants. Additional courses are offered to professionals for CEUs in the fields of dental hygiene and veterinary technology.

The **Human Resources Development (HRD) Program** provides short-term, pre-vocational training and counseling designed to help unemployed and underemployed adults successfully enter the workforce with additional education. Instruction focuses on the following topics:

- Career assessment
- Development of a positive self-concept
- Development of employability skills
- Development of communication skills
- Development of problem-solving skills
- Awareness of the impact of information technology in the workplace

Technical and Industrial Training Programs provide education and training for individuals to prepare for new or different employment in industrial or technically challenging fields and to upgrade the skills of individuals in their current employment. These opportunities are available through single courses or a series of courses specifically designed for a business, industrial, or technical occupation. Some of these courses are offered as apprenticeships or to meet certification requirements for employment in careers such as electrical journeymen, building, electrical, mechanical or plumbing inspection and code updates. Additional course offerings include: blacksmithing, cabinetmaking, carpentry, substitute teacher training and welding. Classroom and hands-on training in the sustainability arena are also a significant focus.

Workforce Development

The **Department of Workforce Development** provides programs and training that supports local business and industry. The Department links the College to the associated efforts of local, regional, and state agencies for economic and workforce development.

The **Customized Training Program** supports the economic development efforts of the State by providing education and training opportunities for eligible businesses and industries. The program was developed in recognition of the fact that one of the most important factors for a business or industry considering locating, expanding, or remaining in North Carolina is the ability of the State to ensure the presence of a well-trained workforce. The program is designed to react quickly to the needs of businesses and to respect the confidential nature of proprietary processes and information within those businesses.

PURPOSE

The purpose of the Customized Training Program is to provide customized training assistance in support of full-time production and direct customer service positions created in the State of North Carolina, thereby enhancing the growth potential of companies located in the state while simultaneously preparing North Carolina's workforce with the skills essential to successful employment in emerging industries.

ELIGIBILITY

Those businesses and industries eligible for support through the Customized Training Program include Manufacturing, Technology Intensive (i.e., Information Technology, Life Sciences), Regional or National Warehousing and Distribution Centers, Customer Support Centers, Air Courier Services, National Headquarters with operations outside North Carolina, and Civil Service employees providing technical support to US military installations located in North Carolina.

In order to receive assistance, eligible businesses and industries must demonstrate two or more of the following criteria:

- The business is making an appreciable capital investment;
- The business is deploying new technology;
- The business is creating jobs, expanding an existing workforce, or enhancing the productivity and profitability of the operations with the State; and
- The skills of the workers will be enhanced by the assistance.

Resources may support training assessment, instructional design, instructional costs, and training delivery for personnel involved in the direct production of goods and services. Production and technology support positions are also eligible for training support.

Full-time probationary employees of qualified Customized Training companies are eligible for training delivered by the Community College.

The use of Customized Training funds requires that trainees are paid by the company for all time during training hours.

The **Quality Initiatives Program** provides training and technical assistance in Productivity improvement, total quality practices and international quality standards for businesses, healthcare providers, and public and private sector agencies. Offerings include Six Sigma, Lean, basic quality skills, statistical process control, and all phases of ISO 9001:2000 implementation. The program also partners with the American Society for Quality to provide quality course offerings. Additionally, a resource center for quality information and a lending library make specialized books and videos available. The Workforce Development Department also offers specialized training, certification and certification preparatory courses including:

- APICS Certified Production and Inventory Manager (CPIM) Certification Preparation: CPIM certification prepares those in the fields of Production and Inventory Management, Operations, Supply Chain Management, Procurement, Materials Management and Purchasing to increase knowledge and skills, improve organizational efficiency, reduce cost and enhance credibility among their peers.
- Building Operator Certification: Designed for Maintenance Technicians and/or Building Operators of large facilities, this course focuses upon achieving reduction in energy usage and cost as well as enhancing sustainability.
- Escort Vehicle Operator Certification and/or Recertification: These courses satisfy the requirements set by the North Carolina Department of Transportation to certify Oversize - Overweight load escort vehicle drivers. Course components consist of defensive driving, escort driver requirements, skills training and examinations.
- Fundamentals for Advanced Manufacturing Training: This training course is designed to narrow the skills gap between what skills manufacturers indicate job applicants have and what skills manufacturers actually need them to have. The curriculum includes safety, problem solving, math, measurement, blueprint reading, quality concepts, lean principles, lean simulation, and CNC interfaces. A strong emphasis is also placed on communication skills, interpersonal skills, and teamwork.

Workforce Development's additional training opportunities include but are not limited to the following:

- Blueprint Reading
- Braising, Soldering, and Welding
- Forklift Operation and Safety
- CPR/ First Aid/Blood Borne Pathogen Certification and/or Recertification
- Customer Service
- Leadership Development
- OSHA 10 Hr and 30 Hr General Industry Standards
- OSHA 10 Hr and 30 Hr Construction Standards

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Business Development, Incubation, and Small Business Center

Business Development and Incubation is a model which allows entepreneurs a 'jump start" for their business involving a dynamic process that provides physical space or a virtual program, consulting and technical assistance, access to business services and equipment, technology support, guidance in obtaining financing, conference rooms with videoconferencing feature and computers, and etc.

The Small Business Center provides free one-to-one counseling and advising services to existing and potential small business owners. In addition, a variety of seminars and special events are sponsored by the Small Business Center to assist entrepreneurs with all aspects of running a business. A professional services office is also available in which experts from the legal, accounting, marketing, management and technology fields provide advice to business clients on a pro-bono basis. The SBC Director also runs a student incubator program much like the regular business incubator program.

The center includes other concentrated efforts such as the BioNetwork, a center with a Natural Products Laboratory, the Blue Ridge Food Ventures, the Technology Commercialization Center, and the Global Institute for Sustainability Technologies.

General Admission Procedures

Asheville-Buncombe Technical Community College has an open door admissions policy. Students must certify on their college application that they are a high school or adult high school graduate from a valid institution, a GED graduate from a valid institution or are 18 years of age or older. High school graduation or the equivalent from a valid institution is normally required for Financial Aid purposes. The College accepts applications online at http://www1.abtech.edu/apply continuously throughout the school year at no cost to the student. Early application is advised for many programs.

Individually selected classes may be taken by **unclassified** students, provided the course prerequisites have been met. Placement into specific courses is based upon standards that will help to assure the student's success. Students who do not yet possess the background required for these courses will be enrolled in developmental or prerequisite courses designed to provide this background.

Unclassified students:

- Typically plan to take only a few classes and are not eligible for financial aid
- May meet with an advisor if proof of a course prerequisite is needed to register
- Can register for classes through WebAdvisor

Persons wishing to enroll in a curriculum program at the College must complete the following steps as a classified student. Upon completion of this procedure, the student may be accepted unconditionally or provisionally into the program. Provisional acceptance indicates that developmental courses are necessary; this status changes to unconditional acceptance once the developmental courses are completed. Not all academic programs allow students to be provisionally accepted.

Classified students:

- Choose to pursue certificate, diploma, or degree programs
- Are generally eligible to be considered for Financial Aid
- Meet with an advisor with expertise in their programs of study

If you are a classified student, you must complete the following steps:

- Submit official college transcripts, if applicable, and transfer credit is desired (English & math credit may substitute for placement testing)
- Complete the Accuplacer assessment, submit SAT/ ACT, Compass, or Asset scores (3 years old or less)
- Sign up for the Accuplacer placement test Be sure to check out testing preparation sites
- Alternative testing formats will be made available to individuals with disabilities upon request to the Disabilities Services Coordinator in the Bailey Building
- Meet with an advisor to declare a major and receive further instructions.

A-B Tech ID Cards

A-B Tech now issues student ID cards to all curriculum students during the registration process at the Bailey Student Services building. ID Cards can be produced while you wait to see an advisor as long as you have a current application on file and have a current government issues photo ID card (driver's license, passport, military ID). After receiving an A-B Tech ID card, please take it to the Holly library so we can activate your card in the library's database. With your library-activated photo ID card you can check out materials, use the research computers, and students can access reserve items. Please note, you must present your card each time you wish to check out any library materials. During semester breaks, we will need to see proof of paid registration before granting the full library borrowing privileges listed above.

New Student Orientation

In order to make your A-B Tech experience as successful as possible, all incoming curriculum students are required to attend a New Student Orientation session. The two-hour, lab based orientation must be completed prior to class registration. The program will include all the necessary tools and resources to help ensure your success as a student. Students can schedule an orientation session on-line at www.abtech.edu.

Competitive Allied Health Programs

Admission to seven of the Allied Health curricula is competitive among qualified applicants according to established criteria. There is a limited application period. Competitive Allied Health programs include Associate Degree Nursing, Dental Assisting, Dental Hygiene, Medical Sonography, Practical Nursing, Radiography, and Surgical Technology. Applicants are selected for admission to these programs based upon special criteria. Selection criteria vary for each program. The exact admissions evaluation criteria for each competitive Allied Health program can be found in the Admissions section of the college web page at **www.abtech.edu**. The printed version is available in the Bailey Student Services Center. The criteria are revised and updated annually.

Placement Testing

The purpose of placement testing is to match the academic readiness of the incoming student with the academic requirements of the curriculum. Persons applying for admission into all degree and diploma programs are required to take the Accuplacer Test.* Students who are unclassified (not desiring to be enrolled in a major) will need to take the placement test if they desire to take a mathematics, English, reading or any course for which math or English are prerequisites. Alternate testing formats will be made available to individuals with disabilities upon request from the Disability Services Counselor. Documentation of disability will be required prior to the establishment of accommodations for placement testing.

All students, except those applying to limited enrollment programs in the Allied Health division, may waive the placement testing requirement if they submit documentation of acceptable SAT, ACT, or other state-approved placement test scores which have been earned within the preceding three years. Transfer credit received from a regionally accredited institution for first-level English and math courses will also be accepted in lieu of placement testing. The student must submit an official transcript to receive transfer credit and to officially waive the need for placement testing. Students applying for admission to limited enrollment Allied Health programs should consult the program's admissions brochure for detailed information about placement testing for the program of choice. These publications are available in the Bailey Student Services Center and are available online at http://www.abtech.edu/Student_Services/admissions/ allied_health.asp.

Test Preparation and Re-Testing Procedure

It is incumbent upon students to fully prepare before taking Accuplacer, the college's placement assessment tool. Accuplacer is a product of The College Board which also produces the SAT. Accuplacer tests have very high reliability and validity. To assist students in preparing, a study guide is available at http://www. abtech.edu/Student_Services/pdfs/Accuplacer.pdf. Students will find the sample questions helpful in understanding test formats. For content preparation, students are encouraged to use recommended sites found on page two of this document.

Students may only take the placement test once in a three year period with the following exceptions:

- Applicants for competitive allied health curricula may take the test once each year during the competition period.
- Students who tested at local high schools may test when applying for admission to the college.
- Student requests to re-take the test that are approved to do so by the Chair of Developmental Studies, Director of Counselor, or Vice-President for Student Services. This option should only be used under exceptional circumstances. If approved, a form will be completed and given to the student for presentation to the assessment specialist at the time of re-testing.

Placement testing is a valuable tool in ensuring that students are enrolled in courses that support student success. Lack of preparation for the assessment may result in additional cost and time for classes.

Placement testing preparation materials are available on the student page of the college website. The electronic brochure provides information on each of the placement testing sections as well as a sample test. Students may register for the placement test online at **http://placementtesting.abtech.edu**. Students must present a picture I.D. to take the placement test. Placement testing is available both day and evening hours and the results are provided to the student by an Academic Advisor immediately after the student completes the tests. Based on placement scores, a student

*Accuplacer is a product of The College Board which also produces the SAT. Accuplacer tests have very high reliability and validity.

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will be placed directly into College English and math or into one of the developmental studies courses that are designed to prepare the student for entry into his or her chosen field of study. To support student success, students are required to take the courses into which they are placed.

Adult Basic Education Within Basic Skills Department Student Status

Students who place into Adult Basic Education reading will be allowed to enroll in College courses only after they have received appropriate remediation through the Adult Basic Skills program. Students who test into both Adult Basic Education language and mathematics must also receive appropriate remediation prior to enrolling in college courses.

Students who place into Adult Basic Education level math only or Adult Basic Education language only will be allowed to take Developmental Studies and/or curriculum classes with approval of their academic advisor.

Transfer, Credit-by-Exam, Articulated, and Advanced Placement Credit

Transfer Credit from Other Institutions.

Asheville-Buncombe Technical Community College will accept credit for parallel work completed in other post-secondary institutions accredited by a regional accrediting agency. Applicants who seek transfer credit should make regular application to the College. No transfer credit will be granted for work below a "C." Transfer credit for developmental courses will only be granted if the course is a semester course taken at another college in the North Carolina Community College System. Transfer credit will be awarded for course work without assigning grades or quality points. Computer information/technology and related courses must be five years or more recent upon point of transfer. Proficiency credits from other institutions will not be accepted. No more than one-half of the credit hours required in a program may be earned by transfer credit. If any course is taken for credit after transfer credit has been awarded, and a grade of A, B, C, D, or F is earned, it will replace the transfer credit. A student who must repeat a course may take it at another institution and transfer it to A-B Tech according to the guidelines above. Credit may be awarded for appropriate military courses. If a student submits a transcript from a foreign university, it will be the student's responsibility to provide accurate notarized translations of (a) the transcript, (b) course descriptions, and (c) the grading system. Credits will be evaluated in the context of the current catalog.

Students transferring into the Associate in Arts, Associate in Science, or Associate in Fine Arts program who have transfer credit from colleges other than the North Carolina Community College System (NCCCS) or the institutions in the University of North Carolina System should speak with their advisor regarding eligibility for the Articulation Agreement between the universities and NCCCS. Students who have quarter courses will not be eligible for the Comprehensive Articulation Agreement. Transcripts of these students will be evaluated on a course-by-course basis.

Students transferring into the A.A. or A.S. program who have completed the general education core of 44 semester hours with the proper distribution of hours, a "C" or better in all courses, and an overall GPA of 2.0 will be given credit for the general education core. Students transferring into the AFA program who have completed the general education core of 28 semester hours with the proper distribution of hours, a "C" or better in all courses, and an overall GPA of 2.0 will be evaluated by the university to which they transfer on a course-by-course basis.

Credit by Examination (Proficiency Testing)

Students who can provide tangible evidence of preparation to challenge a course, such as a transcript of similar College level credits, record of military study, certification or license, standardized test scores, or written statements from employers regarding training or directly related work experience indicating that they may be proficient in a subject, may request credit by examination. A written request must be made to the proper Department Chairperson on a form obtained from the Student Records and Registration Office or from the website. This test must be administered immediately after the 10 percent point in the semester.

Examinations are comprehensive and must be approved by the supervisor of the instructor administering the exam. The examination may be oral, performance, written, or a combination of these methods. To receive credit by examination, the score must be above average ("A" or "B"). A grade of "A" or "B" will be posted on the transcript of the student who successfully completes the examination. The decision of the examining instructor is final.

No student may request a second test for Credit by Examination in the same course or request Credit by Examination in a course after receiving any recorded grade for that course. Exceptions must have approval of the Vice President for Instruction.

Because of specific requirements, credit for certain courses may not be received through Credit by Examination. Students who request Credit by Examination must:

- 1. Enroll as a credit student in the course to be challenged and pay tuition if enrolled on a part-time basis. There is no extra charge for full-time students who are taking at least 16 credit hours.
- 2. Present evidence of proficiency, complete the written request form, and have the request approved prior to the 10 percent point of the semester.

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- 4. Students who are very confident of passing the exam may request a course overload.
- 5. Students who perform on the exam at a level sufficient to get credit may leave the course and will be awarded a grade of "A" or "B" for the course. Receiving credit does not entitle the student to a tuition refund.
- 6. Students who do not receive credit by examination must remain in the class and complete all course requirements to earn credit at the end of the semester.
- 7. Students who receive financial assistance of any type are required to inform the director of their assistance program that they are seeking credit by exam. Assistance may be reduced and reimbursement will be required if the course load is reduced by receiving credit by examination.

Any exceptions to these procedures must have prior written approval by the appropriate Department Chairperson, Division Dean, and the Vice President for Instruction.

Articulated, Advanced Placement, and Continuing Education Credit

High School Articulation and RAVE. College credit may be awarded for high school courses if conditions of the North Carolina High School to Community College Articulation Agreement or Regional Articulation in Vocational Education (RAVE) are met. Students must see the Director of Admissions in the Bailey Student Services Building.

AP and CLEP. College credit may be awarded if appropriate conditions are met by Advanced Placement (AP) or College Level Examination Program (CLEP) test scores. A-B Tech academic credit will be granted to enrolled students who receive scores of 3 or higher on the AP tests offered by the College Board. CLEP is granted for scores of 50th percentile or higher. AP and CLEP credit accepted at other post-secondary institutions is not automatically transferred to A-B Tech but is reviewed when scores are received by the Director of Admissions in the Bailey Student Services Center.

Continuing Education. Continuing education credits that lead to a credential or certification may be considered for course equivalency. Department chair approval is required, and the student must be enrolled in the program for which he or she is seeking credit.

International Applicants

A-B Tech has been approved to issue I-20 forms for qualified international applicants seeking diplomas or associate degrees in F-1 or M-1 status. A-B Tech does not issue I-20 forms for continuing education programs, English as a Second Language classes, or curriculum certificate programs.

International applicants must show proficiency in the English language and graduate from a secondary school that is equivalent to secondary schools in the United States. Both academic records and documentation of financial support are important factors in the admissions decision for all applicants from outside the United States and those holding non-immigrant visas in the U.S.

International applicants should submit all admission credentials together. A written admissions application, international application supplement, TOEFL scores, official high school transcripts and English translations (if applicable), college transcripts and English translations (if interested in transfer credit), and affidavits of financial support with supporting documentation are all necessary for an admission decision. Applications must be received by the following deadlines for consideration: June 1 for Fall semester; October 1 for Spring semester; March 1 for Summer semester.

To demonstrate English proficiency, international applicants whose native language is not English must take the Test of English as a Foreign Language (TOEFL). The applicant must score at least 133 on the computer-based test, 450 on the paper-based test, or 60 on the internet based test(with no less than 15 on any section). Applicants already in the Asheville area may substitute the Accuplacer Placement Test, which can be taken at A-B Tech. Applicants must score a minimum of 52 on the reading section and 53 on the sentence skills to demonstrate English proficiency.

International applicants must also certify their ability to pay for out-of-state tuition, fees, books, supplies, transportation, and living expenses for at least one full year of study. Medical insurance is not required at this time but is highly recommended for all international applicants.

International applicants should contact the International Student Advisor in the Bailey Student Services Center for further information about admission. Information, including all necessary application materials and estimated cost of attendance, are also available online at http://www1.abtech.edu/content/student-services/ admissions/International-Applicants. E-mail inquiries should be addressed to: rhowell@abtech.edu.

Tuition and Expenses

North Carolina Residency

In order to qualify for the resident tuition rate, North Carolina law (G.S. 116-143.1) requires that a legal resident must have maintained domicile in North Carolina for at least the 12 months immediately prior to classification as a resident for tuition purposes. The student cannot qualify for in-state tuition if he or she is claimed as a dependent by a parent or guardian who is not a N.C. resident.

One must also have accomplished many of the things normally done by one who intends to reside in a state permanently. Examples of these actions are being employed, paying taxes, having a current North Carolina driver's license, and voting in the state. Anyone having a question regarding resident status should contact the Bailey Student Services Center staff or the Director of Admissions.

Computer Use and Technology Fee

The State Board of Community Colleges has established a computer use and technology fee to support the procurement, operations and repair of computer and other instructional technology, including the supplies and materials that support the technology. This fee is set annually by the Board of Trustees and will be up to \$16 per semester for Curriculum students and \$5 per course for occupational continuing education classes. Returned check charge: \$25.00.

Consumable Supply Fee

Certain courses will have an additional, course specific fee attached to them to pay for consumable supplies not covered by tuition. This fee will be assigned at the time of registration. This fee is approved annually by the Asheville-Buncombe Technical Community College Board of Trustees.

Tuition*

Fall, Spring, and Summer Semester:

N.C. residents per semester\$	904.00
Nonresident of N.C)00.00
Part-time N.C. residents per credit hour per semester	\$56.50
Nonresident of N.C. per credit hour per semester \$250.00 (prop (fewer than 16 credit hours)	osed)
Return Check Charge**	\$25.00
North Carolina residents 65 years of age and older are exempted from	ı the

North Carolina residents 65 years of age and older are exempted from the payment of curriculum tuition and registration fees for some Continuing Education classes.

*Tuition is subject to change by the state legislature.

** Return Check Charge is subject to change.

Student Activity Fees

The student activity fee will be charged each semester based upon the number of credit hours taken during the day at the Asheville campus. The student who enrolls for nine or more on-campus day credit hours will be charged a student activity fee of \$19.00 for the fall and spring semesters. The student who enrolls for eight or fewer on-campus day credit hours will be charged a student activity fee of \$14.00 for the fall and spring semesters.

Student Insurance

Certain risks are inherent in any work involving regular contact with mechanical and electrical equipment. While stringent precautions will be taken to ensure safety, it is felt to be in the interest of all students to provide some measure of insurance protection.

A group policy, providing the desired insurance protection, will be maintained in effect by the College and all curriculum students will be RE-QUIRED to subscribe to such coverage. The only exception would be students taking only off-campus courses. The cost of accident insurance to the student will be approximately \$2.00 per semester.

Transcript Fee

The College charges a transcript fee of \$5 per transcript and a \$10 fee per transcript on-demand. This fee is approved annually by the Asheville-Buncombe Technical Community College Board of Trustees and is subject to change.

Additional Costs

Beginning students should be prepared to incur additional estimated expenses during the academic year (two semesters and summer term) as follows:

Allied Health and Public Service Education

Books
Supplies
Arts and Sciences: A.A., A.S., A.F.A.
Books
Supplies
Business and Hospitality Education
Books
Supplies
Engineering and Applied Technology
Books
Supplies

The cost of books and supplies varies from year-toyear by curriculum due to price changes, curriculum changes, and instructor preferences. For purposes of definition, the following items may be classified as supplies: pen, pencils, paper, notebooks, instruments, student kits, uniforms and shoes, rental of uniforms, safety equipment, hand tools, calculators, lab coats, membership dues, and pins. Students will incur most of the supply costs for their curriculum during the first semester of study. Students are encouraged to consult with their department chairperson for actual costs of supplies for their curriculum. Students should consult with their department chairperson or a member of the Math Department prior to the purchase of a calculator for use in class.

Tuition and Fees Refund Policy

The tuition policy is set by the State of North Carolina and is subject to change. A 100% refund shall be made if the student officially drops prior to the first day of

classes of the term as noted in the College Calendar. Also, a student is eligible for a 100% refund if the class in which the student is registered is canceled.

A 75% refund shall be made if the student officially drops from the class(es) prior to or on the official 10% point of the term. Insurance, technology, and student activity fees are NOT refundable. Federal regulations, if different from above, will overrule this policy.

Minimester and other classes that start one week or more after the regular start of the term may be dropped through the working day prior to the start of the class for a full refund. A 75% refund will be made if the student officially drops prior to the 10% point of the class.

Only hours dropped below a total of 16 credit hours are considered for a refund. For example, a student registered for 18 hours who drops a 4-hour class before the 10% point of the term, leaving a 14-hour schedule, will be refunded 75% of 2 credit hours.

Any requests for exceptions must be presented to the Vice President for Student Services.

Tuition Refund Procedure

To be eligible for a tuition refund the student must:

- 1. Register and pay tuition and fees.
- 2. Officially drop the class on or before the 10% point of the term in one of the following ways:
 - a. By submitting in person to any Registration Center (Bailey Student Services Center, Transfer Advising Center, Records & Registration, Madison Campus Office) a Drop/Add Registration Change Notice during business hours.
 - b. By having your advisor process the drop. You are responsible for ensuring this has been done.

Student Rights, Responsibilities, and Due Process

Code of Student Conduct

Almost 26,000 students, faculty, and staff are part of the A-B Tech family. Every year hundreds of people graduate from the College, and hundreds of new freshmen take their places. To protect all these students and employees from the irresponsible actions of others, the College has adopted basic rules of student conduct.

Students who have been charged with a violation of these rules may be assigned consequences based upon the seriousness of the offense. A hearing will be conducted by the Vice President for Student Services. In some situations, a Threat Assessment Team may review and make recommendations to the Vice President for Student Services prior to a hearing. If a student engages in criminal activity or demonstrates threatening behavior that constitutes a clear and present danger to the physical and/or emotional well being of the student and/or other students, faculty and staff, the Vice President for Student Services shall immediately suspend the student and remove him/her from campus for no more than ten school days pending a hearing. In this situation, the Vice President for Student Services must convene a Team. See Threat Assessment Policy.

Consequences for violations include verbal warnings, written warnings, disciplinary probations, particular consequences adapted to the violation, suspensions, expulsions and recommendations by a Threat Assessment Team. Any disciplinary decision rendered by the Vice President for Student Services may be appealed to the President.

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Any student charged with a violation of the Code of Student Conduct will receive a written copy of the charges and an appointment for a hearing. At a hearing, a student shall receive certain due process rights. It shall be the responsibility of the President or his/ her designee to create and amend these rights and list them each year in the A-B Tech catalog.

The following actions are specifically prohibited on this campus under the Code of Student Conduct:

- 1. Academic Dishonesty You may not deceive any official of the College by cheating on any assignment, examination, or paper. This includes plagiarism, which is the intentional theft or unacknowledged use of another's words or ideas. Plagiarism includes (but is not limited to) paraphrasing or summarizing another's words or works without proper acknowledgement, using direct quotes of material without proper acknowledgement, or purchasing or using a paper or presentation written or produced by another. The faculty at A-B Tech may also consider presenting as original work a paper written for one class to satisfy a requirement in another class to be academic dishonesty.
- 2. Alcoholic Beverages You may not possess or use alcoholic beverages on campus. You may not be under the influence of alcoholic beverages on campus.
- 3. **Animals** You may not have an animal of any kind on campus. This includes animals left within a vehicle. Working dogs, such as police dogs and Seeing Eye dogs, are permitted.
- 4. **Assault and/or Battery** You may not strike or threaten to strike another person for any reason whatsoever. Threatening to strike another person is defined as assault, and striking another person is defined as battery.
- 5. **Bullying** You may not intimidate or threaten with harm any other individual. Bullying is defined as "any pattern of gestures or written, electronic or verbal communications, or any physical act or any threatening communication that takes place on College premises or at any College sponsored function that: (i) places a person in actual and reasonable fear of harm to his/her person or damage to his/her property; or (ii) creates or is certain to create a hostile environment by substantially interfering with or impairing a student's educational performance, opportunities or benefits, or a College employee's ability to perform the essential functions of his/her job."
- 6. **Code of Classroom Conduct** You may not violate any of the rules pertaining to the Code of Classroom Conduct. It shall be the responsibility of the President or his/her designee to create and amend these rules and list them each year in the A-B Tech Catalog.

- 7. **Damage to Property** You may not damage property of the College or of any other person working at or attending the College.
- 8. **Disobedience** You may not disobey the reasonable directions of College employees, including administrators, faculty members, security officers, and other staff employees.
- 9. **Disorderly Conduct** You may not conduct yourself in a way which will interrupt the academic mission of the College or which will disturb the peace of the College.
- 10. **Disrespect** You are expected to treat all college employees with respect and courtesy, particularly when and if disagreements arise.
- 11. **Disruption** You may not disrupt the normal activities of the College by physically or verbally interfering with instruction, meetings, traffic, or scheduled administrative functions.
- 12. **Drugs** You may not possess, use, or be under the influence of any narcotic or illegal drug on campus in violation of the laws of the state of North Carolina or of the United States.
- 13. **False Information** You may not present to the College or its employees false information; neither may you knowingly withhold information which may have an effect on your enrollment or your status in the institution and which is properly and legally requested by the College.
- 14. Gambling You may not gamble on campus.
- 15. **Possession of Weapons** You may not have a weapon of any kind, including a knife, stun gun, or any firearm in your possession on campus. Law Enforcement officers are exempt from this prohibition. This includes facsimiles of weapons.
- 16. **Professional Conduct** Various curricula have specific codes of professional conduct for which you may be held accountable, if you are enrolled in those curricula.
- 17. **Public Laws** Violations of any federal, state or local laws occurring while on campus may lead to legal actions as well as campus discipline. Violations of federal, state or local laws occurring off campus may result in disciplinary action if the student's continued presence on campus constitutes a threat to the safety and order of the campus.
- 18. Sexual and Other Unlawful Harassment You may not harass any member of the College community, including other students, employees, or other persons on the College campus. This prohibition includes sexual, verbal or physical harassment for any reason including race, color, religion, sex, national origin, disability, veteran's status, creed, sexual orientation, or political affiliation.

20. **Stalking** - You may not follow another individual in a threatening manner. Stalking is defined as the severe intrusions on a victim's personal privacy and autonomy. It includes, but is not limited to, a pattern of: observing or monitoring the victim or committing violent or intimidating acts, regardless of the means, against the victim.

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- 21. **Theft** You may not steal the property of another individual or of the College. Students who are caught stealing will be required to make restitution and may be eligible for civil or criminal prosecution as well as College discipline.
- 22. **Threats** You may not engage in any behavior that constitutes a clear and present danger to the physical and/or emotional well being of yourself and/or other students, faculty and staff.
- 23. **Tobacco** You may not use tobacco of any form on campus.
- 24. Use of the Internet The College has an extensive policy for appropriate use of the Internet. Users of the College computers acknowledge the policy whenever they sign on. You may not use the College's access to the Internet for access to sexually explicit material or for downloading music. E-mail accounts are provided for student use; however, no right of privacy exists for use of e-mail.

Code of Classroom Conduct

A-B Tech is an institution for adult learning. It is a partnership between instructors with the desire to teach and students with the desire to learn. In order to create an appropriate environment for teaching and learning, there must be respect for the instructor and fellow students. Listed below are guidelines for classroom behavior, which the College has established to ensure that the learning environment is not compromised.

- 1. **Absences**. Inform the instructor in advance if you know you are going to miss class. Also, take responsibility for getting missed assignments from other students. Do not expect that you will be allowed to make up work, such as unannounced quizzes or tests, after an absence. Instructors are not responsible for re-teaching the material you missed because of absence.
- 2. Attendance. You are expected to be in class the entire class time. Do not enter late or leave early. Rare exceptions may be excused, particularly under emergency circumstances, but you should be prepared to explain your tardiness to the instructor after class. Likewise, the need to leave early should be explained to the instructor before class.

- 3. Attitude. You are expected to maintain a civil attitude in class. You may not use inappropriate or offensive commentary or body language to show your attitude regarding the course, the instructor, assignments, or fellow students.
- 4. **Cell phones and beepers**. You may not receive or send telephone calls, text messages, or pages during class. You are responsible for turning off cell phones, beepers, and other personal communications devices upon entering class.
- 5. **Conversation**. Do not carry on side conversations in class.
- 6. Food, Drink, and Tobacco. You may not have food or drink in class. You may not use tobacco of any form on campus.
- 7. **Guests**. You may not bring unregistered friends or children to class.
- 8. **Internet**. In classes where internet access is provided, you may use the internet for valid, academic purposes only. You may not use it for open access to other non-academic sites, which are unrelated to the course.
- 9. **Other Activities**. You may not work on other activities while in class. This includes homework for other courses or other personal activities.
- 10. **Personal Business**. You may need to transact personal business with the instructor, asking him or her to sign forms. Plan to do this before instruction begins or after class.
- 11. **Profanity and Offensive Language**. You may not use profanity or offensive language in class.
- 12. Sleep. Do not sleep in class.
- 13. **Personal Protective Equipment**. You must properly wear personal protective equipment at all times in any area of the College in which it is required.
- 14. **Perfumes**. You should avoid wearing strong perfumes of any kind as other students may be allergic to them.

Typically, violations of the Code of Classroom Conduct will be dealt with as minor infractions. However, repetition of minor infractions or other more serious violations of the Code of Student Conduct may lead to removal from the classroom while the matter is resolved and referral to the Vice President for Student Services for disciplinary action.
Student Rights of Due Process

If you are accused of a violation of the Code of Student Conduct, A-B Tech guarantees you these rights as the matter is resolved:

- 1. You have the right to written notice of the provision of the Code of Student Conduct, which you are accused of violating, and a summary of the relevant facts.
- 2. You have the right to a hearing before the Vice President for Student Services.
- 3. You have the right to review all evidence, including written statements made against you. (Strict rules of evidence do not apply in the hearing.)
- 4. You may cross-examine witnesses.
- 5. You may present witnesses and evidence.
- 6. You may be represented by counsel, if you notify the Vice President for Student Services in advance of the hearing.
- 7. You have the right to a record of the hearing.
- 8. You have the right to a written notice of a decision within two days of your hearing.
- 9. You have the right to appeal any action taken by the Vice President for Student Services to the President. Any appeal must be in writing and be submitted within five days. The decision of the President is final.

Student and Grade Appeals Policy

If you feel that you have been disciplined unfairly or wish to appeal some other decision that you consider to be unjustified, unfair, or a violation of your rights, then you should appeal that decision. In order to appeal the decision, you should use the Student and Grade Appeals Policy, which is summarized below. A complete copy is available from the Vice President for Student Services in the Bailey Student Services Center.

The intention of this policy is that the faculty member or other employee who has been responsible for the act that you consider to be unfair will attempt, in good faith, to resolve the dispute. You are encouraged to discuss the matter with him or her in an attempt to resolve it. If it is not possible to resolve the matter at this level, then you should bring the matter to the attention of the Vice President for Student Services.

The Vice President will hold an informal session to which you and the employee concerned are invited. Every attempt will be made to resolve the matter at that level, even if multiple sessions are required. If the problem is not resolved, then the Vice President for Student Services will inform you of the formal appeals procedure and provide you with an appeal form. The appeal form must be filled out and returned to the Vice President for Student Services within five days. The appeal form must be signed by the student and the employee involved. It should also be signed by the supervisor or supervisors of the employee involved up the chain of command through the appropriate Vice President. Each of these supervisors may propose solutions to the disagreement which, if accepted by both parties, will result in resolution of the problem. Failure to reach agreement at any level in the appeal process will require that the matter be taken up to the next higher level.

Particular attention will be paid to ensuring that night students can have access to supervisors who are otherwise available during the day hours only.

If the matter remains unresolved through the level of the appropriate Vice President, then you should return to the Vice President for Student Services who will then turn the matter over to the Student Appeals Committee. This Committee, which is composed of two students, two faculty members, a Student Services employee, and a non-teaching professional who will serve as chairperson, is called together by the Vice President for Student Services. The chairperson will conduct the meeting and render a decision which reflects the popular opinion of the Committee. If further appeal is necessary, then the matter is referred to the President whose decision is final. When this policy is used to appeal a disciplinary action taken by the Vice President of Student Services in his or her capacity as the College discipline officer, the appeal will go directly to the President whose decision is final.

Appeals pertaining to grades issued in courses must be initiated with the Vice President for Student Service within six weeks of the awarding of the grade.

As stated earlier, a complete copy of this policy is available from the Vice President for Student Services, and you are encouraged to see him or her if you feel that an appeal is necessary.

Privacy of Student Records

1. Definitions:

- a. "Directory information" means information contained in an education record of a student that would not generally be considered harmful or an invasion of privacy if disclosed. For purposes of this section, directory information includes: name, address, telephone number, e-mail address, date and place of birth, major field of study, dates of attendance and degrees received.
- b. "Education record" means records that are directly related to a student and maintained by an educational agency or institution or by a party action for the agency or institution.

Admissions and Student Information

- c. "Eligible student" means a student who is eighteen years old (or starts attending any postsecondary institution) and has complete control of his or her education records.
- d. "Law enforcement purpose" means enforcing state, local or federal law; referring possible violations of such law to law enforcement agencies or enforcement; or otherwise maintaining the physical security or safety of the school.
- e. "Law enforcement unit" refers to the A-B Tech Campus Police Force which is officially authorized by A-B Tech to:

• enforce any local, State or Federal law, or refer to appropriate authorities a matter for enforcement of any local, State or Federal law against any individual or organization other than the agency or institution itself; or

• maintain the physical security and safety of the agency or institution.

- f. "Law enforcement unit record" means any records, files documents and other materials that are:
 - created by a law enforcement unit;
 - created for a law enforcement purpose; and

• maintained by the law enforcement unit. Records created and maintained by a law enforcement unit exclusively for a non-law enforcement purpose, such as a student disciplinary action or proceeding conducted by the education agency or institution, are not law enforcement unit records, even if created and maintained by law enforcement unit personnel.

- g. "Legitimate educational interest" means the need for an individual to know the content of a student's education record for purposes of educational related matters (included but not limited to academic and disciplinary issues).
 For purposes of this section, the personnel of the A-B Tech Campus Police are designated as school officials with a legitimate educational interest in student's education records.
- 2. In compliance with the Family Educational Rights and Privacy Act of 1974 ("FERPA"), commonly know as the Buckley Amendment, Asheville-Buncombe Technical Community College ("A-B Tech") will not disclose education records concerning its students except for directory information and as otherwise stipulated herein.

Directory information may be released to anyone who requests it, unless the student specifies in writing to the Student Records and Registration office that his or her directory information be withheld. In such case, no directory information will be released.

- 3. A parent of an eligible student does not have access to the student's education records. In order for parents to have access to an eligible student's education records, beyond directory information and without written permission from the student, a parent must certify that the student is economically dependent as defined in Section 152 of the Internal Revenue Code of 1954. If a parent can prove dependency to the Student Records and Registration office by showing a copy of the parent's current tax report form or another acceptable report of current dependency, then the parent may have total access to the student's education records.
- 4. A-B Tech will release a student's educational records without his or her approval only under the following circumstances:
 - to Asheville-Buncombe Technical Community College officials who have legitimate educational interest in the records.
 - to officials of another college or university in which a student seeks to enroll.
 - to certain federal and state educational authorities for purposes of enforcing legal requirements in federally supported educational programs.
 - to persons involved in granting financial aid for which the student has applied.
 - to testing and research organizations conducting certain studies for or on behalf of the school.
 - to accrediting organizations.
 - in compliance with a court order or lawfully issued subpoena.
 - in very narrowly defined emergencies affecting the health and safety of the student or other persons.
 - to state and local authorities, within a juvenile justice system, pursuant to specific state law.
 - to parents of eligible students under the provision of paragraph 2 above.
- 5. Law enforcement unit records are not education records and may be disclosed by the A-B Tech Campus Policy Force to College Officials, other law enforcement personnel and court officials without parental consent. Parents do not have an automatic right to inspect law enforcement unit records. Public inspection of law enforcement unit records is subject to the Chapter 132 of the North Carolina General Statutes (the North Carolina Public Records Act). All public records requests for law enforcement unit records must be reviewed by the College Attorney for legal compliance.
- 6. Questions regarding student records should be directed to the College's Student Records and Registration office.

Academic Procedures

Classification of Students

Full-time student: A student enrolled for 12 or more credit hours during fall and spring semesters and 9 or more credit hours during the summer session.

Part-time student: A student enrolled for fewer than 12 hours during fall or spring semesters or fewer than 9 credit hours during summer session. (Please note that financial aid recipients registered during the summer will need 12 credit hours for full Pell awards.)

Declaring, Changing, or Adding Second Majors

In order to declare a major, change majors, or add a second major, the student needs to see an Academic Advisor in Student Services who will complete a change-of-major form indicating the new major or the second major. The catalog in effect at the time of this declaration will be the catalog recorded for this major.

Class Attendance

Regular and punctual class attendance is expected of all students for them to achieve their potential in class and to develop desirable personal traits necessary to succeed in employment. Instructional time missed is a serious deterrent to learning. Students are responsible for fulfilling the requirements of the course by attending and completing course assignments. An accurate record of class attendance will be kept.

If instructional time is missed for excusable reasons, the student will be permitted to make up work to the extent possible. Because of the nature of some learning experiences, especially clinics, labs and shops, it is difficult, if not impossible, to duplicate the work of the class. In some courses, absence or tardiness of an individual may be a major disruption to the performance of others in the class or an inconvenience to other organizations such as hospitals and clinics. The faculty may develop guidelines for advance notice of absences, makeup of work, etc. Students will be informed of guidelines at the beginning of the course.

To receive course credit, a student should attend a minimum of 85% of the contact hours of the class. Upon accumulating absences exceeding 15% of the course contact hours, the student may be dropped from the class unless the student follows the official withdrawal procedure before the withdrawal deadline for the class. (To receive course credit when enrolled in an Allied Health program*, a student should attend a minimum of 90% of the contact hours of all major area* courses. Upon accumulating absences exceeding 10% of the contact hours, the student may be dropped from the class, unless the student follows the official withdrawal procedure before the withdrawal deadline. The 90% minimum attendance requirement applies to these major area course prefixes: *NUR, CAT, DEN, EMS, MED, MLT, MRI, SON, PBT, RAD, SUR and VET.

To receive course credit when enrolled in a Cosmetology program, a student should attend a minimum of 95% of the contact hours of all major area courses. Upon accumulating absences exceeding 5% of the contact hours, the student may be dropped from the class unless the student follows the official withdrawal procedure before the grade of "U" is recorded. The 95% minimum attendance requirement applies to the major area course prefix of COS.

A tardy is defined as arriving late for class, leaving early, or being away from class without permission during class hours. Three tardies may constitute one absence.

It is the joint responsibility of the student and instructor to discuss attendance patterns that will endanger the success of the student in the course. If it appears that a student will not be able to complete a course successfully, the instructor may advise the student to withdraw no later than the official withdrawal date at the 75% point of the class.

It is mandatory that the student attend at least once during the first 10% of the course, including online courses. Failure to attend during the first 10% of the course will cause the grade of "No Show" to be awarded. The student will not be allowed to continue with the course or to receive a refund.

Prerequisites and Corequisites

Before enrolling in a course with prerequisite requirements, students must satisfactorily complete the prerequisite course(s). Corequisite courses should be taken the same semester. Exceptions may be approved by the appropriate department chairperson and will be documented in the student's academic file.

Course Substitutions

Curriculum course substitutions must be approved by the program area dean and forwarded to the registrar.

Success and Study Skills

ACA 115 for Degree-Seeking Students

Degree-seeking students who enroll in a college program requiring ACA 115, EGR 110, CUL 111, or any equivalent course, must enroll in and successfully complete the course with a grade of "C" or better within their first two semesters of enrollment (exceptions are students in the Engineering and Applied Technology Division who will enroll in EGR 110 and Culinary students who will enroll in CUL 111). Students who do not meet this requirement will be prevented from registering for future semesters without enrolling in the course.

Any student who places into more than one developmental course must enroll concurrently in ACA 115, EGR 110, CUL 111 or an equivalent course. Students transferring a similar course will be permitted to substitute another course for ACA 115, EGR 110, CUL 111 or the equivalent course and will not be subject to the above requirement and subsequent restrictions.

Schedule Adjustments

Dropping a Class

In order to officially drop or withdraw from a course without academic penalty, the student must complete the appropriate form and submit it in person by the deadline.

The student may drop classes through the first 10% of the term. (For full semester classes the 10% point occurs on the eighth day. For 8-week minimesters, the 10% occurs on the fourth day. For Summer Session, the 10% occurs on the fifth day for 10-week sessions.) A class may be dropped in one of the following ways:

- a. By submitting in person to any Registration Center (Bailey Student Services Center, Transfer Advising Center, Madison Campus Office) a Drop/Add Registration Change Notice during business hours.
- b. By having your advisor or Academic Advisor process the drop. You are responsible for ensuring this has been done.

In the case of drops, the course(s) will not be included on the transcript.

Withdrawing from a Class

After the 10% point of the term, a student wishing to withdraw from a class must complete a withdrawal form. A student receiving financial aid must obtain a signature of a financial aid officer and all instructors. Anyone receiving veteran's benefits must obtain signatures from the instructor(s) and the Veteran's Affairs Advisor. Any F-1 or M-1 international student must obtain signatures from the instructor(s) and the International Student Advisor. All withdrawal forms must be received by the Bailey Student Services Center, Transfer Advising Center, or Madison Campus Office during the first 75% of the term. (For full semester classes the 75% point occurs at the end of the 12th week. For 8-week classes it occurs at the end of the sixth week. For 4-week classes it occurs at the end of the third week. For Summer Session it occurs in the middle of the seventh week. Deadline dates will be published in the Student Handbook and Events Calendar each year.) In the case of a withdrawal, the student will receive a grade of "W," which will not influence the quality point ratio, but will appear on the transcript.

Any student who accumulates absences in excess of 15% of the course contact hours (10% for allied health courses) may be dropped from the class and awarded a grade of "U," unless the student follows the official

withdrawal procedure before the withdrawal deadline. The "U" grade is equivalent to an "F" and will affect the quality point ratio.

Exceptions such as serious illness or job transfer requiring withdrawal from all classes after the 75% point of the term will be considered on an individual basis by the Vice President for Student Services. A student who has withdrawn from a class may no longer attend the class.

Adding a Class

A student may add a class to his or her schedule by submitting a "Drop/Add Registration Change Notice" form to any Registration Center (Bailey Student Services Center, Transfer Advising Center, Maison Campus Office). A class may only be added prior to the first scheduled meeting and through the first day for online classes.

Balancing Class Size

Each student is assigned a sequential number for each curriculum class by the computer as registration is completed. This number determines position in the class should the class need to be split. The position determines the priority of the student to remain in the class. The College reserves the right to split classes and assign students to alternate sections whenever necessary to balance class size.

College Withdrawal

Students who withdraw from the College (i.e. withdraw from all courses) must complete the appropriate withdrawal form for each class prior to the 75% point of the term (see previous section). A grade of "W" will be assigned.

To withdraw from the College after the 75% point, a student must:

- 1. Obtain a withdrawal form from the Vice President for Student Services.
- 2. Document valid reason(s) for needing to withdraw.
- 3. Discuss the need to withdraw with the Vice President for Student Services. Students who are approved for late withdrawal must withdraw from all courses.

If an emergency prevents the student from completing the withdrawal process before leaving the campus, the student should call, write or arrange for someone to contact the Vice President for Student Services.

Grading System

Final grades will be issued to all students at the end of the term based on the criteria outlined in the course syllabus. A student who wants to contest a grade must do so within six weeks of the awarding of the grade. A grade cannot be changed after this period without approval by the department chair and the division dean.

Students will be graded by the following system:

A	90-100	Excellent academic performance, consistent mastery of facts and concepts, and a thorough understanding of course content.
В	80-89	Good academic performance, high-level mastery of course content.
С	70-79	Average academic performance.
D	60-69	Marginal academic performance, poor mastery of course content.
F	Below 60	Very poor performance, no demonstration of even minimal mastery of course content.
Ι	Incomplete	Assigned when a student is unable to complete work or take a final examination because of illness or other reasons over which the student has no control. An incomplete grade must be completed within the first six weeks of the next semester. Otherwise, the grade becomes an "F."
U	Unofficial Withdrawal (penalty)	Assigned when the student does not follow the College's of- ficial withdrawal policy by the course withdrawal deadline or is dropped for excessive absences. This is the equivalent of an "F" grade and will influence the quality point ratio.
W	Official Withdrawal (no penalty)	Assigned when the student OFFICIALLY WITHDRAWS. This will not influence the quality point ratio. Developmental Stud- ies faculty may officially withdraw a student from a course. Official withdrawals are not allowed after the 75% point of a semester or term, as identified in the official college calendar, except for exceptional and documented emergencies. In such circumstances, the student must withdraw from all courses. Approval for an emergency withdrawal must come from the Vice President for Student Services.
X	Continuing	Assigned when a student is unable to complete work during the current semester because of class scheduling over con- secutive semesters or at the discretion of the instructor to al- low additional time to complete work. A "contract" of condi- tions for completion and time limit, not to exceed 12 months, will be executed by the instructor and signed by both the instructor and student. If the terms to remove the grade of "X" are not fulfilled by the end of the contract period, the grade will revert to the average held at the beginning of the contract period including zeros for work not completed.

Transcript Codes

Other codes that may appear on the college transcript include:

AP	Advanced Placement course credit.
AR	North Carolina High School to Community College Articulation Agreement course credit.
CR	CLEP (College Level Examination Program) course credit, or other academic credit applied from non-course activity.
NS	No Show. Student enrolled but never attended the class. This will not influence the quality point ratio.
Т	Transfer credit from other colleges, universities, and military credit.
TA	Transfer credit from other North Carolina colleges and universities that articulates under the Comprehensive Articulation Agreement.
TS	Transfer credit from other North Carolina community college which can be used only for di- ploma or A.A.S. programs.
Y	Audit.

The pound sign next to a grade indicates that the course has been excluded from the quality point average either through course repetition or Academic Fresh Start.

Quality Points

At the end of each semester quality points are assigned in accordance with the following formula. (The minimum program grade-point ratio for graduation is 2.00 or an average of grade "C.")

A	4 quality points per credit hour	D	1 quality points per credit hour
В	3 quality points per credit hour	F	no quality points
С	2 quality points per credit hour	U	no quality points

Quality ratings are determined by dividing the total number of quality points by the number of hours attempted (excluding grades of "X", "I" and "W"). A ratio of 2.00 indicates that a student has an average of "C."

Final Examination Policy

Each instructor will schedule a comprehensive final course evaluation at some point during the last five days of the semester or the last two days of the class. The evaluation may consist of one or multiple components or methods. The course schedule will indicate the date(s) and method(s) of evaluation. If the final evaluation is given prior to the last day of class, the schedule will reflect the class activities to take place after the final evaluation.

Students are required to take their final examinations at the times and places scheduled. Conflicts may be resolved by arrangement with the faculty member. Three examinations scheduled for the same day is considered a conflict.

Auditing Courses

Students wishing to audit courses must register through regular registration procedures and pay standard tuition and fees. Students who register to take a course for credit and then choose to audit the course must submit a "Request for an Audit Grade" form to the Records and Registration Office within the first 15 days of the term. The instructor must sign the form to approve the change. A student may change from audit to credit status through the Records and Registration Office only during the first five days of the term. Audit work does not receive credit and cannot be used toward diploma or degree requirements. All prerequisites must be met before a course can be audited. *Physical Education classes may not be audited*. Audit work is not covered by financial assistance.

Curriculum Course Repetition

Students who need a course to graduate may take the course as many times as necessary to pass it, providing space is available. Any course that has been passed or audited may not be taken for credit or audited more than twice per academic year subject to space being available after registration. The twice-per-year regulation also applies to single or elective courses that are not required for graduation. No single physical education course may be attempted more than twice. Concurrently enrolled high school students in Huskins Bill or dual-enrollment programs may not attempt a course more than two times while concurrently enrolled.

If a student has a failing grade in a required course, the course must be passed prior to graduation. If a student fails a prerequisite course, it must be repeated successfully before beginning the next course. This could result in the student being enrolled for a longer period than is normally required to complete requirements for graduation.

As courses are repeated, the higher grade becomes the official grade. Only a grade of "D" or above can replace an existing grade.

Independent Study

Selected courses may be available for Independent Study, with approval of the appropriate Dean. A student requesting to take a course by independent study must complete the "Request for Independent Study" form and have it approved by the department chair and division dean prior to registration. The request to enroll in a course by independent study may be approved when the following conditions are met:

- 1. The course is not offered during the current semester or is in schedule conflict with another required course and is needed for the student to qualify for graduation or transfer.
- 2. The student has a cumulative grade point average of 2.0 or higher.
- 3. The student has completed 15 semester hours of study in his/her academic program at Asheville-Buncombe Technical Community College.
- 4. A full-time faculty member, with the approval of the department chair, agrees to serve as the instructor for the semester of independent study.

A student will be allowed to accumulate credit for no more than two courses taken by independent study. Any exceptions must be justified by special circumstances and approved by the Vice President for Instruction.

Maximum Course Load

Because of the amount of effort that is expected to be put forth in college level courses, students are limited to a maximum of 20 hours of course work each semester. Exceptions to this rule can be granted by the academic dean in which the student's program is located or by the Vice President for Student Services.

Cooperative Education

In selected programs, A-B Tech provides students with an opportunity to integrate classroom learning with supervised work experience in an employment situation directly related to the educational program of the student. The work experience component is an integral part of the total educational process. The primary objective of cooperative education is to prepare the student for employment.

To be eligible to participate in a cooperative work experience activity, a student must be 18 years of age, be enrolled in a curriculum program that provides a cooperative education option, have a minimum 2.0 cumulative program GPA, have completed required course prerequisites, and have completed a minimum of 9 semester credit hours within the appropriate program of study. Approval by the department chairperson is required for a student to participate in a cooperative education activity. Any exceptions to these requirements must be approved by the appropriate academic dean.

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Admissions and Student Information

The College has established this policy to:

- provide students with a warning when they fail to meet minimum academic performance standards;
- limit scheduling when a student's academic performance indicates the necessity for intervention;
- provide a means of preventing and/or terminating prolonged failure.

This policy applies to all students, classified and unclassified.

Students whose semester grade point average (GPA) falls below 2.0 are subject to academic warning, which may be followed by probation and suspension. GPA will be calculated using the current official grade for each course taken that semester at Asheville-Buncombe Technical Community College.

I. Academic Warning

Students failing to meet the minimum GPA during any semester will receive an academic warning. The warning advises students of their academic status and encourages them to meet with their advisor immediately to examine present academic plans. Students will be notified in writing of their status by a student services advisor.

II. Probation

Students whose semester GPA falls below 2.0 for two successive semesters will be placed on probation, which means the student will have restricted scheduling and must meet with his or her advisor to do one or more of the following:

- limit the number of hours attempted;
- schedule preparatory or remedial courses as needed;
- schedule repeat of courses.

Academic probation will be posted to the student's official transcript. Students will be notified of their status by a student services advisor.

III. Suspension

Students whose semester GPA falls below 2.0 for three successive semesters will be placed on academic suspension for one semester. This means that those students will not be allowed to register for curriculum courses. Continuing Education courses may still be taken. Academic suspension will be posted to the student's official transcript.

IV. Appeals

Academic suspension may only be appealed through the Vice President for Student Services. Appeals will be considered on the day before classes begin each semester.

V. Reenrollment After Suspension

Students may reenroll after having been suspended for one semester.

Academic Fresh Start

Any returning student who has not attended A-B Tech for three years and upon reenrolling maintains a 2.00 GPA for a minimum of 12 semester hours may petition to have grades on all prior course work more than three years old with a grade less than a "C" excluded in calculating the cumulative GPA. Grades below "C" disregarded in calculating the GPA will not count toward graduation but will remain on the transcript. The student should complete an application for Academic Fresh Start (obtained in the Records and Registration Office), after the end of the semester in which he/she has completed the 12 semester hours required. A student who plans to transfer to another College should contact that institution to determine the impact of Academic Fresh Start on transfer.

Honors and Achievements Dean's List

- 1. For the Dean's List, students must be enrolled in an academic program (degree, diploma or certificate), carrying a minimum of eight credit hours of curriculum courses numbered 100 or above.
- 2. Students must have a minimum 3.75 quality point average to qualify for the Dean's List for the semester under consideration.
- 3. Students who earn grades of F, I, U or X are not eligible for the Dean's List for that semester. Students receiving credit for a course by examination are not affected. Only courses numbered 100 and above will be considered.
- 4. The Dean's List will be compiled by the Registrar and the Administrative Assistant of Instruction. The draft of candidates will be posted on major bulletin boards for students to review. The Vice President for Instruction will be responsible for final approval and publication.

President's List

- 1. For the President's List, students must be enrolled in an academic program (degree, diploma or certificate), carrying a minimum of twelve credit hours of curriculum courses numbered 100 or above.
- 2. Students must have a 4.0 quality point average to qualify for the President's List during the semester under consideration. Only courses numbered 100 and above will be considered.
- 3. Students who earn grades F, I, U or X are not eligible for the President's List for that semester. Students receiving credit for a course by examination are not affected.
- 4. The President's List will be compiled by the Registrar and the Administrative Assistant for Instruction. The draft of candidates will be posted on major bulletin boards for students to review. The Vice President for Instruction will be responsible for final approval and publication.

Academic Programs, General Education Outcomes, and Graduation Requirements

Degree, Diploma, and Certificate Programs

Asheville-Buncombe Technical Community College confers the Associate in Arts, Associate in Applied Science, Associate in Science, and Associate in Fine Arts degrees. A diploma is awarded for completion of one-year applied curricula. Certificates are issued to students who successfully complete designated shortterm programs or course sequences. Degrees, diplomas, and certificates are conferred, awarded, or issued by authority of the North Carolina State Board of Community Colleges when all requirements for graduation have been satisfied.

At least half of the credit hours in a program of study must be earned at this College (the A.A. Transfer-Ready Diploma and the bridge programs for EMS and Surgical Technology require that 25% of the credit hours must be earned at A-B Tech). Any exception must be approved by the Vice President for Instruction.

Because of rapid changes in workplace technologies, certain technical courses will "time out" after five years and must be repeated for graduation. Exceptions must be approved by the department chairperson.

General Education Outcomes

Upon successful completion of the Associate in Arts, Associate in Science, Associate in Applied Science, or Associate in Fine Arts degree requirements, the student will have mastered the following cross-curriculum competencies:

- 1. Demonstrate effective speaking, writing, reading, and listening skills.
- 2. Demonstrate proficiency in analyzing problems and making logical decisions through locating, evaluating, and using information.
- Demonstrate proficiency with math skills and/or natural science knowledge by organizing and analyzing information to come to logical conclusions.
- 4. Demonstrate basic competency in computer technology.
- 5. Demonstrate knowledge of cultural diversity.

Requirements for Graduation

The College holds graduation ceremonies in May each year. To graduate with a diploma or degree, students must meet the following minimum requirements:

1. Declare an academic major and complete the requirements of a College-approved program of study according to the student's official catalog. The official catalog is determined by the program chair in consultation with the student and should be the catalog that is in effect at the time that the student declares a major. The official catalog may not be a catalog prior to the student's first date of enrollment and must be a College catalog dated no more than five years prior to the date of graduation (i.e., a student graduating in 2011 cannot use a catalog earlier than 2006-2007). Students should be aware that prerequisites for courses change frequently and that they will be required to meet the prerequisites which are in place at the time a course is taken.

- 2. Each course in the program of study must be completed by one of the following methods:
 - a. Take the course at A-B Tech.
 - b. Receive transfer credit.

To be eligible for graduation, at least one-half of the required program hours must be completed at A-B Tech. The following programs require that selected upper-level courses be completed in residency at A-B Tech: Associate Degree Nursing, Basic Law Enforcement Training, Computed Tomography/Magnetic Resonance Imaging, Dental Assisting, Dental Hygiene, Emergency Medical Science, Medical Assisting, Medical Laboratory Technology, Medical Sonography, Phlebotomy, Practical Nursing, Radiography, Surgical Technology, Veterinary Medical Technology, Real Estate, Cosmetology, Therapeutic Massage. A student who desires to transfer credit into one of these programs should consult with the department chairperson. Exceptions may be approved by the Vice President for Instruction.

- c. Earn Credit-by-Exam.
- 3. Earn a grade of at least "C" in each course identified in the catalog as a major course and a minimum average of 2.0 ("C") quality points for the current program. Students completing their program of study with a program grade point average of 4.0 will be graduated with highest honors. Those who have a minimum program GPA of 3.75 will be graduated with high honors and those with a minimum program GPA of 3.50 will be graduated with honors. The student must assume primary responsibility for assuring that all requirements for graduation are met.
- 4. Apply for graduation in the Bailey Center the semester before completing degree requirements. Purchase caps, gowns, and diplomas in March (Spring Graduation). Students who cannot attend graduation must still pay for the diploma.
- 5. Be in good standing; fulfill all financial obligations to the College; library clearance is also required.

Transfer of Credit to Other Institutions

Asheville-Buncombe Technical Community College facilitates the transfer of credit to other institutions. The Associate in Arts, Associate in Science, and Associate in Fine Arts degree programs are designed to transfer to senior institutions at or near the junior level. The Associate in Applied Science in Networking Technology

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and Associate of Applied Science in Information Systems Security are designed to transfer to East Carolina University's AAS degree transfer program at or near the junior level.

College transfer courses satisfactorily completed with a grade of "C" or better in the Associate in Arts, Associate in Science, and Associate in Fine Arts programs will transfer to senior institutions. Degree completers may transfer to selected universities.

Associate in Applied Science graduates have the option of entering a career, continuing their education at a senior institution, or doing both. We are proud of the fact that our graduates have a marketable job skill after two years of study and can also complete a fouryear degree after two more years of academic work.

Students who attend most senior institutions do not declare a major until their junior year. Our applied science programs are such that those students who earn a baccalaureate degree pursue it in an inverted pattern. The majority of the student's academic major is earned at A-B Tech in the first two years of study.

Student Support Services

Counseling Services and the Career Center

A-B Tech provides free, confidential counseling and related services for students through the Counseling Center located in the Bailey Student Services Center. Students are encouraged to use counseling services at any time if they have personal, academic, or career concerns. The professional counseling staff, after initial assessment, will refer students who need specialized or long-term services to appropriate resources within the community.

Career counseling and career exploration services are available to students who are undecided or confused about career plans. The Career Center, located in the Bailey Student Services Center, houses a variety of career resources, both print and computerized, to assist students in career-related areas. Career development materials are available electronically under Career Development Services under the Student tab on the college home page. Individual career testing and career counseling sessions are available by appointment. An appointment may be made online at http://careerscheduling.abtech.edu/.

Academic Advising

In order to ensure that every student receives quality academic advising, A-B Tech has established an academic advising system. Students who are admitted to an applied science degree, diploma, or certificate curriculum are advised by a faculty member from that As junior level students at the senior institution, they take general university requirements and may take more advanced courses relating to their major.

Parallel work, including single courses completed at A-B Tech, will transfer to other institutions in the North Carolina Community College System and to most senior institutions in the state. Most public and private four-year institutions in North Carolina, and many that are out of state, regularly accept credits from A-B Tech and generally enroll the graduates at approximately the junior level. The details of these affiliations are available from the Transfer Advising Center in the Elm Building and the individual senior institutions.

A-B Tech strongly encourages its graduates to continue their formal education after completion of their A-B Tech programs. It is important that graduates recognize the need to continue their education throughout life to prepare for new and changing careers.

curriculum. Students who are not admitted to a degree, diploma, or certificate program, or those admitted to the General Occupational Technology diploma or degree program, may be advised by Academic Advisors in Student Services.

Unclassified students may elect to register without meeting with an Academic Advisor. They may register online via WebAdvisor or at the Express Lane in the Bailey Building. The following process outlines important steps for individuals choosing to self-advise:

- 1. Register at your appointed time, based on accumulated credit hours. Information will be sent to you via email and is available in WebAdvisor.
- 2. Prerequisites and corequisites for courses must be met.
- 3. To declare a major or to have general questions answered, sign into the kiosk in the Bailey Building for assistance.
- 4. High School students must see an advisor to register.
- 5. New student registration is during general registration.

Academic Advisors initially determine the developmental courses for students based upon the results of placement testing. Faculty advisors use this information when advising students. In all instances, a student's registration form must be approved by an appropriate advisor indicating that the schedule meets appropriate academic standards or have an online education plan developed, created by his/her academic advisor. 46

Students who desire to register for more than 20 credit hours in a semester will need the approval of their department chair or the Vice President for Student Services.

Students in the college transfer program are assigned to the Transfer Advising Center (located in Elm 200) for academic advising. They will be seen by faculty members on duty from the Arts and Sciences Division on a first-come, first-serve basis. Extended hours are available during peak advising and registration periods. Any student in the college transfer program who wishes to have a specific advisor assigned to him or her may request this service at the Transfer Advising Center, and accommodations will be made for a permanent advisor assignment.

Services to Students with Disabilities

Asheville-Buncombe Technical Community College is invested in full compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. The Disability Services Office at the College ensures that the programs and facilities of the College are accessible to all students. The College focuses on the student as an individual and works toward equal opportunity, full integration into the campus environment, physical accessibility and the provision of reasonable accommodations, auxiliary aids, and services to students.

If you are a student with a disability and require the services of interpreters, readers, note-takers, or need other reasonable accommodations, it is your responsibility to request these services from the Disability Services Office since federal law prohibits the College from making pre-admission inquiries about disabilities. This office is located in the Counseling Center in the Bailey Building. In order to accommodate each disabled student's needs and to provide the necessary support services, professional documentation of a disability Services Office. Documentation must be current. Information provided by students is voluntary and appropriate confidentiality is maintained. For detailed information, refer to http://abtech.edu/Student_Services/disability/default.asp

Students who need assistance for academic services should call the Office of Disability Services at 828/254-1921, Ext. 7581. Services are designed and developed on an individual-needs basis, and students may elect to use any or all of the services appropriate to their needs at no charge.

An appointment with the Disability Services staff is recommended in order to discuss any special concerns. If you are not satisfied with the decisions of this office, you may utilize the College's Student and Grade Appeals Policy.

Developmental Studies

This department provides post-secondary students with instruction in basic math, English, and reading. As the point of entry for learners needing academic development, Developmental Studies is sensitive to the needs of students making a transition to a College environment. Instructors design course work to accommodate first-time College students, those returning to school after an absence, and those with disabilities. The objective of this department is to enable students to develop the skills and behaviors that will lead to successful achievement in A-B Tech's curricula. The minimum passing grade is "C." The grades of "D" or "U" will not be used for Developmental Studies courses. Developmental Studies faculty may officially withdraw a student from a course.

Students who test into three developmental disciplines will be assigned developmental academic advisors for a minimum of the first semester of enrollment. These students will be allowed to take no more than 13 credits of work during that first semester (i.e. three developmental courses of four credits each and a required student success course). A decision regarding the ability to take more than 13 credits in future semesters while still enrolled in developmental courses will be made with the permission of the developmental advisor.

Academic Learning Center

The Academic Learning Center supports student success through tutorial assistance, a testing lab, and open computer labs.

The tutoring labs provide math, physics, chemistry, reading, and English tutorial assistance for students enrolled in any curriculum course. Students must have an instructor's referral to use the ALC's tutoring labs. Tutoring is accomplished through individual help, small groups, and computer-assisted instruction.

The open computer labs may be used by students to complete assignments using computers. The lab in Ferguson 116 may be reserved by an instructor for occasional use by a class.

The testing lab facilitates on-line testing, re-testing, make-up testing, extra-time testing or other special needs testing. Non A-B Tech students may be proctored for a fee.

The Writing Center

The A-B Tech Writing Center, located in Ferguson 108B, is open to students in all curriculum programs. Staffed by full-time and adjunct English instructors and by peer tutors, the Center is dedicated to helping students improve their writing in all stages of development. The Writing Center requires no referral form, and walk-ins are welcome; however, scheduled appointments are given priority. During conference sessions, emphasis is placed on clarity of expression, effective design and organization, refinement of thesis statements, persuasive support for ideas, smooth transitions, appropriate language, fluid integration of source material, and accurate documentation of sources. Writing Center tutors are asked not to proof-read or edit papers, but they can assist students in becoming more confident and effective self-editors by providing helpful strategies for deep-level revision and effective proofreading.

The Writing Center's online tutoring component is available to students enrolled in online and hybrid classes and may also be used by students in classroom sections on days when the on-campus Center is closed (for inclement weather, special campus activities, etc.) or when the Center's on-campus schedule is full. The online service, staffed by adjunct English instructors and the Center's coordinator, accepts submissions 24/7 with a 24- to 48-hour turnaround Monday through Thursday and a 48-72-hour turnaround Friday through Sunday.

Student Services for Distance Learners

It is our intention to provide as many student services to distance learners as possible. In doing so, we strive to minimize the inconvenience of visiting campus for those students who choose to study off campus exclusively. What follows is a list of student services you can expect to access away from campus as a student enrolled in distance learning classes:

- 1. **Student Welcome (Orientation).** The Student Welcome is available on local cable television or by requesting a DVD, streaming video, or podcast from the Vice President for Student Services.
- 2. The **Student Handbook** is available on the College web page at **www.abtech.edu**.
- 3. **Application**. Application to the College may be made at the College web page.
- 4. **Transcript Evaluation**. Transcripts from colleges previously attended may be faxed to A-B Tech by the originating college and can be evaluated for transfer credit **if transfer credit is desired** upon receipt.
- 5. **Application for Graduation**. Applications for graduation are available in the schedule of classes each semester and may be mailed to the Records. They are also available on the College web page.
- 6. **Catalog.** The catalog is available on the College web page at: **www.abtech.edu**
- 7. **A-B Tech Transcripts.** Transcripts of A-B Tech work may be requested by fax or mail from the Student Success

Center in the Bailey Building. Transcript request forms are also available on the College web page.

- 8. **Dropping Classes.** Distance classes may be dropped by calling or e-mailing the Distance Learning Advisor, or online via WebAdvisor, if permitted.
- 9. Schedule of Classes. Curriculum schedules are available each semester on the College web page. Economic and Workforce Development/Continuing Education class schedules are mailed to households in Buncombe and Madison County and available online.
- 10. **Financial Aid**. Applications for federal financial aid (FAFSA) are available online at fafsa.gov. Financial Aid advice is available by e-mailing the Financial Aid Office at financialaidoffice@abtech.edu.
- 11. Academic Advising. Academic advice is available as follows: students classified into programs may receive academic advice by e-mailing their assigned advisor at the College. Unclassified students who are not in any program may receive academic advice by contacting admissions@abtech.edu.
- 12. Veteran's Services. Veteran's services and advice are available by e-mailing the veteran's advisor: malbert@abtech.edu.
- 13. **Disabled Students.** Students with disabilities as defined by the Americans with Disabilities Act may seek services by e-mailing the advisor for students with disabilities: jharris@abtech.edu.
- 14. **Career Counseling Services**. Some career counseling services are available through e-mail or the postal service: pbulla@abtech.edu.
- 15. **Placement Testing**. Placement testing may be accomplished at any college in the North Carolina Community College System. Scores can then be faxed by the originating college. Also, SAT or ACT scores may be used instead of testing. For information, email the testing coordinator: kedwards@abtech.edu.
- 16. **Payment of Tuition and Fees.** Tuition and fees may be paid online using Web Advisor.
- 17. **Purchase of Books**. Books may be purchased online from the College Bookstore.

Financial Aid

The purpose of the financial aid program at Asheville-Buncombe Technical Community College is to provide assistance to students who, without such aid, would be unable to attend the College. The program is committed to the philosophy that no eligible student should be denied access to a higher education because of a lack of financial resources.

An application for financial aid will gain consideration for grants-in-aid, loans, scholarships, and student employment opportunities. In general, financial aid is awarded to students on the basis of need, academic potential, and future promise. In determining the student's need, it is assumed the student will help himself 48

through summer jobs and part-time work while attending school, that the family will provide aid commensurate with its income and resources, and that the student will avail himself of any other financial assistance that is available.

Students desiring financial aid for an academic year (August through May) are encouraged to apply early (January through March) to be given priority consideration for the funds available. Applications will be processed until all available funds are awarded.

In order to be considered for financial aid, a student must complete a Free Application for Federal Student Aid (FAFSA) online at **www.fafsa.gov**. Alternative accessible application formats will be made available to individuals with disabilities upon request to the ADA Coordinator or the financial aid office.

Application Procedure

For priority consideration, it is important that students complete the General Admissions Procedures for Classified Students (See the section of this catalog regarding the General Admission Procedures).

Starting with the 2008-09 academic year, all financial aid applications are required to be entered on the Department of Education website at **www.fafsa.gov**. However, prior to completing the online FAFSA (Free Application for Federal Student Aid), students must apply for a Personal Identification Number (PIN) at **www.pin.ed.gov**. This number will be entered as your signature for the FAFSA.

If you are a dependent and therefore required to provide your parents' financial and personal information on the FAFSA, at least one parent must also apply for a PIN at the address above, as it is required to have the parent sign the FAFSA as well. When you go to the website, you will be given explicit instructions. Assistance is also provided by the Department of Education at 1-800-433-3243. TTY users (hearing impaired) may call 1-800-730-8913.

There is a FAFSA Worksheet that you may complete prior to completing the application online. Worksheets will be available at your local high school or college and in the Student Services Center on the A-B Tech main campus. You may also print the worksheet from the **www.fafsa.gov** website.

When you log onto **www.fafsa.gov**, you will be advised on all the documentation you must have to complete the FAFSA. A complete and accurate application will prevent delays in processing your financial aid. The college code you will enter for A-B Tech is 004033.

Make sure you receive and retain a copy of the confirmation number when your FAFSA is submitted. Once the Department of Education processes your application, an electronic file with the information the College needs to process financial aid for you will be transmitted to the A-B Tech Financial Aid Office. Also, when your FAFSA is processed, you will receive the Student Aid Report (SAR) in your email or a hard copy of the report may be mailed to your home address.

All correspondence from the financial aid office is sent to students via their A-B Tech student email account. All students who apply for financial aid, are automatically assigned a student email account. Information regarding how to access your student email account can be found online at http://abtech.edu/students/email. Students should check their student email regularly for information regarding missing financial aid documentation, class information, registration, billing status etc.

Once financial aid is completely processed students can go to their WebAdvisor account to view their award notification which tells them how much and what types of financial aid they will be receiving. Students can access their WebAdvisor account from the A-B Tech homepage: http://www.abtech.edu

You will find all the web links mentioned above, as well as other helpful sources of financial aid assistance, on the A-B Tech website: Visit **www.abtech.edu**, click on the student link, and scroll down to the financial aid link. Computers are available for student use in the Bailey Student Services Center.

Students seeking additional information about the Financial Aid Program at A-B Tech are urged to contact the Financial Aid Office in the Bailey Student Services Center.

Year Round Pell Grant Policy. The Higher Education Opportunity Act (HEOA) enacted on August 14, 2008 authorizes schools to disburse up to two Pell Grants in a single award year, beginning with the 2009-2010 award year for Pell eligible students. The objective of this policy is to help needy students accelerate their academic progress. Beginning with summer term 2010, the financial aid office will pay Pell Grants to eligible students for summer term classes. In the past, students may or may not have had Pell Grant eligibility during summer term. Now according to new regulations passed by the Federal government, students may be eligible to receive additional Pell Grant funds during summer semester. For further information, students should contact the financial aid office at 254-1921 x 7530.

Satisfactory Academic Progress (SAP) Policy for Financial Aid Recipients

According to Federal and State regulations students receiving financial aid must maintain Satisfactory Academic Progress (SAP). The financial aid office at Asheville-Buncombe Technical Community College monitors a student's academic progress as a condition of eligibility when the student applies for financial aid and at the end of each enrollment period (semester). These requirements are applied to a student's entire academic history at A-B Tech including transfer hours from other schools and including periods when financial aid was not received. A student is considered to

Admissions and Student Information

be making satisfactory academic progress when the following three requirements are satisfied:

- 1. **Qualitative Standard (Cumulative Grade Point Average)** – A student must maintain a minimum cumulative grade point average of 2.0.
- 2. **Quantitative Standard (Completion Rate)** A student must complete a minimum number of credit hours of the total credit hours attempted. (See chart below)
- 3. **Maximum Time Frame** A student must successfully complete the program of study within its time frame. Federal regulations specify that the time frame may not exceed 150% of the published length of the program. Once a student exceeds the time frame for their program of study they are no longer eligible to receive financial aid. However, the student can appeal to the Director of Financial Aid to have their eligibility extended if there are extenuating circumstances.

Monitoring Satisfactory Progress. A-B Tech will monitor satisfactory progress using the chart below. The chart has been designed to accommodate all federally eligible programs of study offered by the college and the variable enrollment status of students (e.g. full-time, ¾ time, ½ time and less than ½ time).

Credit Hours Attempted*	Minimum Credit Hours to be Completed**	Minimum Cumulative GPA Required***
1-18	33%	2.00
19-40	50%	2.00
41 and over	66%	2.00

*Credit hours attempted will be cumulative and will include all hours for which the student was enrolled as of the census date of each academic term or for which the student received a grade. The census date is defined as the day following the last day for registration and payment as outlined in the college catalog.

**Credit hours completed with grades of A, B, C, D, T, CR, P, or AP only will fulfill this requirement. Grades of I, NS, U, W, X, and Y will not fulfill this requirement.

***Cumulative GPA is calculated by dividing the total number of quality points earned by the total credit hours attempted for which the student received grades of A, B, C, D, F, and U.

The second quantitative standard referred to as the maximum time frame will be measured independently of the monitoring chart. For each program of study a maximum time frame will be calculated by taking the total credit hours required for the program as outlined in the College Catalog and multiplying the total by 150%. Time frames will vary from program to program.

Key points to remember regarding the maximum

time frame:

- 1. Since the time frame sets the limit for the number of credit hours a student may attempt and remain eligible to receive financial assistance, it is very important that the student plan class schedules carefully with his or her academic advisor and/or the Student Services counseling staff. It is the responsibility of the student to register only for classes listed in his or her chosen major in the college catalog and for scheduling only the number of hours he or she is capable of completing. SOME STUDENTS WILL BE REQUIRED TO TAKE PROVISIONAL COURS-ES WHICH WILL ALSO BE COUNTED AS HOURS ATTEMPTED. Students are responsible for knowing the policy concerning the limitation on hours attempted for financial aid purposes. Registering for more courses than a student is capable of completing, having to withdraw from classes, registering for courses for which the student has already received credit, taking courses in error, etc... all impact the time frame and could result in losing financial aid eligibility before completing a program of study.
- 2. The time frame is cumulative; therefore, by switching programs without completing the initial program, the student runs the risk of losing financial aid eligibility.
- 3 The time frame begins when the student first attends the college and continues until that student successfully completes a program of study regardless of the number of years that may elapse between enrollment periods.
- 4. Only students who successfully complete a program of study will be given a new time frame should they decide to enter a subsequent program of study. The credit hours attempted to complete the first program will not be included as hours attempted in the time frame for the second program of study.
- 5. Students who take course work and are unclassified will have those hours attempted added to their time frame if and when they enter a specific program of study.
- 6. Students accepted into a program of study who are required to take guided studies or developmental course work, as determined by placement testing results and the professional judgment of a student services counselor, will have the credit hours attempted for such course work count toward their time frame. (Financial aid can only pay for 30 credit hours of developmental course work).
- 7. The credit hours for course incompletes, withdrawals, and repetitions will be counted as hours attempted toward the time frame.
- 8. Students switching from a degree program to a vocational program who have or nearly have exceeded the initial time frame may appeal to the Director

of Financial Aid for a time frame extension.

9. Credit hours transferred in will be counted toward the maximum time frame of eligibility. Prior degrees earned will be taken into consideration when determining transfer hours.

SAP Status. Based on these calculations students will be assigned certain satisfactory academic progress statuses. Please see the statuses and their definitions listed below:

Satisfactory. Satisfactory status is achieved when the cumulative GPA, completion rate and time frame are met.

Warning. Student's who fail to meet the minimum cumulative GPA of 2.0 and/or fail to complete a minimum percentage of classes (completion rate) are given a warning. Students placed on a warning remain eligible for financial aid for one payment period (semester). Students must complete and follow the academic success plan for financial aid Students (refer to our website at http://www1.abtech.edu/sites/default/files/shared/ AcademicSuccessPlan_10.pdf). Completion of the academic success plan does not guarantee reinstatement of financial aid eligibility. After one payment period (semester), students must meet the cumulative GPA and completion rate or financial aid will be suspended.

Suspension. Students who fail to meet the conditions of a warning which are to maintain a minimum cumulative GPA of 2.0 and complete a minimum percentage of classes (completion rate) are placed on suspension. Students who are placed on suspension forfeit their financial aid. A student may either appeal to have their financial aid eligibility reinstated or may notify the financial aid office once they are meeting the satisfactory academic progress policy for students receiving financial aid so that their financial aid eligibility can be reconsidered.

Probation. Students who are suspended may appeal to the Director of Financial Aid to have their financial aid eligibility reinstated for one payment period (semester) on probation. (See the appeal process outlined below). A student on probation may not receive financial aid for the subsequent payment period unless:

Student is now meeting the financial aid satisfactory academic progress policy at the end of the probation period (semester); or

The financial aid office determines that the student met the requirements specified by the school in the academic success plan.

Continued Probation. As long as the student continues to make progress as identified by the academic plan the student will remain eligible for financial aid on continued probation.

Students will be notified of their status at the end of each payment period (semester) or when they first apply for financial aid. This notification will be sent to their student email account.

Appeal Process. Students who are suspended for not meeting the satisfactory academic progress standards may appeal for reinstatement of financial aid eligibility for one semester, if they have extenuating circumstances which are generally beyond their control such as a death in the family, serious illness or injury. The procedure for appeal is:

- 1. Print out and complete the Satisfactory Academic Progress Appeal Request Form from the financial aid website.
- 2. The student will indicate in writing to the Director of Financial Aid the reasons why he/she did not make satisfactory academic progress and why financial aid should not be suspended. Also, it should be addressed as to what has changed that will allow the student to make satisfactory academic progress at the next evaluation.
- 3. Documentation to support the appeal is required and must be attached to the letter of appeal. Appeals submitted without documentation will not be reviewed.
- 4. Student must have completed an academic success plan when placed on financial aid warning. A copy of this academic success plan and required documentation associated with the plan must be submitted to the Financail aid Office prior to the appeal.
- 5. The Director of Financial Aid will review the appeal and documentation to determine whether or not the student's financial aid eligibility will be reinstated. The student will be advised of the decision via their student email address.

Submission of an appeal does not guarantee reinstatement of eligibility for financial aid. Each appeal is reviewed on a case by case basis.

Paying out of pocket for classes or sitting out a semester is not grounds for reinstatement of aid. Students must bring their academic progress back into compliance or have an appeal approved to have aid reinstated.

Scholarships and Other Financial Aid Information

Scholarships

Generally, scholarships are awarded only to those applicants who have completed the Application Procedure for student financial assistance outlined earlier. Most scholarships awarded by the College are restricted to a specific program of study and are based on financial need. The College does award a limited number of merit scholarships to qualifying secondyear students which are program specific and require the endorsement and/or screening of faculty in the applicant's department of study. Students needing more information about these limited scholarships should call the Financial Aid Office at 828/254-1921, Ext. 162.

All students are encouraged to seek out scholarships offered by clubs and organizations in their communities.

An excellent source for scholarships is located on the World Wide Web. Students can do searches by accessing **www.finaid.org** and using the Free Scholarship Search (FASTWEB). FASTWEB alone contains a database of more than 180,000 scholarships. The Web site of the North Carolina State Education Assistance Authority, **www.ncseaa.edu**, lists scholarships available to North Carolina residents only.

Asheville-Buncombe Technical Community College Foundation

The Asheville-Buncombe Technical Community College Foundation awards scholarships annually.

- January 12 Online applications are available at: www.abtech.edu/foundation/scholarships
- March 15 Students applying for scholarships requiring the establishment of financial need should complete the Free Application for Federal Student Aid (FAFSA). www.fafsa.gov
- March 31 Online application for scholarships closes.
- June 1 Scholarship awards sent to students via email.

Students may access scholarship criteria on the A-B Tech website at **www.abtech.edu/foundation**. For additional information about the Foundation, please call 254-1921, Ext. 7562

Other Financial Aid Information

In addition to scholarships, information about grants, loans and work programs is also available on the internet. Some recommended sites are:

www.ed.gov/offices/ope: Click on "Information for Students" for federal student aid information.

www.cfnc.org: Provides comprehensive information about scholarships, loans, and other programs/issues.

www.nasfaa.org: Click on "Financial Aid Information for Students, Parents & Counselors;" provided by the National Association of Student Financial Aid Administrators.

www.studentloans.gov

Education Tax Credits

As a community college student, you are eligible to receive education tax credits that can reduce the expense of your education. There are three education tax credits available, the American Recovery and Reinvestment Act, Hope Credit and the Lifetime Learning Credit. The credits are based on education expenses paid for you, your spouse, or your dependents.

American Opportunity Credit

Under the American Recovery and Reinvestment Act (ARRA), more parents and students will qualify over the next two years for a tax credit, the American Opportunity Credit, to pay for college expenses.

The American Opportunity Credit was not available on the 2008 returns taxpayers filed during 2009. The new credit modifies the existing Hope credit for tax years 2009 and 2010, making it available to a broader range of taxpayers, including many with higher incomes and those who owe no tax. It also adds required course materials to the list of qualifying expenses and allows the credit to be claimed for four post-secondary education years instead of two. Many of those eligible will qualify for he maximum annual credit of \$2,500 per student.

The full credit is available to individuals whose modified adjusted gross income is \$80,000 or less, or \$160,000 or less for married couples filing a joint return. The credit is phased out for taxpayers with incomes above these levels. These income limits are higher than under the existing Hope and Lifetime Learning Credits.

If you have questions about the American Opportunity Credit, see http://www.irs.gov/newsroom/ article/0,,id=205674,00.html.

The Hope Tax Credit

The Hope Credit is a federal tax credit. The actual amount of the credit depends upon family income and the amount of qualified tuition paid less any financial aid.

To qualify, the taxpayer must file a return, owe taxes, and claim the student as a dependent (unless the student is a spouse). The student must be enrolled at least half-time in an eligible program leading to a degree, certificate or diploma and must not have completed the first two years of undergraduate study. The credit is not available to students who have been convicted of a felony drug offense.

The Lifetime Learning Tax Credit

The Lifetime Learning Tax Credit may be claimed for the taxpayer, spouse, or eligible dependents for an unlimited number of years. This credit is family-based rather than dependent-based like the Hope Credit. The actual amount of the credit depends upon the family's income and the amount of qualified tuition less any financial aid. Unlike the Hope Credit, students are not required to be enrolled at least half-time in one of the first two years of post-secondary education.

This is provided for informational purposes only. For detailed tax information, please consult your tax advisor. Information is also available at http://www.irs.gov/newsroom/article/0,,id=213044,00.html.

Veteran's Educational Benefits

The Veteran's Advisor will help incoming veterans process their request for benefits. The Veteran's Office is located in the Counseling Center in the Bailey Student Services Center. Individuals applying for veteran's benefits must meet all entrance requirements and are required to meet the College's academic standards as they progress through their programs. Failure to meet these academic standards of progress will result in loss of veteran's educational benefits.

Other Policies Affecting the Campus Environment

Tobacco Free Campus

Asheville-Buncombe Technical Community College is committed to providing students and employees with a safe and healthy environment. It is the policy of A-B Tech that tobacco use is not permitted on the College's three campuses. A-B Tech is tobacco free.

Parking Regulations

All students are required to register their vehicles and display parking permits. Copies of parking regulations are available at the Student Success Center in the Bailey Building lobby. Parking spaces designated for individuals with disabilities are located at each facility. Spaces marked by yellow lines are for faculty and staff use only. Students park in white-lined spaces. All parking fines must be paid prior to registering for classes.

Workplace Violence Prevention Policy and Procedures

Policy

A-B Tech is committed to providing everyone associated with the College a work and learning environment that is safe and free of violence. To this end, the College prohibits any form of violence.

For purposes of this policy, "violence" includes, but is not limited to, verbally or physically attacking, harassing, intimidating, stalking or coercing any employee, student, visitor, vendor or other person associated with the College, brandishing weapons, damaging property, and/or threatening or talking of engaging in such activities. Brandishing weapons shall not include the use or possession of weapons by authorized employees or students for the purpose of training, or by College security, law enforcement officers, or military personnel when acting in the discharge of their official duties (See "No Weapons on Campus" policy).

Any member of the College community who commits an act of violence toward other persons or property on campus, while engaged in any work for or on behalf of ABTCC, or at ABTCC sponsored events, shall be subject to disciplinary action, up to and including dismissal from employment or expulsion from the College, exclusive of any civil and/or criminal penalties that may be pursued, as appropriate. For the purposes of this policy, a "member of the College community" includes, but is not limited to, employees, students, visitors, College officers and College officials.

No existing College policy, practice, or procedure should be interpreted to prohibit prevention of violence as defined in this policy.

Every employee and student is responsible for reporting any threats or acts of violence that he/she has witnessed, received, or has been told that another person has witnessed or received. Even without an actual threat, an employee or student should report any behavior he/she has witnessed which he/she regards as threatening or violent when that behavior is job related or might be carried out on College property or is connected to College employment or activities. Reports should be made immediately to the campus police department. The College intends to investigate all acts of violence promptly and objectively.

No Weapons On Campus Policy

The use or possession of any weapons is prohibited on A-B Tech property or at any College-sponsored activities or events. (See also Workplace Violence Prevention Policy.) It is a violation of A-B Tech policy and State law (N.C.G.S. 14.269.2) for any person, including students, employees and visitors to possess or carry, whether openly or concealed, any weapon. The term "weapon" includes but is not limited to the following:

Gun, rifle, pistol, dynamite, cartridge, bomb, grenade, mine, powerful explosive (as defined in N.C.G.S. 14-284.1), bowie knife, dirk, dagger, slingshot, leaded cane, switchblade knife, razors, razor blades, blackjack, and metallic knuckles.

The term "weapon" also includes any other weapon of like kind, such as sharp pointed or edged instruments; but the term "weapon" excludes tools, utensils, and equipment used solely for maintenance or instructional purposes (such as unaltered nail files and clips, dental tools, and tools used solely for preparation of food) or used for authorized ceremonial purposes on the A-B Tech campus, grounds, recreation areas, athletic field, or other properly owned, used, or operated by A-B Tech.

This policy shall not apply to employees or students when used for authorized training purposes, or to College security, law enforcement officers or military personnel when acting in the discharge of their official duties. Any person violating this policy shall be disciplined at the discretion of the A-B Tech administration. A person found guilty of activity prohibited by this Weapons Policy may also be guilty under state law of a felony and upon conviction may be punished at the discretion of the court.

Other College Services and Information

College Services

A-B Tech Café. The Café is located in the Coman Student Activity Center. Breakfast and lunch meals, including sandwiches, salads, and soups, are prepared daily. Hours of operation are from 7 a.m. to 6 p.m. Monday -Thursday and 7 a.m. to 2 p.m. on Fridays. Vending machines dispensing soft drinks, coffee, and snacks can be found at various locations around campus.

The Culinary Technology, Baking and Pastry Arts, and Hotel and Restaurant Management students prepare and serve lunch and dinner on scheduled Thursdays during fall and spring semesters. See the Student Handbook for times, dates, and reservation information.

Bookstore. A bookstore is operated by the College for the convenience of students and staff members to provide required textbooks and materials. Students should plan to purchase all texts and materials at the beginning of each semester.

Textbook costs vary considerably depending upon the curriculum and semester. Book costs also vary from year to year because of changes in curriculum book prices, texts, and material requirements. Texts and materials will be made available in alternative accessible formats for individuals with disabilities upon request to the Disabilities Services Academic Advisor.

Campus Police and Security. Police and Security Personnel are on duty 24 hours a day, seven days a week. Each officer is certified to respond to medical emergencies.

Child Care. A-B Tech has limited dollars to assist students with child care services rendered off campus. These funds are provided annually by the state of North Carolina, and funding is therefore subject to annual state budgeting. To be eligible, the student must be approved for federal financial aid, having submitted a FAFSA. The student must have unmet need of greater than \$1,000, be taking 12 or more credits, be on campus a minimum of four days per week, and be in good academic standing.

Also on campus is a day care center run by Buncombe County for the general public as well as students and staff. Admission to the facility is on a first come, first served basis. If you have interest in this facility, you may receive further information at 255-5111.

College Closing or Delayed Opening. The College will either be closed or opened on a delayed schedule when inclement weather conditions warrant such a decision. Closing or delaying announcements are placed on the switchboard automated attendant, on the A-B Tech web site at **www.abtech.edu**, and will be made on Asheville radio and television stations and some surrounding community radio stations. Separate decisions and announcements are made for the day and evening programs.

Dental Clinic. Throughout the year, the Allied Dental Department provides oral health services, such as patient education, dental X-rays, cleaning of teeth, nutritional counseling, and sealants. During spring and summer semesters, limited dental services such as fillings, crowns and partial dentures are also available. A nominal fee is charged for these services. Call the Allied Dental Clinic, Ext. 255, for an appointment and approximate charges for services.

Distance Learning. In addition to a traditional classroom setting, many College courses are offered in an online learning environment. Online and hybrid classes allow for greater scheduling flexibility and may be a good choice for independent learners.

Online and hybrid classes are listed in the College Schedule. Online sections are designated 'O' and 100% of the instruction is delivered via the Internet, with the possible exception of exams, where a student may be required to come to campus or select a College approved proctor. Hybrid sections are designated 'Y' and combine online instruction with reduced classroom attendance. To take an Online or Hybrid class you will need access to a computer, the Internet, and email.

All instructional formats require student workloads and outcomes comparable to a traditional class. For more information the Distance Learning Website can be found at: **http://www.abtech.edu/vcampus**/

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Educational Technology Services. Educational Technology Services provides support for classrooms and assists with faculty and student media production. It houses an editing suite and a working studio. This area is staffed Monday-Thursday 8 a.m. - 6 p.m. Educational Technology Services is located in Holly, 115; telephone extensions are 304 and 309.

Honorary Societies. The College is proud to sponsor the Alpha Upsilon Eta Chapter of Phi Theta Kappa Academic Honor Society. Membership is open to any student who has a 3.5 GPA after 12 credits of completed work. Eligible students are welcome to seek more information from the Director of Student Activities in the Coman Student Activity Center.

Intramurals. A-B Tech Intramurals are an extremely popular extra-curricular activity. We offer volleyball, basketball, tennis, 2-mile run, softball distance throw, football punt, and golf-closest to the pin. Intramurals are open to male and female, faculty, staff, and students, and beginners to advanced athletes. The activities are on Tuesdays and Thursdays and are one hour or less for each session. The only requirements are that you must dress in proper athletic wear and shoes, and volleyball participants need to have some former experience in the sport. Watch for signs on building entrances, the student handbook, the campus marquee, and the Coman Gymnasium Intramural bulletin board.

Holly Library. Holly Library provides books, magazines, DVDs, and audio books to check out and Ebooks and databases to help students with research. Our computer resources include laptops for in-library use, research and email computers, a student computer lab, and wireless access throughout the building. We have quiet study areas, group study rooms, comfortable seating, and friendly staff. For more information, please call the library circulation desk at 828-254-1921, ext. 301.

Library Hours

Monday-Thursday	8:00 a.m 9:00 p.m.
Friday	8:00 a.m 4:30 p.m.
Saturday	9:00 a.m 1:00 p.m.

Mountain Tech Spa, an on-campus spa facility, located in the Birch Building, provides practical experience for Cosmetology, Esthetics Technology, Manicuring/Nail Technology and Therapeutic Massage students under the direction of College faculty.

Parking Locations and Shuttle Service. Parking is provided at various locations around campus. Please refer to the campus map located in this catalog for specific sites. Students with disabilities are provided parking at all locations. Parking areas are lighted during evening hours. Spaces marked with yellow lines are reserved for faculty, staff, disabled persons, and visitors. White-lined spaces are reserved for students. A shuttle service is provided for students who park in remote lots. Shuttle routes and schedules are available in the Bailey Student Services Center. **Placement Service**. No reputable College can guarantee jobs for graduates. However, the College will assist students and alumni in every possible way to obtain suitable employment. Applied Science department chairs are particularly helpful with placing their program graduates.

Service-Learning Center. Provides staffing to coordinate class-based projects with community service activities for curriculum classes that require or encourage service-learning as part of the educational experience. The Service-Learning Center is located in Holly, 129; telephone extension 7573.

Small Business Center. The Small Business Center supports the development of new business and the growth of existing businesses by being a community –based provider of training, counseling, and resource information. Confidential counseling services and access to resource libraries are free of charge as are the majority of seminar offerings.

Student Incubation. Student's with an entrepreneurial spirit can apply for the student incubation program managed by the Small Business Center. The program is designed to provide a nurturing environment for students to develop and grow their own business. They receive guidance toward becoming sustainable and contributing members of a strong economic community. It is a 12-month, extracurricular program is located at A-B Tech's Enka site and is open to all students. More information can be found at **www.abtech.edu/sbc**.

Student Lounge. A Student Lounge is located in the Coman Student Activity Center for those students with spare time and who wish to socialize. Wireless internet access is available as well as a community resource area.

Student Housing. Students are responsible for their own living accommodations. A-B Tech neither approves nor maintains housing facilities. Students who are looking for housing or roommates may check bulletin boards in the Bailey Student Services Center or the Coman Student Activity Center.

Study Abroad Program. A-B Tech occasionally sponsors Study Abroad opportunities for students. Students who want to participate must be enrolled in the College, must register for the study abroad course, and must purchase health and accident insurance that is valid outside of the United States. Students who successfully complete the study abroad activity and the course requirements will receive course credit.

Allied Health and Public Service Education

The Allied Health and Public Service Education division offers a variety of programs designed to meet the increasing demand for specialized professionals in the burgeoning health care, child care, and public service industries. The programs in this division present a broad range of career options for individuals desiring a career in an Allied Health or Public Service profession. The division offers a variety of programs at the Associate in Applied Science degree, diploma and certificate levels. Some areas of study are offered on a day and evening basis.

In addition to classroom and laboratory instruction, each program emphasizes learning experiences at health and public service settings in the community. This extensive training at clinical, pre-hospital, laboratory, child care, or law enforcement facilities affords students a unique opportunity to develop the specialized skills required for employment in a health or public service profession.

An individual desiring training in a health or public service program should have a background in chemistry, biology, science, mathematics, and social sciences. The applicant to an area of study in this division should become familiar with the selection criteria and application deadlines for the specific program. Persons interested in a health or public service career are advised that professional licensure, certification, employment, or admission to clinical/ work experience sites may be denied to anyone who has been convicted of a felony or other crime involving moral turpitude.

For students interested in starting or managing their own business, the Student Business Incubator is one of many programs and services offered by the A-B Tech Small Business Center/Business Incubator.

Graduation Requirements

"Because of rapid changes in workplace technologies, certain technical courses will "time out" after five years and must be repeated for graduation. Exceptions must be approved by the department chairperson."

All courses with the following prefixes DEN, EMS, MLT, NUR, RAD, SAB, SON, SUR, VET, MED, PBT, CAT, MRI are designated as 5 year "time out" courses and must have been completed within five years of graduation.

A.A.S. Degrees Conferred

Associate Degree Nursing Criminal Justice Technology Dental Hygiene Early Childhood Associate Emergency Medical Science Fire Protection Technology Human Services Technology Medical Assisting Medical Laboratory Technology Medical Sonography Radiography Surgical Technology School-Age Education Veterinary Medical Technology

Diplomas Awarded

Computed Tomography & Magnetic Resonance Imaging (CT/MRI) Dental Assisting Practical Nursing Surgical Technology

Certificates Awarded

Basic Law Enforcement Training Computed Tomography (CT) Early Childhood Fire Protection Technology Human Services & Substance Abuse Studies Infant/Toddler Care Magnetic Resonance Imaging (MRI) Phlebotomy Special Education

Collaborations

Associate Degree Nursing RIBN* Option / Western Carolina University

Health Information Technology / McDowell Tech Community College

Ophthalmic Medical Assistant Diploma / Caldwell Community College and Technical Institute *Regionally Increasing Baccalaureate Nursing

Basic Law Enforcement Training (C55120)

Basic Law Enforcement Training (BLET) is designed to give students essential skills required for entry-level employment as law enforcement officers with state, county, or municipal governments, or with private enterprise.

This program utilizes state-commission-mandated topics and methods of instruction. General subjects include, but are not limited to, criminal, juvenile, civil, traffic, and alcoholic beverage laws; investigative, patrol, custody, and court procedures; emergency responses; and ethics and community relations.

Successful graduates receive a curriculum certificate and are qualified to take certification examinations mandated by the North Carolina Criminal Justice Education and Training Standards Commission and/or the North Carolina Sheriffs Education and Training Standards Commission.

Specific Requirements

- 1. General college admission requirements.
- 2. Individuals must meet the Minimum Standard for Employment Criteria out-lined in North Carolina Code Book—General Statute 17-A and Title-12 Chapter 9 North Carolina Administrative Code.
- 3. Individuals must be sponsored by a North Carolina law enforcement agency. The letter of sponsorship must:
 - a. Be signed by the agency head; i.e., Chief or Sheriff.
 - b. Include a statement of sponsorship that certifies that the applicant meets the standards for certification as stated in number two above.
 - c. State that a background investigation was conducted.
- 4. Individuals must submit their sponsorship letter and college application to the Law Enforcement Training Center director at least 15 days prior to the courses scheduled start date. Applicants are accepted on a first-come, first-serve basis. Priority will be given to full-time employees of law enforcement agencies.
- 5. Individuals must provide the School Director a certified criminal record check for local and state records for the time period since the trainee has become an adult and from all locations where the trainee has resided since becoming an adult. An Administrative Office of the Courts criminal record check or a comparable out-of-state criminal record check will satisfy this requirement.
- 6. If accepted into the program, the student must submit completed North Carolina State Forms F-1 and F-2 on the first day of class. These forms are provided by the sponsoring agency and are not available at the College.

7. Prior to admission each student must achieve a reading score of at least the tenth grade. This testing can be done AFTER submitting your application for enrollment Testing is done in the K. Ray Bailey Building Monday through Thursdays: 8:30 a.m., 10:30 a.m., 1:30 p.m., 3:30 p.m., and 5:30 p.m. and Fridays: 8:30 a.m., 10:30 a.m., 10:30 a.m., and 1:30 p.m.. Please visit http://placementtesting.abtech.edu to schedule your placement test. Please arrive in the counseling department of the Bailey Building 20 minutes prior to your scheduled test time.

Basic Law Enforcement Training Certificate Program

Major Re	Credits	
CJC 100	Basic Law Enforcement Training	19
Total Cre	dit Hours Required	19

Criminal Justice Technology

This curriculum is designed to provide practical knowledge of criminal justice systems and operations. Study will focus on local, state, and federal law enforcement, judicial processes, corrections and security services. The criminal justice system's role within society will be explored.

Emphasis is on criminal justice systems, criminology, juvenile justice, criminal and constitutional law, investigative principles, ethics and community relations. Additional study may include issues and concepts of government, counseling, communications, computers and technology.

Employment opportunities exist in a variety of local, state, and federal law enforcement, corrections, and security fields. Examples include police officer, deputy sheriff, county detention officer, state trooper, intensive probation/parole surveillance officer, correctional officer, and loss prevention specialist.

Criminal Justice Technology Associate in Applied Science Degree (A55180)

Courses requiring a grade of "C" or better: ACA, CJC

General Education Requirements		Credits
ACA 115	Success and Study Skills	1
ENG 111	Expository Writing	3
ENG 114	Professional Research & Reporting	3
	(or ENG 113 and COM 231)	
HUM 115	Critical Thinking	3
MAT 115**	Mathematical Models	3
	(or MAT 151/A, or MAT 161/A)	
PSY 150	General Psychology	3

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Education
Service
Public
and
Health
Allied

Major Requirements		Credits
CIS 110	Introduction to Computers	3
CJC 111	Introduction to Criminal Justice	3
CJC 112	Criminology	3
CJC 113	Juvenile Justice	3
CJC 131	Criminal Law	3
CJC 212	Ethics and Community Relations	3
CJC 221	Investigative Principles	4
CJC 231	Constitutional Law	3
SOC 225	Social Diversity	3
	(or PSY 231, or PSY 237, or PSY 281)	
SPA 120	Spanish for the Workplace	3
	(or SPA 111, or COM 120, or COM 231)	
	Electives*	18
Total Credit Hours Required		65

*3 Credit Hour Electives:, CJC 121, CJC 122, CJC 132, CJC 160, CJC 161, CJC 170, CJC 213, CJC 214, CJC 215, CJC 222, CJC 223, CJC 225, CJC 232, CJC 255, CCT 110, CCT 121, or CCT 231.

2 Credit Hour Electives: CJC 114, CJC 120, CJC 261

** MAT 161/161A fulfills AB Tech A.A.S. requirement for math and the second math requirement for 44-hour general education core for WCU program. MAT 115 fulfills A.A.S. requirement and WCU math requirement If completing WCU liberal studies. Check with advisor for details.

Students who have successfully completed a curriculum offering of Basic Law Enforcement Training within 10 years of their application to the Criminal Justice Technology Program will receive credit for CJC 121, 131, 132, 221, and 231.

Dental Assisting

This curriculum prepares individuals to assist the dentist in the delivery of dental treatment and to function as integral members of the dental team while performing chair-side and related office and laboratory procedures.

Course work includes instruction in general studies, biomedical sciences, dental sciences, clinical sciences, and clinical practice. A combination of lecture, laboratory, and clinical experiences provide students with knowledge in infection/hazard control, radiography, dental materials, preventive dentistry, and clinical procedures.

Graduates of this program may be eligible to take the Dental Assisting National Board Examination to become Certified Dental Assistants. As Dental Assistant IIs, defined by the Dental Laws of North Carolina, graduates work in dental clinics/offices, and insurance companies.

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1.	General college admission requirements.
2.	This program has a competitive selection process. See Selection Criteria and Procedures for Allied Health Programs on the college admissions office web page for full details.
WV	vw.abtech.edu/Student_Services/admissions/allied_health.asp
3.	Acceptable report of medical examination by first day of class.
4.	Completion of required immunizations by first day of class, including first two doses of Hepatitis B vac- cine.
5.	Students applying to the Dental Assisting program are encouraged to have successfully completed BIO 161 or BIO 163 or BIO 168 and BIO 169, CIS 110 or CIS 111, COM 120 or ENG 111 and COM 231, and PSY 150 prior to program admission due to the rigorous

Specific Requirements

Dental Assisting Diploma (D45240)

Courses requiring a grade of "C" or better: DEN, BIO

General Education Requirements		Credits	
BIO	161	Intro to Human Biology (or BIO 106)	3
СОМ	120	Intro to Interpersonal Communications	3
PSY	150	General Psychology	3
Majo	or Requ	lirements	Credits
CIS	111	Basic PC Literacy (or CIS 110)	2
DEN	101	Preclinical Procedures	7
DEN	102	Dental Materials	5
DEN	103	Dental Sciences	2
DEN	104	Dental Health Education	3
DEN	105	Practice Management	2
DEN	106	Clinical Practice I	5
DEN	107	Clinical Practice II	5
DEN	100	Basic Orofacial Anatomy	2
DEN	111	Infection/Hazard Control	2
DEN	112	Dental Radiography	3
Tota	l Credit	t Hours Required	47

nature of the Dental Assisting curriculum.

Dental Hygiene

This curriculum prepares individuals with the knowledge and skills to assess, plan, implement, and evaluate dental hygiene care for the individual and the community.

Students will learn to prepare the operatory, take patient histories, note abnormalities, plan care, teach oral hygiene, clean teeth, take x-rays, apply preventive agents, complete necessary chart entries, and perform other procedures related to dental hygiene care.

Graduates of this program may be eligible to take national and state/regional examinations for licensure which are required to practice dental hygiene. Employment opportunities include dental offices, clinics, schools, public health agencies, industry, and professional education.

Specific Requirements

- 1. General college admission requirements.
- 2. This program has a competitive selection process. See Selection Criteria and Procedures for Allied Health Programs on the college admissions office web page for full details.

www.abtech.edu/Student_Services/admissions/allied_health.asp

- 3. Have high school credit with grade of at least "C" for four units of English, two units of mathematics (one of which must be algebra), one unit of chemistry, and one unit of biology. Science oriented college preparatory courses are recommended.
- 4. Acceptable report of medical examination by the first day of class.
- 5. Completion of required immunizations by first day of class, including first two doses of Hepatitis B vaccine.
- 6. Students applying to the Dental Hygiene program are encouraged to have successfully completed: BIO 168, BIO 169, BIO 175, CIS 110 or CIS 111, COM 231, ENG 111, HUM 115, and SOC 240 prior to program admission due to the rigorous nature of the Dental Hygiene curriculum.
- 7. The North Carolina Board of Dental Examiners may deny license to individuals convicted of a felony or any other crime involving moral turpitude.

Dental Hygiene Associate in Applied Science Degree (A45260)

Courses requiring a grade of "C" or better: DEN, BIO

Gene	eral Ed	ucation Requirements	Credits
BIO	169	Anatomy and Physiology II	4
СОМ	231	Public Speaking	3
ENG	111	Expository Writing	3
HUM	115	Critical Thinking	3
SOC	240	Social Psychology	3
Majo	or Requ	uirements	Credits
BIO	168	Anatomy and Physiology I	4
BIO	175	General Microbiology	3
CIS	111	Basic PC Literacy (or CIS 110)	2
DEN	110	Orofacial Anatomy	3
DEN	111	Infection/Hazard Control	2
DEN	112	Dental Radiography	3
DEN	120	Dental Hygiene Preclinic Lecture	2
DEN	121	Dental Hygiene Preclinic Lab	2
DEN	123	Nutrition/Dental Health	2
DEN	124	Periodontology	2
DEN	125	Dental Office Emergencies	1
DEN	130	Dental Hygiene Theory I	2
DEN	131	Dental Hygiene Clinic I	3
DEN	140	Dental Hygiene Theory II	1
DEN	141	Dental Hygiene Clinic II	2
DEN	220	Dental Hygiene Theory III	2
DEN	221	Dental Hygiene Clinic III	4
DEN	222	General & Oral Pathology	2
DEN	223	Dental Pharmacology	2
DEN	224	Materials and Procedures	2
DEN	230	Dental Hygiene Theory IV	1
DEN	231	Dental Hygiene Clinic IV	4
DEN	232	Community Dental Health	3
DEN	233	Professional Development	2
DEN	235	Dental Hygiene Concepts	2
Total	Credit	t Hours Required	74

Early Childhood Associate

This curriculum prepares individuals to work with children from infancy through early childhood in diverse learning environments. Students will combine learned theories with practice in actual settings with young children under the supervision of qualified teachers.

Course work includes childhood growth and development, physical/nutritional needs of children, care and guidance of children, and communication skills with parents and children. Students will foster the cognitive/language, physical/motor, social/emotional and creative development of young children.

Graduates are prepared to plan and implement developmentally appropriate pro-grams in early childhood settings. Employment opportunities include child development and child care programs, preschools, public and private schools, recreational centers, Head Start Programs, and school age programs.

Specific Requirements

- 1. General college admission requirements.
- 2. Acceptable reports of medical examination by the first day of class.
- 3. Three character/employment references by the first day of class.
- 4. According to GS 110-91, "No person shall be an operator of nor be employed in a child care facility who has been convicted of a crime involving child neglect, child abuse, or moral turpitude, or who is an habitually excessive user of alcohol or who illegally uses narcotic or other impairing drugs, or who is mentally or emotionally impaired to an extent that may be injurious to children."
- 5. Criminal background checks are required prior to assignment to cooperative work experience sites.

Early Childhood Associate in Applied Science Degree (A55220)

Courses requiring a grade of "C" or better:, ACA, CIS, COE, and EDU

General Education Requirements			Credits
ACA	115	Success and Study Skills	1
COM	120	Interpersonal Communication	3
COM	140	Intercultural Communication	3
ENG	110	Freshman Composition	3
		(or ENG 111)	
MAT	140	Survey of Mathematics	3
PSY	150	General Psychology	3
Majo	or Requ	uirements	Credits
CIS	110	Introduction to Computers	3
COE	115EC	Work Experience I Seminar	1
COE	111EC	Work Experience I	1
EDU	119	Intro to Early Childhood Education	4
EDU	131	Child, Family & Community	3
EDU	144	Child Development I	3
EDU	145	Child Development II	3
EDU	146	Child Guidance	3
EDU	151	Creative Activities	3
EDU	151A	Creative Activities Lab	1
EDU	153	Health, Safety & Nutrition	3
EDU	153A	Health, Safety & Nutrition Lab	1
EDU	154	Social/Emotional/Behavior Dev	3
		(or EDU 262 Administration II)	
EDU	184	Early Child Intro Pract	2
EDU	214	Early Childhood Interim Practium	4
EDU	221	Children with Exceptionalities	3
EDU	248	Developmental Delays	3
		(or EDU 234, or EDU 114, EDU 261)	
EDU	251	Exploration Activities	3
EDU	251A	Exploration Activities Lab	1
EDU	271	Educational Technology	3
EDU	280	Language and & Literacy Exper	3
EDU	284	Early Childhood Capstone Prac	4
Tota	I Credit	t Hours Required	74

Early Childhood Certificate (C55220L1)

The Early Childhood Certificate program is designed to provide students minimum entry level skills to work with children from infancy through early childhood. Employment opportunities include child development and child care programs, preschools, public and private schools, recreational centers, Head Start programs, and school age programs.

Specific Requirements

- 1. General college admission requirements.
- 2. Three character/employee references by the first day of class.
- 3. Criminal background checks are required prior to credentialing. According to GS 110-91, "No person shall be an operator of nor be employed in a child care facility who has been convicted of a crime involving child neglect, child abuse, or moral turpitude, or who is an habitually excessive user of alcohol or who illegally uses narcotic or other impairing drugs, or who is mentally or emotionally impaired to an extent that may be injurious to children."

Majo	or Requ	uirements	Credits
EDU	119	Intro to Early Childhood Education	4
EDU	144	Child Development I	3
EDU	146	Child Guidance	3
EDU	151	Creative Activities	3
EDU	151A	Creative Activities Lab	1
ENG	110	Freshman Composition	3
Tota	(or ENG 111) Total Credit Hours Required		

Special Education Certificate (C55220L2)

The Early Childhood Special Education Certificate focuses on working with children from infancy through middle childhood in diverse learning environments.

Course work includes childhood growth and development, guidance of children, causes, expressions, prevention and management of challenging behaviors as well as definition, characteristics, assessment, educational strategies, inclusion, family involvement, and services for children with developmental delays.

Students who complete these courses are eligible to earn a certificate in Special Education. The Special Education certificate will better prepare the student to provide early childhood educational services to special needs populations.

Major Requirements			Credits
EDU	144	Child Development I	3
EDU	145	Child Development II	3

EDU	146	Child Guidance	3
EDU	154	Social/Emotional Behavior Dev	3
EDU	221	Children with Exceptionalities	3
EDU	248	Developmental Delays	3
Tota	Credit	Hours Required	18

Infant/Toddler Care Certificate Program (C55290)

The curriculum prepares individuals to work with children from infancy to three years of age in diverse learning environments. Students will combine learned theories, competency-based knowledge, and practice in actual settings with young children under the supervision of qualified teachers.

Coursework includes infant/toddler growth and development: physical/nutritional needs of infants and toddlers; safety issues in the care of infants and toddlers; care and guidance; communication skills with parents and children; design and implementation of appropriate curriculum; and other related topics.

Graduates should be prepared to plan and implement developmentally appropriate infant/toddler programs in early childhood settings. Employment opportunities include child development and child care programs, preschools, public and private schools, recreational centers, Early Head Start Programs, and other infant/ toddler programs.

Specific Requirements:

- 1. General college admission requirements.
- 2. Three character/employee references by the first day of class.
- 3. Criminal background checks are required prior to credentialing. According to GS 110-91, "No person shall be an operator of nor be employed in a child care facility who has been convicted of a crime involving child neglect, child abuse, or moral turpitude, or who is an habitually excessive user of alcohol or who illegally uses narcotic or other impairing drugs, or who is mentally or emotionally impaired to an extent that may be injurious to children."

Major Requirements		Credits	
EDU	119	Intro to Early Childhood Education	4
edu	144	Child Development I	3
edu	131	Child, Family & Community	3
edu	153	Health, Safety & Nutrition	3
edu	153A	Health, Safety & Nutrition Lab	1
EDU Tota	234 I Credi	Infant, Toddlers, and Twos t Hours Required	3 17

Early Childhood/School-Age Education

This curriculum prepares individuals to work with children in elementary through middle grades in diverse learning environments. Students will combine learned theories with practice in actual settings with school-age children under the supervision of qualified teachers.

Course work includes child growth/development; computer technology in education; physical/nutritional needs of school-age children; care and guidance of school-age children; and communication skills with families and children. Students will foster the cognitive/language, physical/motor, social/emotional, and creative development of school-age populations.

Graduates are prepared to plan and implement developmentally appropriate programs in school-aged environments. Employment opportunities include school-age teachers in child care programs, before/ after-school programs, paraprofessional positions in public/ private schools, recreational centers, and other programs that work with school-age populations.

Specific Requirements

- 1. General college admission requirements.
- 2. Acceptable reports of medical examination by the first day of class.
- 3. Three character/employment references by the first day of class.
- 4. Criminal background checks are required prior to assignment to cooperative work experience sites.

School-Age Education Associate in Applied Science Degree (A55440)

Courses requiring a grade of "C" or better: ACA, COE and EDU

General E	ducation Requirements	Credits
ACA 115	Success and Study Skills	1
COM 120	Interpersonal Communication	3
COM 140	Intercultural Communication	3
ENG 111	Expository Writing (or ENG 110)	3
MAT 140	Survey of Mathematics	3
PSY 150	General Psychology	3

Major Req	uirements	Credits
CIS 110	Introduction to Computers	3
COE 111EC	Work Experience I	1
EDU 118	Principles and Practice Inst Assistant	3
EDU 119	Intro to Early Childhood Education	4
EDU 131	Child, Family, & Community	3
EDU 144	Child Development I	3
EDU 145	Child Development II	3
EDU 146	Child Guidance	3
EDU 151	Creative Activities	3
EDU 151A	Creative Activities Lab	1
EDU 153	Health, Safety & Nutrition	3
EDU 153A	Health, Safety & Nutrition Lab	1
EDU 163	Classroom Management & Instruction	3
EDU 221	Children With Exceptionalities	3
EDU 248	Developmental Delays	3
EDU 251	Exploration Activities	3
EDU 251A	Exploration Activities Lab	1
EDU 271	Educational Technology	3
EDU 280	Language & Literacy Experiences	3
EDU 285	Internship Experience-School Age	4
EDU 281	Instructional Strategies/Read & Writ	3
EDU 289	Advanced Issues/School Age	2
Total Credi	t Hours Required	75

Emergency Medical Science

This curriculum is designed to prepare graduates to enter the workforce as paramedics. Additionally, the program can provide an Associate Degree for individuals desiring an opportunity for career enhancement.

The course of study provides the student an opportunity to acquire basic and advanced life support knowledge and skills by utilizing classroom instruction, practical laboratory sessions, hospital clinical experience, and field internships with emergency medical service agencies.

Students progressing through the program become eligible to apply for both state and national certification exams. Employment opportunities include ambulance services, fire and rescue agencies, air medical services, specialty areas of hospitals, industry, educational institutions, and government agencies.

Specific Requirements

- 1. General college admission requirements.
 - a. Complete application for admission,
 - b. Successfully complete College Placement Test.
 - c. High School transcript or GED scores on file with admissions office.
 - d. Official transcript of any prior college credit on file with admissions office.

Asheville-Buncombe Technical Community College

- 2. Must be 18 years of age at the end of the first semester of the program.
- 3. Current N.C. driver's license.
- 4. Acceptable reports of medical examinations and immunizations.
- 5. Criminal background checks will be required prior to admission to clinical sites.

Emergency Medical Science Associate in Applied Science Degree (A45340)

Courses requiring a grade of "C" or better: ACA, EMS

Gen	eral Ec	lucation Requirements	Credits
ACA	115	Success and Study Skills	1
BIO	168	Anatomy and Physiology I	4
BIO	169	Anatomy and Physiology II	4
ENG	111	Expository Writing	3
ENG	114	Professional Research & Reporting	3
PHI	240	Introduction to Ethics	3
SOC	225	Social Diversity	3
Majo	or Req	uirements	Credits
CIS	110	Introduction to Computers	3
		(or CIS 111 Basic PC Literacy)	
ems	110	EMT-Basic	7
ems	111	Prehospital Environment	3
		(or EMS 115 Defense Tactics for EMS)	
ems	120	Intermediate Interventions	3
ems	121	EMS Clinical Practicum I	2
ems	130	Pharmacology I for EMS	2
ems	131	Advanced Airway Management	2
ems	140	Rescue Scene Management	2
ems	140A	Rescue Skills Lab	1
ems	150	Emergency Vehicles and EMS Com	2
ems	210	Advanced Patient Assessment	2
ems	220	Cardiology	4
ems	221	Clinical Practicum II	3
ems	230	Pharmacology II For EMS	2
ems	231	Clinical Practicum III	3
ems	240	Special Needs Patients	2
ems	241	Clinical Practicum IV	3
ems	250	Advanced Medical Emergencies	3
ems	260	Advanced Trauma Emergencies	2
ems	270	Life Span Emergencies	3
EMS	285	EMS Capstone	2
Iota	I Credi	It Hours Keguired	11

Emergency Medical Science Bridge Program

The Emergency Medical Science Bridge Program is designed to allow currently certified non-degree paramedics to earn an Associate in Applied Science (A.A.S.) degree in Emergency Medical Science. Paramedics enrolled in the bridge program must complete the EMS Bridge, Rescue Scene Management, Pharmacology II for EMS, Emergency Vehicles and EMS Communications, and EMS Capstone courses along with all related and general education course requirements for the EMS degree.

Specific Requirements

- 1. General college admission requirements.
 - a. Complete application for admission.
 - b. Successfully complete College Placement Test.
 - c. High School transcript or GED scores on file with admissions office.
 - d. Official transcript of any prior college credit on file with admissions office.
- 2. Possess current North Carolina driver's license.
- 3. Complete interview with EMS Department faculty.
- 4. At least 4,000 hours of patient contact at the paramedic level as evidenced by the signature of the director of the EMS agency with which the paramedic is affiliated and the medical director of the ALS system with which the paramedic is affiliated.
- 5. Current EMT-Paramedic certification.* (A copy of the paramedic education program transcript must be on file in the EMS Department.)
- 6. Current Basic Cardiac Life Support certification.*
- 7. Current Advanced Cardiac Life Support certification.*
- 8. Current Basic Trauma Life Support certification.*
- 9. Current Pediatric Advanced Life Support certification.*

The above certifications and experience (4-9) will provide 41 hours of proficiency credit toward the A.A.S. degree and will count toward the A–B Tech residency requirement. These 41 hours represent the major area (EMS) courses required for EMT-Basic, EMT-Intermediate, and Paramedic certification that are not required as part of the EMS Bridge Program.

Allied Health and Public Service Education

63

Emergency Medical Science Bridge Program Associate in Applied Science Degree (A45340BR)

Maj	or Requ	uirements	Credits
BIO	168	Human Anatomy and Physiology I	4
BIO	169	Anatomy and Physiology II	4
CIS	110	Introduction to Computers	3
		(or CIS 111 Basic PC Literacy)	
EMS	140	Rescue Scene Management	2
EMS	140A	Rescue Skills Lab	1
EMS	150	Emergency Vehicles and EMS Com	2
EMS	230	Pharmacology II For EMS	2
EMS	280	EMS Bridge Course	3
EMS	285	EMS Capstone	2
ENG	111	Expository Writing	3
ENG	114	Professional Research & Reporting	3
PHI	240	Introduction to Ethics	3
SOC	225	Social Diversity	3
Tota	l Credi	t Hours Required	35

*At least 25% of required credit hours (19 credit hours) must be earned at A-B Tech.

Fire Protection Technology

This curriculum is designed to provide individuals with technical and professional knowledge to make decisions regarding fire protection for both public and private sectors. It also provides a sound foundation for continuous higher learning in fire protection, administration, and management.

Coursework includes classroom and laboratory exercises to introduce the student to various aspects of fire protection. Students will learn technical and administrative skills such as hydraulics, hazardous materials, arson investigation, fire protection safety, fire suppression management, law, and codes.

Graduates should qualify for employment or advancement in governmental agencies, industrial firms, insurance rating organizations, educational organizations, and municipal fire departments. Employed persons should have opportunities for skilled and supervisorylevel positions with their current organizations.

Fire Protection Technology Associate in Applied Science Degree (A55240)

Courses requiring a grade of "C" or better: ACA, FIP

General Education Requirements		Credits
ACA 115	Success and Study Skills	1
COM 231	Public Speaking	3
ENG 111	Expository Writing	3

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ENG	114	Professional Research & Reporting	3
MAT	115	Mathematical Models	3
PSY	150	General Psychology	3
		Humanities Elective	3
Мај	or Re	quirements	Credits
CIS	110	Introduction to Computers	3
FIP	120	Introduction to Fire Protection	3
FIP	124	Fire Prevention & Public Education	3
FIP	128	Detection & Investigation	3
FIP	132	Building Construction	3
FIP	136	Inspections & Codes	3
FIP	140	Industrial Fire Protection	3
FIP	152	Fire Protection Law	3
FIP	220	Fire Fighting Strategies	3
FIP	224	Instructional Methodology	4
FIP	228	Local Government Finance	3
FIP	230	Chemistry of Hazardous Materials I	5
FIP	232	Hydraulics and Water Distribution	3
FIP	236	Emergency Management	3
FIP	240	Fire Service Supervision	3
FIP	260	Fire Protection Planning	3
FIP	276	Managing Fire Services	3
Tota	l Crea	lit Hours Required	73

Fire Protection Technology Certificate (C55240L1)

The certificate in Fire Protection Technology provides recognition of the accomplishment of selected courses within the Fire Protection Technology program. These courses should be of particular value to those who are serving or who aspire to serve as officers in fire departments and similar organizations as these courses are comparable with the requirements of NFPA 1021, the national Standard for Fire Officer Professional Qualifications, for Fire Officer 1 and 2.

Major Requirements			Credits
ENG	111	Expository Writing	3
FIP	132	Building Construction	3
FIP	152	Fire Protection Law	3
FIP	220	Fire Fighting Strategies	3
FIP	240	Fire Service Supervision	3
FIP 276 Managing Fire Services Total Credit Hours Required			3 18

Health Information Technology (Pending Approval)

The Health Information Technology curriculum provides individuals with the knowledge and skills to process, analyze, abstract, compile, maintain, manage, and report health information.

Students will supervise departmental functions; classify, code, and index diagnoses and procedures; coordinate information for cost control, quality management, statistics, marketing, and planning; monitor governmental and non-governmental standards; facilitate research; and design system controls to monitor patient information security.

Graduates of this program may be eligible to write the national certification examination to become a Registered Health Information Technician (RHIT). Employment opportunities include hospitals, rehabilitation facilities, nursing homes, health insurance organizations, outpatient clinics, physicians' offices, hospice, and mental health facilities.

Program offered in collaboration with McDowell Technical Community College. General education and related courses may be taken at A-B Tech. Major area (HIT) classes would be taken at McDowell Technical Community College. The degree is awarded by McDowell Technical Community College.

Health Information Technology (A45360)

Required Courses

May	/ be tal	(en at A-B Tech)	
ACA	115	Success and Study Skills	1
BIO	168	Anatomy & Physiology I	4
BIO	169	Anatomy & Physiology II	4
CIS	110	Introduction to Computers	3
COM	231	Public Speaking	3
ENG	111	Expository Writing	3
MAT	140	Survey of Mathematics	3
MAT	140A	Survey of Mathematics Lab	1
MED	121	Medical Terminology I	3
MED	122	Medical Terminology II	3
		Humanities Fine Arts Elective	3
		Social Behavioral Elective	3

Required Courses

(Tak	en at	McD	owe	II Technical Community College)
		-			

HIT	110	Fund. of HIT Mgt.	2
HIT	112	Health Law and Ethics	3
HIT	114	Health, Data Systems/Standards	3
HIT	122	Professional Practice Exp. I	1
HIT	124	Professional Practice Exp. II	2

HIT	210	Healthcare Statistics	3
HIT	212	ICD-9-CM Coding	4
HIT	214	CPT/Other Coding Systems	2
HIT	215	Reimbursement Methodology	2
HIT	216	Quality Management	2
HIT	218	Management Principles in HIT	3
HIT	220	Computers in Healthcare	2
HIT	222	Professional Practice Exp. III	2
HIT	226	Principle of Disease	3
HIT	280	Professional Issues	2
OST	247	Procedure Coding	2
OST	248	Diagnostic Coding	2
Tota	l Credit	Hours Required	74

Human Services Technology

The Human Services Technology curriculum prepares students for entry-level positions in institutions and agencies which provide social, community, and educational services. Along with core courses, students take courses which prepare them for specialization in specific human service areas.

Students will take courses from a variety of disciplines. Emphasis in core courses is placed on development of relevant knowledge, skills, and attitudes in human services. Fieldwork experience will provide opportunities for application of knowledge and skills learned in the classroom.

Graduates should qualify for positions in mental health, child care, family services, social services, rehabilitation, correction, and educational agencies. Graduates choosing to continue their education may select from a variety of transfer programs at senior public and private institutions.

Specific Requirements

Credits

Credits

- 1. General college admission requirements.
- 2. Three character references by the end of the first semester of enrollment in this program.
- 3. Acceptable results on medical examinations, criminal background checks, drug & alcohol screens, and immunization records as these are required by a specific co-op site.
- 4. Compliance with relevant standards outlined in the College's "Guidelines for Students at Risk" brochure.
- 5. Students pursuing the A.A.S. degree in Human Services Technology should be aware that employers in the human services field can require prospective volunteers, interns, and employees to pass criminal background, drug screen, and citizenship verification checks before allowing them to work at an organization.

Human Services Technology Associate in Applied Science Degree (A45380)

Courses requiring a grade of "C" or better: ACA, COE, DDT, HSE, MHA, PSY, SAB, SOC, SWK

General Ed	lucation Requirements	Credits
BIO 163	Basic Anatomy and Physiology*	5
	(or BIO 161)	
COM 231	Public Speaking	3
ENG 111	Expository Writing	3
HUM 115	Critical Thinking	3
SOC 225	Social Diversity	3
	Foreign Language Elective + lab	
	as required**	2-4
Major Req	uirements	Credits
ACA 115	Success and Study Skills	1
CIS 110	Introduction to Computers	3
COE 111SS	COOP Work Experience I	1
COE 115SS	Work Experience Seminar I	1
DDT 110	Developmental Disabilities	3
HSE 110	Introduction to Human Services	3
HSE 112	Group Process I	2
HSE 123	Interviewing Techniques	3
HSE 125	Counseling	3
HSE 210	Human Services Issues	2
HSE 220	Case Management	3
HSE 225	Crisis Intervention	3
HSE 240	Issues in Client Services	3
HSE 242	Family Systems	3
MHA 238	Psychopathology	3
PSY 150	General Psychology	3
PSY 241	Developmental Psychology	3
SAB 110	Substance Abuse Overview	3
	(or SAB 140*** or SAB 210***)	
PSY 281	Abnormal Psychology	3
SOC 220	Social Problems	3
SWK 110	Introduction to Social Work	3
Total Credi	t Hours Required	72-76

*BIO 163 is recommended for students who desire to eventually pursue a bachelor's degree.

**To satisfy the foreign language elective requirement, students may select from one of the following courses & must take any accompanying lab as required: FRE 111, GER 111, SPA 110, or SPA 111; SPA 110 is <u>not</u> recommended for students who desire to eventually pursue a bachelor's degree.

*** This course is an option only for those students who choose to complete the requirements of the Human Services & Substance Abuse Studies Certificate at the same time that they complete the requirements of the A.A.S. in Human Services Technology degree.

Substance Abuse Studies Certificate - (C45380L1)

This certificate offers students an opportunity to learn about substance abuse and professional human services practice. The certificate has been designed to enhance the professional knowledge base of individuals who have obtained or who desire to obtain entrylevel employment in human services settings, particularly those serving individuals affected by substance abuse issues.

The certificate's course work can be of particular value to:

- 1. Workers already employed in the human services field who desire to increase their knowledge of substance abuse and professional human services practice.
- 2. Individuals seeking to obtain or renew credentials as a substance abuse professional through the North Carolina Substance Abuse Professional Practice Board (NCSAPPB); please consult the NCSAPPB website for credentialing requirements.
- 3. Students who are currently completing or who have previously completed the requirements of the College's associate's degree in Human Services Technology who desire to expand their knowledge of substance abuse as a component of wider human services practice.

Student interested in completing the certificate have the following options:

- 1. Since the certificate's course work can be counted toward the course requirements for the College's associate's degree in Human Services Technology, students can graduate with both the certificate and the associate's degree at the same time.
- 2. Students can earn the certificate and then complete the requirements of the associate's degree at a later time.
- 3. The certificate can be pursued separately from other credentials offered by the College, including its associate's degree in Human Services Technology.

Specific Requirements

- 1. General college admission requirements.
- 2. 50% of the credits toward this certificate must be earned at the College.
- 3. Students must pass all courses required to earn the certificate with a grade of "C" or higher.
- 4. Students must satisfy any course prerequisite requirements and pass such courses with a grade of "C" or higher.

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5. Students pursuing the certificate should be aware that employers in the human services field (substance abuse and otherwise) can require prospective volunteers, interns, and employees to pass criminal background, drug screen, and citizenship verification checks before allowing them to work at an organization.

Major Requirements

Select two courses from human services courses with

the fo	ollowir	ng prefixes: DDT, HSE, MHA, SWK	4-6
SAB	110	Substance Abuse Overview	3
SAB	140	Pharmacology	3
SAB	210	Substance Abuse Counseling	<u>3</u>
Tota	Total Credit Hours Required		

Medical Assisting

The Medical Assisting curriculum prepares multiskilled health care professionals qualified to perform administrative, clinical, and laboratory procedures.

Course work includes instruction in scheduling appointments, coding and processing insurance accounts, billing, collections, medical transcription, computer operations; assisting with examinations/ treatments, performing routine laboratory procedures, electrocardiography, supervised medication administration; and ethical/legal issues associated with patient care.

Employment opportunities include physicians' offices, health maintenance organizations, health departments, and hospitals.

Asheville-Buncombe Technical Community College is currently undergoing the accreditation process through the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Program criteria are governed by the American Association of Medical Assistants. Once accreditation has been achieved, students who enter the program In the Fall 2010 will be eligible to sit for the certification exam in 2012. A student must be a graduate of CAAHEP-accredited Medical Assisting program to be eligible to sit for the American Association of Medical Assistants' Certification examination to become Certified Medical Assistants.

This program is seeking accreditation by **Commission on Accreditation of Allied Health Education Programs (CAAHEP),** 1361 Park Street, Clearwater, FL 33756, www.caahep.org, Phone: 727-210-2350, Fax: 727-210-2354 and **American Association of Medical Assistants (AAMA)**, 20 N. Wacker Dr., Ste. 1575 Chicago, IL 60606, www.aama-ntl.org, Phone: 312-899-1500, Fax: 312-899-1259.

Specific Requirements

- 1. General college admission requirements.
 - a. Complete application for admission.
 - b. Successfully complete College Placement Test.
 - c. High School transcript or GED scores on file with admissions office.
 - d. Official transcript of any prior college credit on file with admissions office.
- 2. High School units:

Credits

- a. Algebra and Biology strongly recommended.
- 3. Acceptable reports of medical examinations by first day of Second Semester (Spring I).
- 4. Satisfactory completion of required immunizations by first day of Second Semester (Spring I).
- 5. Criminal background checks and drug screenings will be required prior to admissions to any Mission Hospitals Inc. clinical sites.
- 6. Current CPR certification for the Professional Rescuer or Healthcare Provider by the first day of Fifth Semester (Spring II).

Medical Assisting Associate in Applied Science Degree (A45400)

Courses requiring a grade of "C" or better: BIO, CIS, MED and OST

General E	Credits	
COM 120	Intro to Interpersonal Communications	3
	(or COM 140)	
ENG 111	Expository Writing (or ENG 110)	3
MAT 115	Mathematical Models	3
	Social/Behavioral Sciences Elective	3
	Humanities Elective	3

Majo	or Requ	lirements	Credits
BIO	161	Intro to Human Biology	3
CIS	110	Introduction to Computers	3
MED	110	Orientation to Medical Assisting	1
MED	118	Medical Law and Ethics	2
MED	121	Medical Terminology I	3
MED	122	Medical Terminology II	3
MED	130	Admin Office Procedures I	2
MED	131	Admin Office Procedures II	2
MED	138	Infection Hazard Control	2
MED	140	Exam Room Procedures I	5
MED	150	Laboratory Procedures I	5
MED	240	Exam Room Procedures II	5

			_
MED 260	MED Clinical Externship	5	
MED 262	MED Clinical Perspectives	1	
MED 270	Symptomatology	3	
MED 272	Drug Therapy	3	,
MED 274	Diet Therapy and Nutrition	3	
MED 276	Patient Education	2	
OST 131	Keyboarding	2	
SPA 120	Spanish for the Workplace	3	
Total Credi	t Hours Required	73	

Medical Laboratory Technology

This curriculum prepares individuals to perform clinical laboratory procedures in chemistry, hematology, microbiology, and immunohematology that may be used in the maintenance of health and diagnosis/treatment of disease.

Course work emphasizes mathematical and scientific concepts related to specimen collection, laboratory testing and procedures, quality assurance and reporting/recording and interpreting findings involving tissues, blood, and body fluids.

Graduates may be eligible to the take the Board of Certification for Medical Laboratory Technicians by the American Society of Clinical Pathologists. Employment opportunities include laboratories in hospitals, medical offices, industry and research facilities.

This program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N River Rd. Suite 720, Rosemont, IL 60018, (773)-714-8880, www.naacls.org

Specific Requirements

- 1. General college admission requirements.
- 2. High School units:
 - a. Algebra, Chemistry or Chemistry 092 required.
 - b. Biology and Geometry strongly recommended.
- 3. Acceptable reports of medical examinations by first day of Practicum MLT 252.
- 4. Satisfactory completion of required immunizations by first day of MLT 252 Practicum I.
- 5. Criminal background checks and drug screens may be required prior to admission to clinical sites.
- 6. Current CPR certification for the Professional Rescuer or Healthcare Provider by the first day of MLT 252 Practicum I.

Medical Laboratory Technology Associate in Applied Science Degree (A45420)

Courses requiring a grade of "C" or better: BIO, CHM, and MLT

General Ed	lucation Requirements	Credits
ENG 111	Expository Writing	3
ENG 114	Professional Research & Reporting	3
MAT 115	Mathematics Models	3
	(or MAT 140)	
PHI 240	Introduction to Ethics	3
SOC 215	Group Processes (or PSY 150)	3
Major Req	uirements	Credits
BIO 163	Basic Anatomy and Physiology	5
CHM 130	General, Organic & Biochemistry	3
CHM 130A	General, Organic & Biochemistry Lab	1
CIS 110	Introduction to Computers	3
MLT 110	Introduction to MLT	3
MLT 111	Urinalysis & Body Fluids	2
MLT 120	Hematology/Hemostasis I	4
MLT 126	Immunology and Serology	2
MLT 127	Transfusion Medicine	3
MLT 130	Clinical Chemistry I	4
MLT 140	Introduction to Microbiology	3
MLT 215	Professional Issues	1
MLT 240	Special Clinical Microbiology	3
MLT 252	MLT Practicum I	2
MLT 254	MLT Practicum I	4
MLT 255	MLT Practicum I	5
MLT 261	MLT Practicum II	1
MLT 265	MLT Practicum II	5
MLT 275	MLT Practicum III	5
Total Credi	t Hours Required	74

Medical Sonography

The medical sonography curriculum provides knowledge and clinical skills in the application of high frequency sound waves to image internal body structures.

Course work includes physics, cross-sectional anatomy, abdominal, introductory vascular, and obstetrical/ gynecological sonography. Competencies are attained in identification of normal anatomy and pathological processes, use of equipment, fetal growth and development, integration of related imaging, and patient interaction skills.

Graduates of accredited programs may be eligible to take examinations in ultra-sound physics and instrumentation and specialty examinations administered by the American Registry of Diagnostic Medical Sonographers (ARDMS) and find employment in clinics, physicians' offices, mobile services, hospitals, and educational institutions.

Graduates will be eligible to take all ARDMS examinations in General and Vascular concentrations.

The Diagnostic Medical Sonography Program is accredited in general and vascular concentrations. The following are the accrediting agencies:

Commission on Accreditation of Allied Health Education Programs (CAAHEP)

1361 Park Street, Clearwater, FL 33756, www.caahep.org, Phone: 727-210-2350, Fax: 727-210-2354

JRC-DMS

6201 University Boulevard, Suite 500, Ellicott City, MD 21043, Phone: 443-973-3251

Specific Requirements

- 1. General college admission requirements.
- 2. This program has a competitive selection process. See Selection Criteria and Procedures for Allied Health Programs on the college admissions office web page for full details.

www.abtech.edu/Student_Services/admissions/allied_health.asp

- 3. Keyboarding skills are highly recommended.
- 4. Satisfactory completion of medical examination and reports of immunization within 90 days before beginning major area classes. Completed medical and immunization records must be submitted to department chair before classes begin.
- 5. Either first dose of Hepatitis B vaccine or completion of series.
- 6. Documentation of current CPR certification for the Professional Rescuer or Healthcare Provider, which must be kept current during clinical rotations.

- 7. Completion of an observation in an approved Sonography area after final acceptance into the program. Details are available from the Medical Sonography faculty.
- 8. Criminal background checks, drug screening, and seasonal flu vaccinations at cost to the student will be required prior to admission to clinical sites.
- 9. Sonography students will be required to complete clinical rotations which may require them to travel as much as two hours from campus.

Medical Sonography Associate in Applied Science Degree (A45440)

Courses requiring a grade of "C" or better: BIO and SON

Gene	eral E	ducation Requirements	Credits
СОМ	231	Public Speaking	3
ENG	111	Expository Writing	3
MAT	115	Mathematical Models	3
		Humanities Elective	3
		Social/Behavioral Science Elective	3
Majo	or Red	quirements	Credits
BIO	163	Basic Anatomy and Physiology	5
CIS	110	Introduction to Computers	3
PHY	125	Health Sciences Physics	4
SON	110	Intro to Sonography	3
SON	111	Sonographic Physics	4
SON	120	SON Clinical Ed I	5
SON	121	SON Clinical Ed II	5
SON	130	Abdominal Sonography I	3
SON	131	Abdominal Sonography II	2
SON	140	Gynecological Sonography	2
SON	220	SON Clinical Ed III	8
SON	221	SON Clinical Ed IV	8
SON	225	Case Studies	1
SON	241	Obstetrical Sonography I	2
SON	242	Obstetrical Sonography II	2
SON	250	Vascular Sonography	2
SON	289	Sonographic Topics	2
Tota	l Cred	lit Hours Required	76

Nursing

Associate Degree Nursing Option

This curriculum provides individuals with the knowledge and skills necessary to provide nursing care to clients and groups of clients throughout the lifespan in a variety of settings.

Upon completion of the Associate Degree Nursing Program, the graduate will upon licensure:

- 1. Practice professional nursing behaviors incorporating personal responsibility and accountability for continued competence.
- 2. Communicate effectively with individuals, significant support person(s), and members of the interdisciplinary healthcare team.
- 3. Integrate knowledge of the holistic needs of the individual to provide an individual centered assessment.
- 4. Incorporate informatics to formulate evidencebased clinical judgments and management decisions.
- Implement caring interventions incorporating documented best practices for individuals in diverse settings.
- 6. Develop a teaching plan for individuals, and/or the nursing team, incorporating teaching and learning principles.
- 7. Collaborate with the interdisciplinary healthcare team, as an advocate for the individual, to achieve positive individual and organization outcomes.
- 8. Manage health care for the individual using cost effective nursing strategies, quality improvement processes, and current technologies.

Graduates of this program are eligible to apply to take the National Council Licensure Examination (NCLEX-RN) which is required for practice as a Registered Nurse. Employment opportunities include hospitals, long-term care facilities, clinics, physician's offices, industry, and community agencies.

Specific Requirements

- 1. General college admission requirements.
- 2. High School units:
 - a. Chemistry and Biology required
 - b. Algebra highly recommended
- 3. This program has a competitive selection process. See Selection Criteria and Procedures for Allied Health Programs on the college admissions office web page for full details.

www.abtech.edu/Student_Services/admissions/allied_health.asp

- 4. Final admission to the Associate Degree Nursing program shall be contingent upon documentation of physical and emotional health that would provide evidence that is indicative of the applicant's ability to provide safe nursing care to the public.
- 5. To be eligible for admission in Fall, all nursing program applicants must by November:
 - a. Provide documentation of successful completion of a NC approved Certified Nurse Aide I Program which includes theory, lab, and clinical components*. (A copy of a college transcript or a notarized course completion certificate will be acceptable documentation).

and

- b. Hold a documented, current, unrestricted credential as a Nurse Aide I (NAI) from the North Carolina Nurse Aide Registry and the Division of Health Service Regulation. (A copy of current listing on the NC DHSR Nurse Aide Registry Website by November 18, 2011 will be acceptable documentation).
- 6. Satisfactory completion of required immunizations.
- 7. Current CPR for the Professional Rescuer certification is a prerequisite to admission and must be maintained throughout the program.
- 8. Students applying to the Associate Degree Nursing program are encouraged to have successfully completed: BIO 168, BIO 169, BIO 175 or BIO 275, CIS 110, ENG 111, ENG 114, PSY 150, PSY 241, and a Humanities elective prior to program admission due to the rigorous nature of the A.D.N. curriculum.
- 9. Effective January 1, 2002, applicants for initial licensure in North Carolina must have a criminal background check. Affiliating clinical sites for nursing will require a criminal background check and drug testing prior to participation in the clinical component. If any clinical facility refuses to allow the student to participate in clinical experiences in that clinical agency, the student may not be able to progress in the program.
- 10. Admission with advanced standing is subject to space available in the clinical component of the nursing program. Persons who begin their nursing education at Asheville-Buncombe Technical Community College have preference in admission over students requesting transfer into the program. Space will be allotted to transfer students only when no students who have previously enrolled in the A-B Tech ADN Program are requesting and have qualified for re-entry.

Associate in Applied Science Degree (A45110)

Courses requiring a grade of "C" or better: BIO and NUR						
General Education Requirements						
BIO	175	General Microbiology	3			
		(or BIO 275)				
ENG	111	Expository Writing	3			
ENG	114	Professional Research & Reporting	3			
PSY	150	General Psychology	3			
PSY	241	Development Psychology	3			
		Humanities Elective	3			
Maj	Credits					
BIO	168	Anatomy and Physiology I	4			
BIO	169	Anatomy and Physiology II	4			
CIS	110	Introduction to Computers	3			
NUR	111	Intro to Health Concepts	8			
NUR	112	Health Illness Concepts	5			
NUR	113	Family Health Concepts	5			
NUR	114	Holistic Health Concepts	5			
NUR	211	Health Care Concepts	5			
NUR	212	Health Systems Concepts	5			
NUR	213	Complex Health Systems	10			
Total Credit Hours Required 72						

Associate Degree Nursing Advanced Placement Option

The advanced placement option for LPNs will not be offered during academic year 2011-2012. This option is expected to be offered in future years.

Associate Degree Nursing RIBN Option**

The R.I.B.N. option is an A.A.S. Dual Enrollment Program offered in collaboration with Western Carolina University. Students would be accepted to and take courses at both A-B Tech and WCU during enrollment in the RIBN option.

Students are required to:

1. Provide documentation of successful completion of a NC approved Certified Nurse Aide I Program which includes theory, lab, and clinical components no later than the first day of fall semester year two*. (A copy of a college transcript or a notarized course completion certificate will be acceptable documentation).

and

2. Hold a documented, current, unrestricted credential as a Nurse Aide I (NAI) from the North Carolina Nurse Aide Registry and the Division of Health Service Regulation.

- 3. Maintain dual admission and continued enrollment at both AB Tech and WCU by completing at least one WCU course each semester (Fall / Spring) during years 1 through 3.
- 4. Maintain a GPA of 2.5 or greater to progress in the RIBN option.
- 5. Maintain full-time enrollment each semester if a recipient of NC Nurse Scholars funding.
- 6. Home school will be AB Tech years 1, 2, and 3.
- 7. Year 1: enroll In general education courses at AB Tech and WCU as advised by the RIBN Nursing Student Advisor
- 8. Year 2 and 3: enroll in associate degree nursing courses at AB Tech and continue enrollment in WCU courses as advised by RIBN Nursing Student Advisor.
- 9. Home school will be WCU year 4.
- 10.Successfully pass NCLEX RN to progress to year 4.
- 11.See the RIBN nursing advisor for the recommended course sequence.

Practical Nursing Option

This curriculum prepares individuals with the knowledge and skills to provide nursing care to children and adults. Students will participate in assessment, planning, implementing, and evaluating nursing care.

Upon completion of the Practical Nursing Program, the graduate will upon licensure:

- 1. Practice professional nursing behaviors incorporating personal responsibility and accountability for continued competence.
- 2. Communicate data professionally and effectively to the registered nurse.
- 3. Provide individualized nursing care utilizing knowledge of holistic needs.
- 4. Utilize informatics to know where to find data, including best practices.
- 5. Implement caring interventions which incorporate documented best practices for individuals in diverse settings as is developed by the registered nurse.
- 6. Reinforce the individualized teaching plan developed by the registered nurse.
- 7. Provide nursing care for the individual using cost effective nursing strategies and current technology.

Graduates of this program are eligible to apply to take the National Council Licensure Examination (NCLEX-PN) which is required for practice as a Practical Nurse. Employment opportunities include hospitals, rehabilitation facilities, long-term care facilities, clinics, physician's offices, and home health agencies.

Specific Requirements

- 1. General college admission requirements.
- 2. This program has a competitive selection process. See Selection Criteria and Procedures for Allied Health Programs on the college admissions office web page for full details.

www.abtech.edu/Student_Services/admissions/allied_health.asp

- 3. Final admission to the Practical Nursing program shall be contingent upon documentation of physical and emotional health that would provide evidence that is indicative of the applicant's ability to provide safe nursing care to the public.
- 4. To be eligible for admission in Fall, all nursing program applicants must, by November:
 - a. Provide documentation of successful completion of a NC approved Certified Nurse Aide I Program which includes theory, lab, and clinical components*. (A copy of a college transcript or a notarized course completion certificate will be acceptable documentation).

and

- b. Hold a documented, current, unrestricted credential as a Nurse Aide I (NAI) from the North Carolina Nurse Aide Registry and the Division of Health Service Regulation. (A copy of current listing on the NC DHSR Nurse Aide Registry Website by November 15, 2010 will be acceptable documentation).
- 5. Satisfactory completion of required immunizations.
- 6. Current CPR for the Professional Rescuer certification is a prerequisite to admission and must be maintained throughout the program.
- 7. Students applying to the Practical Nursing Program are encouraged to have successfully completed: BIO 168, BIO 169, ENG 111, and PSY 150 prior to program admission due to the rigorous nature of the Practical Nursing curriculum. Students with limited technology skills are encouraged to complete CIS 110 as an aid to understanding computer documentation and use of informatics in clinical agencies.
- 8. Effective January 1, 2002, applicants for initial licensure in North Carolina must have a criminal background check. Affiliating clinical sites will require a criminal background check and drug testing prior to participation in the clinical component. If any clinical facility refuses to allow the student to participate in clinical experiences in that clinical agency, the student may not be able to progress in the program.

Practical Nursing Diploma (D45660)

Courses requiring a grade of "C" or better: BIO and NUR

General E	Credits	
ENG 111	Expository Writing	3
PSY 150	General Psychology	3
Major Rec	Credits	
BIO 168	Anatomy and Physiology I	4
BIO 169	Anatomy and Physiology II	4
NUR 101	Practical Nursing I	11
NUR 102	Practical Nursing II	12
NUR 103	Practical Nursing III	10
Total Cred	47	

Ophthalmic Medical Assistant

The Ophthalmic Medical Assistant Program prepares individuals to perform ophthalmic procedures under the supervision of a licensed physician specializing in Ophthalmology. Course work includes lecture, laboratory, and clinical training in ocular measurements; ocular testing; lensometry; administering topical and oral medications; eye care; and caring for instruments.

Graduates are employed in medical institutions, clinics, or physician practices.

Graduates may qualify as candidates to take the Joint Commission on Allied Health Personnel, Ophthalmology National Certification Exam.

Program offered in collaboration with Caldwell Community College and Technical Institute. General Education classes may be taken at A-B Tech. Major area (OPH) classes would be taken at Caldwell Community College and Technical Institute. The Diploma is awarded by Caldwell Community College and Technical Institute.

Ophthalmic Medical Assistant Diploma (D45510)

See Allied Health and Public Service Division for additional information.

General (May be)	Credits	
ACA 115	Success and Study Skills	1
COM 120	Intro to Interpersonal Com	3
ENG 111	Expository Writing	3
PSY 150	General Psychology	3

Catalog 2011-2012
Major Req (Taken at C	uirements Caldwell CC&TI)	Credits
OPH 103	Intro to Diseases of Eye	2
OPH 104	Basic Ophthalmic Pharma.	2
OPH 105	Ophthalmic Clin Proc I	2
OPH 106	Ophthalmic Med. Asst. Pract. I	9
OPH 107	Ophthalmic Clin Preoc II	2
OPH 108	Ophthalmic Patient Care	2
OPH 109	Opthal. & Basic Refract	2
OPH 110	Op Med Asst Practicum II	9
OPH 150	Intro to Ophth Med Assist	2
OPH 151 Total Credi	Ocular Anat. and Physiology it Hours Required	2 44

Phlebotomy

This curriculum prepares individuals to obtain blood and other specimens for the purpose of laboratory analysis. Course work includes proper specimen collection and handling, communication skills and maintaining patient data.

Graduates may be eligible to take the Board of Certification for Phlebotomy by the American Society of Clinical Pathologist. Employment opportunities include hospitals, clinics, physician's offices, and other health care settings.

This program is approved by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Rd. Suite 720 Rosemont, IL 60018, (773)-714-8880 www.naacls.org

Specific Requirements

- 1. General college admission requirements.
- 2. Acceptable reports of medical examinations by first day of class.
- 3. Satisfactory completion of required immunizations.
- 4. Criminal background checks and drug screens may be required prior to admission to clinical sites.
- 5. Current CPR certification for the Professional Rescuer or Healthcare Provider by the first day of class.

Phlebotomy Certificate (C45600)

Majo	Major Requirements		Credits
PBT	100	Phlebotomy Technology	6
PBT	101	Phlebotomy Practicum	3
PSY	118	Interpersonal Psychology	3
Tota	Cred	(or PSY 150 General Psychology) it Hours Required	12

Radiography

The Radiography curriculum prepares the graduate to be a radiographer, a skilled health care professional who uses radiation to produce images of the human body.

Course work includes clinical rotations to area health care facilities, radiographic exposure, image processing, radiographic procedures, physics, pathology, patient care and management, radiation protection, quality assurance, anatomy and physiology, and radiobiology.

Graduates of accredited programs are eligible to apply to take the American Registry of Radiologic Technologists national examination for certification and registration as medical radiographers. Graduates may be employed in hospitals, clinics, physicians' offices, medical laboratories, government agencies, and industry.

Specific Requirements

- 1. General college admission requirements.
- 2. This program has a competitive selection process. See Selection Criteria and Procedures for Allied Health Programs on the college admissions office web page for full details.

www.abtech.edu/Student_Services/admissions/allied_health.asp

- 3. Keyboarding skills are highly recommended.
- 4. Satisfactory completion of medical examination and reports of immunization within 90 days before beginning major area classes. Completed medical and immunization records must be submitted to the department chair before classes begin.
- 5. Either first dose of Hepatitis B vaccine or completion of series.
- 6. Documentation of current CPR certification for the Professional Rescuer or Healthcare Provider which must be kept current during clinical rotations.
- 7. Completion of a minimum of 8 hours observation in the Radiology department at one of the clinical affiliates. Details will be provided to the top program applicants and alternates after the selection process has been completed.
- 8. Criminal background checks, drug screening, and seasonal flu vaccinations at cost to the student may will be required prior to admission to clinical sites.

Notice: Candidates for certification from the American Registry of Radiologic Technologists (ARRT) must comply with the "Rules of Ethics" contained in the ARRT Standards of Ethics. Any conviction of a crime, including a felony, a gross misdemeanor, or a misdemeanor with the sole exception of speeding and parking violations must be investigated by the ARRT in order to determine eligibility for the certification examination. Additional information may be obtained from the department chairperson or on the ARRT website at **www.arrt.org**.

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Radiography students will be required to complete clinical rotations which may require them to travel as much as one hour from campus. Clinical affiliates are currently located in Asheville, Hendersonville, Fletcher, Brevard, Weaverville and Marion.

Radiography Associate in Applied Science Degree (A45700)

Courses requiring a grade of "C" or better: RAD

General E	ducation Requirements	Credits
BIO 163	Basic Anatomy and Physiology	5
COM 231	Public Speaking	3
ENG 111	Expository Writing	3
HUM 115	Critical Thinking	3
	Social/Behavioral Science Elective	3

Major Requirements

CIS	110	Introduction to Computers	3
RAD	110	Radiography Introduction & Patient Care	3
RAD	111	RAD Procedures I	4
RAD	112	RAD Procedures II	4
RAD	121	Radiographic Imaging I	3
RAD	122	Radiographic Imaging II	2
RAD	131	Radiographic Physics I	2
RAD	151	RAD Clinical Education I	2
RAD	161	RAD Clinical Education II	5
RAD	171	RAD Clinical Education III	4
RAD	182	RAD Clinical Elective	2
RAD	211	RAD Procedures III	3
RAD	231	Radiographic Physics II	2
RAD	241	Radiobiology/Protection	2
RAD	245	RAD Image Analysis	2
RAD	251	RAD Clinical Education IV	7
RAD	261	RAD Clinical Education V	7
RAD	271	Radiography Capstone	1
Tota	l Credit	Hours Required	75

Surgical Technology

This curriculum prepares individuals to assist in the care of the surgical patient in the operating room and to function as a member of the surgical team.

Students will apply theoretical knowledge to the care of patients undergoing surgery and develop skills necessary to prepare supplies, equipment, and instruments; maintain aseptic conditions; prepare patients for surgery; and assist surgeons during operations.

Graduates of accredited programs will be eligible to apply to take the national certification exam for surgical technologists which is administered by the National Board on Surgical Technology and Surgical Assisting. Employment opportunities include labor/ delivery/emergency departments, inpatient/outpatient surgery centers, dialysis units/facilities, physicians' offices, and central supply processing units.

Specific Requirements

Credits

- 1. General college admission requirements.
- 2. This program has a competitive selection process. See Selection Criteria and Procedures for Allied Health Programs on the college admissions office web page for full details.

www.abtech.edu/Student_Services/admissions/allied_health.asp

- 3. Final admission to the Surgical Technology program shall be contingent upon documentation of physical and emotional health that would provide evidence that is indicative of the applicant's ability to provide safe care to the public.
- 4. Satisfactory completion of required immunizations.
- 5. Current CPR for the Professional Rescuer certification is a prerequisite to admission and must be maintained throughout the program.
- 6. Clinical agencies and/or credentialing bodies may require criminal background checks and drug screens prior to admission to clinical sites or issuance of credentials.
- 7. Students applying to the Surgical Technology program are encouraged to have successfully completed: ACA 115, BIO 163 (or BIO 168 and BIO 169), BIO 175, CIS 110, and ENG 111 prior to program admission due to the rigorous nature of the Surgical Technology curriculum.

The Surgical Technology program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park Street, Clearwater, FL 33756, www.caahep.org, Phone: 727-210-2350, Fax: 727-210-2354, through the Accreditation Review Committee on Education in Surgical Technology and Surgical Assisting (ARC-STSA), 6 W. Dry Creek Circle, Suite #110, Littleton, CO 80120, Phone: 303-694-9262, Fax: 303-741-3655 http://www.arcstsa.org/

Surgical Technology Associate in Applied Science Degree (A45740)

Courses requiring a grade of "C" or better: ACA, BIO, SUR

Gene	ral Ed	ucation Requirements	Credits
ACA	115	Success and Study Skills	1
BIO	163	Basic Anatomy & Physiology	5
ENG	111	Expository Writing	3
ENG	114	Professional Research & Reporting	3
		(or COM 120 Interpersonal Comm.)	
HUM	115	Critical Thinking	3
		(or PHI 240 Introduction to Ethics)	
PSY	150	General Psychology	3
Majo	r Requ	irements	Credits
BIO	175	General Microbiology	3
BUS	135	Principles of Supervision	3
CIS	110	Introduction to Computers	3
SOC	215	Group Processes	3
SUR	110	Introduction to Surgical Technology	3
SUR	111	Periop Patient Care	7
SUR	122	Surgical Procedures I	6
SUR	123	Surgical Clinical I	7
SUR	134	Surgical Procedures II	5
SUR	135	Surgical Clinical II	4
SUR	137	Professional Success Preparation	1
SUR	210	Advanced Clinical Practice	2
SUR	211	Advanced Theoretical Concepts	2
Total	Credit	t Hours Required	67

Surgical Technology Diploma (D45740)

Courses requiring a grade of "C" or better: ACA, BIO and SUR

Gene	eral Ed	ucation Requirements	Credits
ACA	115	Success and Study Skills	1
BIO	163	Basic Anatomy & Physiology	5
ENG	111	Expository Writing	3
Majo	or Requ	lirements	Credits
BIO	175	General Microbiology	3
CIS	110	Introduction to Computers	3
SUR	110	Introduction to Surgical Technology	3
SUR	111	Perioperative Patient Care	7
SUR	122	Surgical Procedures I	6
SUR	123	Surgical Clinical I	7
SUR	134	Surgical Procedures II	5
SUR	135	Surgical Clinical II	4
SUR	137	Professional Success Preparation	1
Tota	l Credit	t Hours Required	48

Surgical Technology Bridge Program

The surgical technology bridge program is designed to allow currently certified non-degree surgical technologists to earn an Associate in Applied Science (A.A.S.) degree in surgical technology. Surgical technologists enrolled in the bridge program must have completed their surgical technology certificate or diploma at a Commission on Accreditation for Allied Health Education Programs (CAAHEP) accredited surgical technology program. All major courses along with all related and general education course requirements must be met for the Surgical Technology Associate in Applied Science Degree.

Specific Requirements

- 1. General college admission requirements.
 - a. Complete application for admission
 - b. Successfully complete college placement test.
 - c. High school transcript or GED scores on file with admissions office.
 - d. Official transcript of any prior college credit on file with admissions office.
 - e. Diploma or Certificate in Surgical Technology from a CAAHEP accredited program.
- 2. Current Basic Cardiac Life Support for the health care provider.
- 3. Final admission to the Surgical Technology program shall be contingent upon documentation of physical and emotional health that would provide evidence that is indicative of the applicant's ability to provide safe care to the public.
- 4. Satisfactory completion of required immunizations
- 5. Current Certification in Surgical Technology (CST) through the NBSTSA (National Board on Surgical Technology and Surgical Assisting) prior to taking SUR 210 course.
- 6. Two letters of recommendation from a previous or current director, supervisor, operating room educator, or specialty service line team leader.
- 7. A letter documenting 1,500 hours or more work experience signed by an operating room director or supervisor that validates the work experience.

 $^{\ast}\mathrm{Copies}$ of 1e. as well as 2-7 must be on file with the surgical technology department.

The CST and surgical technology certificate or diploma will provide 33 hours of credit towards the A.A.S. degree. The program will accept transferred curriculum courses from regionally accredited institutions in related and general education coursework, as well as major area coursework. Students must earn a minimum of 25% of all A.A.S. courses at A-B Tech. Surgical technology, related and general education courses can be completed at the student's own pace. It is understood that most students are employed full time during their A.A.S. pursuit. General education courses are offered fall, spring and summer semesters. Surgical technology courses: SUR 210 and SUR 211 are offered during fall and spring semesters respectively.

Surgical Technology Bridge Program Associate in Applied Science Degree (A45740BR)

Courses requiring a grade of "C" or better: BIO and SUR

Gene	eral Ec	lucation Requirements	Credits
BIO	163	Basic Anatomy & Physiology	5
ENG	111	Expository Writing	3
ENG	114	Professional Research & Reporting	3
		(or COM 120 Interpersonal Comm.)	
PSY	150	General Psychology	3
HUM	115	Critical Thinking	3
		(or PHI 240 Introduction to Ethics)	
Majo	or Req	uirements	Credits

BIO	175	General Microbiology	3
BUS	135	Principles of Supervision	3
CIS	110	Introduction to Computers	3
SOC	215	Group Processes	3
SUR	210	Advanced Clinical Practice	2
SUR	211	Advanced Theoretical Concepts	2
Tota	Credit	Hours Required	33
excl	uding S	SUR Diploma courses	

Program Totals with SUR Diploma/Certificate courses: 33 credits plus above 33 credits = 66

*At least 25% of required total credit hours (17 hours) must be earned at A-B Tech.

Veterinary Medical Technology

This curriculum is designed to prepare individuals to assist veterinarians in pre-paring animals, equipment, and medications for examination and surgery; collecting specimens; performing laboratory, radiographic, anesthetic, and dental procedures; assisting in surgery; and providing proper husbandry of animals and their environment.

Course work includes instruction in veterinary anatomy, nutrition, parasitology, pathology, physiology, radiology, terminology, zoology, office practices, laboratory techniques, dentistry, and small and large animal clinical practices.

Graduates of accredited programs may be eligible to take state and national examinations administered by the North Carolina Veterinary Medical Board. Graduates may be employed in veterinary clinics; diagnostic, research, or pharmaceutical laboratories; zoos; academic institutions; or other areas associated with animal care.

Specific Requirements

- 1. General college admission requirements.
- 2. High School units:
 - a. Chemistry required
 - b. Biology and Algebra highly recommended
- 3. Final admission to the Veterinary Medical Technology program shall be contingent upon documentation of physical and emotional health that would provide evidence that is indicative of the applicant's ability to provide safe care to animals.
- 4. Satisfactory completion of required immunizations.
- 5. North Carolina Board for Veterinary Medicine may require criminal background checks on all applicants for initial credentialing.

Veterinary Medical Technology Associate in Applied Science Degree (A45780)

Courses requiring a grade of "C" or better: ACA, CHM, COE, VET

General Education Requirements Credits ACA 115 Success and Study Skills 1

	10	Success and Study Skins	
ENG 1	11	Expository Writing (or ENG 110)	3
ENG 1	14	Professional Research & Reporting	3
		(or COM 120 and COM 231)	
MAT 1	10	Mathematical Measurement	3
		(or MAT 140)	
		Humanities Elective	3
		Social/Behavioral Science Elective	3

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Major Req	uirements	Credits
CHM 130	General Organic, and Biochemistry	3
CHM 130A	General Organic, and Biochem Lab	1
CIS 110	Introduction to Computers	3
COE 112	Co-op Work Experience	2
VET 110	Animal Breeds and Husbandry	3
VET 114	Intro to Veterinary Medical Tech	1
VET 120	Veterinary Anatomy and Physiology	4
VET 121	Vet Medical Terminology	3
VET 123	Veterinary Parasitology	3
VET 125	Veterinary Diseases I	2
VET 126	Veterinary Diseases II	2
VET 131	Veterinary Laboratory Techniques I	3
VET 133	Veterinary Clinical Practices I	3
VET 137	Veterinary Office Practices	2
VET 211	Veterinary Laboratory Techniques II	3
VET 212	Veterinary Laboratory Techniques III	3
VET 213	Veterinary Clinical Practices II	4
VET 214	Veterinary Clinical Practices III	4
VET 215	Veterinary Pharmacology	3
VET 217	Large Animal Clinical Practices	3
VET 237 Total Credi	Animal Nutrition It Hours Required	3 74

Business and Hospitality Education

The Business and Hospitality Education Division provides technical postsecondary education in the academic departments of Administrative/Medical Systems Technology, Business Administration, Business Computer Technologies, Culinary Arts and Hospitality, Networking Technologies, and Spa Therapies and Operations. Programs of study are specifically designed to provide students with necessary job skills to meet the personnel needs of local employers. All programs emphasize the mastery of analytical and technologyrelated skills. Business and Hospitality faculty work in partnership with local employers and program advisory committees to provide students with an appropriate foundation of theoretical and hands-on experiences. Day and evening classes are available for most programs. The Business and Hospitality Education Division is an associate member of the National Alliance of Business, the International Council of Hotel, Restaurant and Institutional Education and the National Restaurant Association.

For students interested in starting or managing their own business, the Student Business Incubator is one of many programs and services offered by the A-B Tech Small Business Center/Business Incubator.

Objectives of Business and Hospitality Programs

- 1. To provide students with the necessary skills to compete in local business or hospitality job markets while gaining an appreciation for global markets.
- 2. To provide students with a challenging and rigorous program of study emphasizing oral and written communication skills along with analytical, computational, and technical proficiencies.
- 3. To provide an interactive partnership between students, employers and faculty through a variety of methods including cooperative work experiences, guest lecturers, field trips, and advisory committee input.
- 4. To invest in the human capital of Buncombe and Madison counties and contribute to the economic development of the business and hospitality community.

A.A.S. Degrees Conferred

Accounting Baking and Pastry Arts **Business Administration Computer Information Technology** Cosmetology Culinary Arts Cyber Crime Technology (Pending Approval) Digital Media Technology Entrepreneurship Healthcare Business Informatics (Pending Approval) Hospitality Management Human Resources Management Information Systems Security Marketing and Retailing Networking Technology Office Administration Therapeutic Massage Web Technologies

All degree programs in the Division of Business and Hospitality Education are five to six semesters in duration and will require from 20 to 30 hours per week of course work. If a student elects to enroll in the Business and Hospitality Division through the evening program, the time required for completion will be extended.

Diplomas Awarded

Business Administration Cosmetology Food Service Technology Medical Office Administration Medical Transcription Office Administration Therapeutic Massage

Certificates Awarded

Accounting - Level I and Level II Computer Information Technology - Database Management Computer Information Technology - Geospatial Database Technology Computer Information Technology - Microcomputer Applications Computer Information Technology - PC Installation and Maintenance **Cosmetology** Instructor Digital Media Technology - Digital Video Digital Media Technology - Geospatial Analysis and Visualization Digital Media Technology - Interactive Multimedia Entrepreneurship Esthetics Technology Hospitality Management - Leadership in Hospitality Human Resources Management Manicuring/Nail Technology Marketing and Retailing - Retail Marketing Medical Office Administration - Medical Coding Networking Technology - Basic Network Administration Networking Technology - CCNA Preparation Office Administration - Word Processing and Desktop Publishing Office Administration - Office Management Web Technologies - Web Designer Web Technologies - Web Programmer

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Accounting

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

In addition to course work in accounting principles, theories, and practice, students will study business law, finance, management, and economics. Related skills are developed through the study of communications, computer applications, financial analysis, critical thinking skills, and ethics.

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

Accounting Associate in Applied Science Degree (A25100)

Courses requiring a grade of "C" or better: ACA, ACC, BUS, CIS, CTS, ECO and MKT

Gene	eral Ed	ucation Requirements	Credits
ACA	115	Success and Study Skills	1
COM	231	Public Speaking	3
ECO	252	Principles of Macroeconomics	3
ENG	111	Expository Writing (or ENG 110)	3
MAT	115	Mathematical Models	3
		(or MAT 151/151A)	
		Humanities Elective	3
Majo	or Requ	irements	Credits
ACC	120	Principles of Financial Accounting	4
ACC	121	Principles of Managerial Accounting	4
ACC	129	Individual Income Taxes	3
ACC	130	Business Income Taxes	3
ACC	140	Payroll Accounting	2

Accounting Software Applications

Gov and Not-for-Profit Accounting

Practices in Bookkeeping

Intermediate Accounting I

Principles of Management

Auditing

Business Law I

Business Insurance

2 3

4

3

3

3

3

3

BUS	225	Business Finance	3
CIS	110	Introduction to Computers	3
CTS	130	Spreadsheet	3
ECO	251	Principles of Microeconomics	3
MKT	120	Principles of Marketing	3
		Elective*	3
Tota	l Credit	Hours Required	74

*Electives: ACC 131, BUS 116, BUS 151, BUS 240, BUS 260, BUS 270, BUS 280, ETR 210, ETR 220, ETR 240.

Accounting Level I Certificate (C25100L1)

Accounting Level I provides introductory training in the field of accounting. Applicants must have earned a high school diploma or GED to apply for this certificate.

Major Req	Credits	
ACC 120	Principles of Financial Accounting	4
ACC 121	Principles of Managerial Accounting	4
ACC 140	Payroll Accounting	2
BUS 115	Business Law I	3
Total Cred	it Hours Required	13

Accounting Level II Certificate (C25100L2)

Accounting Level II takes students to an advanced level including the specialized area of government and notfor-profit accounting. Applicants must have earned a high school diploma or GED to apply for this certificate.

Major Req	Credits	
ACC 129	Individual Income Taxes	3
ACC 220	Intermediate Accounting I	4
ACC 180	Practices in Bookkeeping	3
ACC 240	Government & Not-for-Profit Acct	3
Total Cred	13	

ACC 150

ACC 180

ACC 220

ACC 240

ACC 269

BUS 115

BUS 137

BUS 147

Business and Hospitality Education

Baking and Pastry Arts

This curriculum is designed to provide students with the skills and knowledge required for employment in the baking/pastry industry including restaurants, hotels, independent bakeries/pastry shops, wholesale/retail markets, and high-volume bakeries, and/or further academic studies.

Students will be provided theoretical knowledge/practical applications that provide critical competencies to meet industry demands, including environmental stewardship, operational efficiencies and professionalism. Course work includes specialty/artisanal breads, desserts, pastries, decorative work, high-volume production and food marketing.

Graduates should qualify for entry-level positions, such as pastry/bakery assistants, area pastry chef and assistant pastry chef. American Culinary Federation certification may be available to graduates.

Specific Program Requirements

CIS 110

COE 112

- 1 General college admission requirements.
- 2. Completion of first dose of Hepatitis A Vaccine is required by the first day of food preparation and service classes. Second Hepatitis A vaccine to be completed within six to twelve months of the first vaccination.

Baking and Pastry Arts Associate in Applied Science Degree (A55130)

Courses requiring a grade of "C" or better: BPA, COE, CUL and HRM

Gen	eral E	Credits	
COM	231	Public Speaking	3
ENG	111	Expository Writing (or ENG 110)	3
MAT	115	Mathematical Models	3
PSY	150	General Psychology	3
		Humanities Elective	3
Majo	or Req	luirements	Credits
BPA	120	Petit Fours & Pastries	3
BPA	130	European Cakes and Tortes	3
BPA	150	Artisan & Specialty Breads	4
BPA	210	Cake Design&Decorating	3
BPA	220	Confection Artistry	4
BPA	230	Chocolate Artistry	3
BPA	240	Plated Desserts	3
BPA	250	Dessert & Bread Production	5
BPA	260	Pastry & Baking Marketing	3

Introduction to Computers

Co-op Work Experience I

3

2

CUL 110	Sanitation & Safety	2
CUL 110A	Sanitation & Safety Lab	1
CUL 111	Success in Hospitality Studies	1
CUL 112	Nutrition for Foodservice	3
CUL 142	Fundamentals of Food	5
CUL 150	Food Science	2
CUL 160	Baking I	3
CUL 273	Career Development	1
HRM 220	Cost Control-Food & Bev	3
HRM 245	Human Resource Mgmt-Hosp	3
Total Credi	t Hours Required	75

Business Administration

The Business Administration curriculum is designed to introduce students to the various aspects of the free enterprise system. Students will be provided with a fundamental knowledge of business functions, processes, and an understanding of business organizations in today's global economy.

Course work includes business concepts such as accounting, business law, economics, management, and marketing. Skills related to the application of these concepts are developed through the study of computer applications, communication, team building, and decision making.

Through these skills, students will have a sound business education base for life-long learning. Graduates are prepared for employment opportunities in government agencies, financial institutions, and large to small business or industry.

Business Administration Associate in Applied Science (A25120)

Courses requiring a grade of "C" or better: ACA, ACC, BUS, CIS, ECO and MKT

General Ed	ucation Requirements	Credits	
ACA 115	Success and Study Skills	1	
COM 231	Public Speaking	3	
ECO 252	Principles of Macroeconomics	3	
ENG 111	Expository Writing (or ENG 110)	3	
MAT 115	Mathematical Models	3	
	Humanities Elective	3	
Major Requirements Credits			
ACC 120	Principles of Financial Accounting	4	
ACC 121	Principles of Managerial Accounting	4	
BUS 110	Introduction to Business	3	
BUS 115	Business Law I	3	
BUS 116	Rusiness Law II	З	

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	Drinsials of Communisian	0
BD2 132	Principles of Supervision	3
BUS 137	Principles of Management	3
BUS 147	Business Insurance	3
BUS 153	Human Resource Management	3
BUS 225	Business Finance	3
BUS 239	Bus Applications Seminar	2
BUS 255	Organizational Behavior in Business	3
BUS 280	REAL Small Business	4
CIS 110	Introduction to Computers	3
CTS 130	Spreadsheet	3
ECO 251	Principles of Microeconomics	3
MKT 120	Principles of Marketing	3
	Electives*	6
Total Credit	t Hours Required	75

*Electives: BUS 151, BUS 240, BUS 260, BUS 270, ETR 210, ETR 220, ETR 240, MKT 121, MKT 123, MKT 220

Business Administration Diploma (D25120)

The Business Administration Diploma is designed as a supplemental program to provide a basic understanding of business principles and practices for students enrolled in or completing a non-business related program. The diploma is not intended to be a stand-alone credential leading to employment in a business field.

General E	Credits	
ENG 111 E	3	
MAT 115 N	Nathematical Models	3
Major Re	quirements	Credits
ACC 120	Principles of Financial Accounting	4
BUS 110	Introduction to Business	3
BUS 115	Business Law I	3
BUS 135	Principles of Supervision	3
BUS 137	Principles of Management	3
BUS 151	People Skills	3
BUS 153	Human Resources Management	3
ECO 251	Principles of Microeconomics	3
CIS 110	Introduction to Computers	3
MKT 120	Principles of Marketing	3
Total Credit Hours Required 3		

Computer Information Technology

The Computer Information Technology curriculum is designed to prepare graduates for employment with organizations that use computers to process, manage, and communicate information. This is a flexible curriculum that can be customized to meet community information system needs.

Course work will develop a student's ability to communicate complex technical issues related to computer hardware, software, and networks in a manner that computer users can understand. Classes cover computer operations and terminology, operating systems, database, networking, security, and technical support.

Graduates should qualify for employment in entrylevel positions with businesses, educational systems, and governmental agencies which rely on computer systems to manage information. Graduates should be prepared to sit for industry-recognized certification exams.

Computer Information Technology Associate in Applied Science Degree (A25260)

Courses requiring a grade of "C" or better: ACA, BUS, CIS, COE, CSC, CTS, DBA, DME, GIS, SEC and WEB

General E	ducation Requirements	Credits
ACA 115	Success and Study Skills	1
ENG 111	Expository Writing	3
ENG 114	Prof. Research and Reporting	3
MAT 115	Mathematical Models	3
	(or MAT 171 Precalculus Algebra)	
	Humanities Elective	3
	Social/Behavioral Science Elective	3
Major Req	uirements	Credits
CIS 110	Introduction to Computers	3
CIS 115	Intro to Programming and Logic	3
CTS 115	Info Sys Business Concept	3
CTS 120	Hardware/Software Support	3
CTS 135	Integrated Software Intro	4
CTS 285	Systems Analysis and Design	3
CTS 287	Emerging Technologies	3
CTS 289	System Support Project	3
DBA 110	Database Concepts	3
GIS 111	Introduction to GIS	3
NET 110	Networking Concepts	3
NOS 110	Operating System Concepts	3
NOS 130	Windows Single User	3
NOS 230	Windows Admin I	3

Total Credit Hours Required		
	Elective 2*	3
	Elective 1*	3
WEB 210	Web Design	3
WEB 115	Web Markup and Scripting	3
SEC 110	Security Concepts	3

Electives

Students have the ability to select an area of interest through the selection of their Major Electives. The following are the five interest areas and the associated classes. Students should meet with their advisor to help determine the courses that best meet their needs.

Option I - Database:

Elective 1	DBA 120	Database Programming I
Elective 2	DBA 210	Database Administration
		(or Co-op Work Experience)

Option II - Tech Support:

Elective 1	CTS 217	Computer Training and Support
Elective 2	CTS 220	Adv. Hardware/Software Support
		(or Co-op Work Experience)

Option III - Design:

Elective 1	WEB 140	Web Development Tools
Elective 2	CIS 165	Desktop Publishing I
		(or Co-op Work Experience)

*Option IV - Business Support:

Elective 1	CTS 217	Computer Train/Support
Elective 2	CIS 165	Desktop Publishing I
		(or Co-op Work Experience)

*Option V - Geographic Information Systems:

Elective 1	GIS 232	Spatial Databases
Elective 2	GIS 215	GIS Data Models
		(or Co-op Work Experience)

Database Management Certificate (C25260L1)

Students will learn how to design, manipulate and update databases using a variety of database programs. Upon completion of the certificate students should be able to write programs which create, update and produce databases, tables and reports representative of industry standards.

This certificate is designed for students who have experience with computers and want to improve database skills. If a student does not have the prior proficiency, other coursework might be required to meet course prerequisites.

Successful applicants for the certificate must have earned a high school diploma or GED and completed all courses listed below with at least a grade of C.

Major Requirements		Credits
DBA 110	Database Concepts	3
DBA 120	Database Programming I	3
DBA 210	Database Administration	3
WEB 182	PHP Programming	3
Total Credit Hours Required		12

Geospatial Database Technology Certificate (C25260L4)

The Geospatial Database Technology Certificate provides a curriculum based on a solid foundation in GIS concepts. Students enrolled in this certificate will learn the different forms of spatial data and their essential properties; ways spatial data can be used to investigate complex problems; principles and methods for collecting spatial data; designing, creating and manipulating GIS databases and operating GPS technology.

This certificate is designed for students who have experience with computers and want to improve geospatial database skills. If a student does not have prior proficiency, other coursework might be required to meet course pre-requisites.

Successful applicants for the certificate must have earned a high school diploma or GED and completed all courses listed below with at least a grade of C.

Major Requirements		Credits	
DBA	110	Database Concepts	3
GIS	111	Introduction to GIS	3
GIS	215	GIS Data Models	3
GIS	232	Spatial Databases	3
Total	Cree	dit Hours Required	12

Microcomputer Applications Certificate (C25260L2)

Participants in this certificate program learn about computer hardware as well as a variety of the most popular software application packages used in business. Applicants must have earned a high school diploma or GED to apply for this certificate program.

This certificate is designed for students who have little or no computer experience who want to improve their skills for home or the workplace.

Major Requirements		Credits	
CIS	110	Introduction to Computers	3
CTS	135	Integrated Software	4
DBA	110	Database Concepts	3
NOS	110	Operating Systems Concepts	3
Total	Cred	lit Hours Required	13

PC Installation and Maintenance Certificate (C25260L3)

Students learn how to install, optimize, upgrade, and troubleshoot personal computer hardware and software. They gain both theoretical and hands-on experience using a variety of current hardware and software technologies. Topics such as testing electrical components, using diagnostics utilities, and user PC support interactions will be covered.

Preparation for the A+ Certification examination is an integral objective of this certificate program. Success as a PC technician requires essential knowledge and skills that may be tested by the internationally recognized A+ Certification exam.

Successful applicants for the certificate must have earned a high school diploma or GED and completed all courses listed below with at least a grade of C.

Major Requirements	
Introduction to Computers	3
Hardware/Software Support	3
Advanced Hardware/Software Support	3
Operating System Concepts	3
t Hours Required	12
	uirements Introduction to Computers Hardware/Software Support Advanced Hardware/Software Support Operating System Concepts t Hours Required

Cosmetology

The Cosmetology curriculum is designed to provide competency-based knowledge, scientific/artistic principles, and hands-on fundamentals associated with the cosmetology industry. The curriculum provides a simulated salon environment which enables students to develop manipulative skills.

Course work includes instruction in all phases of professional imaging, hair design, chemical processes, skin care, nail care, multi-cultural practices, business/ computer principles, product knowledge, and other selected topics.

Graduates should qualify to sit for the State Board of Cosmetic Arts examination. Upon successfully passing the State Board exam, graduates will be issued a license. Employment is available in beauty salons and related businesses.

The Mountain Tech Spa, an on-campus spa facility located in the Birch Building, provides practical experience for Cosmetology students under the direction of College faculty.

Specific Program Requirements

- 1. General college admission requirements.
- 2. Completion of required Hepatitis B vaccine. First dose to be completed by the first day of class. Second Hepatitis B vaccine to be completed at least one month after the first dose. Third injection to be completed six months after the first does.
- 3. To earn hours, Cosmetology students must be physically present in the laboratory. When leaving a laboratory, students must clock out.
- 4. Students enrolled in the program should not be subject to color blindness, pregnancy or have a sensitivity to chemicals.
- 5. Students should be physically able to use cosmetology equipment such as clippers and shears and able to stand for long periods of time.

Cosmetology Associate in Applied Science (A55140)

Courses requiring a grade of "C" or better: ACA, BUS, CIS, and COS

Credits

General Education Requirements

	-	
ACA 115	Success and Study Skills	1
COM 120	Intro to Interpersonal Communication	3
ENG 111	Expository Writing (or ENG 110)	3
MAT 115	Mathematical Models	3
PSY 150	General Psychology	3
	Humanities Elective	3

Major Requirements		Credits
BUS 151	People Skills	3
BUS 280	REAL Small Business (or BUS 137)	4
CIS 113	Computer Basics	1
COS 111	Cosmetology Concepts I	4
COS 112	Salon I	8
COS 113	Cosmetology Concepts II	4
COS 114	Salon II	8
COS 115	Cosmetology Concepts III	4
COS 116	Salon III	4
COS 117	Cosmetology Concepts IV	2
COS 118	Salon IV	7
COS 260	Design Applications (or COS 240)	2
Total Credit Hours Required		67

Cosmetology – Diploma (D55140)

Courses requiring a grade of "C" or better: CIS and COS

Gene	eral Ed	ucation Requirements	Credits
СОМ	120	Intro to Interpersonal Communication	3
PSY	150	General Psychology	3
Majo	or Requ	uirements	Credits
CIS	113	Computer Basics	1
COS	111	Cosmetology Concepts I	4
COS	112	Salon I	8
COS	113	Cosmetology Concepts II	4
COS	114	Salon II	8
COS	115	Cosmetology Concepts III	4
COS	116	Salon III	4
COS	117	Cosmetology Concepts IV	2
COS	118	Salon IV	7
Tota	l Credi	t Hours Required	48

Cosmetology Instructor

The Cosmetology Instructor curriculum provides a course of study for learning the skills needed to teach the theory and practice of cosmetology as required by the North Carolina Board of Cosmetic Arts.

Course work includes requirements for becoming an instructor, introduction to teaching theory, methods and aids, practice teaching, and development of evaluation instruments.

Graduates of the program may be employed as cosmetology instructors in public or private education and business.

dose to be completed by the first day of class. Sec-
ond Hepatitis B vaccine to be completed at least one month after the first dose. Third injection to be completed six months after the first does.
3. To earn hours, Cosmetology students must be physically present in the laboratory. When leaving a laboratory, students must clock out.
 Students enrolled in the program should not be subject to color blindness, pregnancy or have a sensitivity to chemicals.
 Students should be physically able to use cosme- tology equipment such as clippers and shears and able to stand for long periods of time.
6. Applicants of the Cosmetology Instructor program should hold a current North Carolina State Board of Cosmetic Art Cosmetologist license.
Cosmetology Instructor – Certificate (C55160)

Specific Program Requirements

1. General college admission requirements.

2. Completion of required Hepatitis B vaccine. First

Major Requirements		Credit
COS 271	Instructor Concepts I	5
COS 272	Instructor Practicum I	7
COS 273	Instructor Concepts II	5
COS 274 Total Cre o	Instructor Practicum II Iit Hours Required	7 24

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Culinary Arts

This curriculum provides specific training required to prepare students to assume positions as trained culinary professionals in a variety of food service settings including full service restaurants, hotels, resorts, clubs, catering operations, contract food service, and health care facilities.

Students will be provided theoretical knowledge/practical applications that provide critical competencies to meet industry demands including environmental stewardship, operational efficiencies and professionalism. Courses include sanitation/safety, baking, garde manger, culinary fundamentals/production skills, nutrition, customer service, purchasing/cost control, and human resource development.

Graduates should qualify for entry-level opportunities such as prep cook, line cook, and station chef. American Culinary Federation certification may be available to graduates. With experience, graduates may advance to positions including sous chef, pastry chef, executive chef, or food service manager.

Specific Program Requirements

- 1. General college admission requirements.
- 2. Completion of first dose of Hepatitis A Vaccine is required by the first day of food preparation and service classes. Second Hepatitis A vaccine to be completed within six to twelve months of the first vaccination.

Culinary Arts Associate in Applied Science Degree (A55150)

Courses requiring a grade of "C" or better: COE, CUL and $\ensuremath{\mathsf{HRM}}$

General Ed	lucation Requirements	Credits
COM 231	Public Speaking	3
ENG 111	Expository Writing (or ENG 110)	3
PSY 150	General Psychology	3
MAT 115	Mathematical Models	3
	Humanities Elective	3
Major Req	uirements	Credits
CIS 110	Introduction to Computers	3
COE 112	Co-op Work Experience I	2
CUL 110	Sanitation & Safety	2
CUL 110A	Sanitation & Safety Lab	1
CUL 111	Success in Hosp Studies	1
CUL 112	Nutrition for Food Service	3
CUL 130	Menu Design	2
CUL 135	Food & Beverage Service	2
CUL 135A	Food & Beverage Service Lab	1

CUL 140	Culinary Skills I	5
CUL 150	Food Science	2
CUL 160	Baking I	3
CUL 170	Garde Manger I	3
CUL 214	Wine Appreciation	2
CUL 230	Global Cuisine	5
	(or CUL 275 Catering Cuisine)	
CUL 240	Culinary Skills II	5
CUL 240A	Culinary Skills II Lab	1
CUL 250	Classical Cuisine	5
CUL 260	Baking II	3
	(or CUL 285 Competition Fundamentals)	
CUL 270	Garde Manger II	3
CUL 273	Career Development	1
HRM 220	Cost Control-Food & Bev	3
HRM 245	Human Resource Mgmt-Hosp.	3
Total Credi	t Hours Required	76

Cyber Crime Technology* (Pending State Approval)

This curriculum will prepare students to enter the field of computer crime investigations and private security. Students completing this curriculum will be capable of investigating computer crimes, properly seize and recover computer evidence and aid in the prosecution of cyber criminals. Course work in this curriculum will include a division of work in the disciplines of criminal justice and computer information systems. Additionally, students will be required to take specific cyber crime classes.

Graduates should qualify to become computer crime investigators for local or state criminal justice agencies. Also, these graduates should be competent to serve as computer security specialists or consultants with private business.

Program offered in collaboration with Catawba Valley Community College. General education and related courses may be taken at A-B Tech. Major area (CCT) classes would be taken at Catawba Valley Community College. The degree is awarded by Catawba Valley Community College.

Cyber Crime Technology Associate in Applied Science Degree (A55210)

General Education (May be taken at A-B Tech)		
ACA 115	Success and Study Skills	1
ENG 111	Expository Writing	3
ENG 113	Literature-Based Research	3
	(or ENG 114)	

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Business and Hospitality Education

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MAT 115 Mathematical Models (or MAT 140) PSY 150 General Psychology Humanities/Fine Arts Elective Related Requirements (May be taken at A-B Tech) CIS 110 Introduction to Computers CJC 111 Intro to Criminal Justice CJC 112 Criminology CJC 131 Criminal Law CTS 120 Hardware/Software Support NET 125 Networking Basics NOS 110 Operating System Concepts SEC 110 Security Concepts Major Requirements Cr (Taken at Catawba Valley Community College) CCT CCT 112 Ethics & High Technology CCT 121 Computer Crime Invest CCT 231 Technology Crimes & Law CCT 240 Data Recovery Techniques CCT 250 Network Vulnerabilities I CCT 285 Trends in Cyber Crime CCT 285 Trends in Cyber Crime	
(or MAT 140)PSY150General Psychology Humanities/Fine Arts ElectiveRelated Requirements (May be taken at A-B Tech)CIS110Introduction to ComputersCJC111Intro o Criminal JusticeCJC112CriminologyCJC131Criminal LawCTS120Hardware/Software SupportNET125Networking BasicsNOS110Operating System ConceptsSEC110Security ConceptsCrTake was been at Catawba Valley Community College)CCT110Intro to Cyber CrimeCCT110Intro to Cyber CrimeCCT121Computer Crime InvestCCT231Technology Crimes & LawCCT240Data Recovery TechniquesCCT250Network Vulnerabilities ICCT285Trends in Cyber CrimeCCT285Trends in Cyber Crime	3
PSY 150 General Psychology Humanities/Fine Arts Elective Related Requirements (May be taken at A-B Tech) CIS 110 Introduction to Computers CJC 111 Intro to Criminal Justice CJC 112 Criminology CJC 131 Criminal Law CTS 120 Hardware/Software Support NET 125 Networking Basics NOS 110 Operating System Concepts SEC 110 Security Concepts Major Requirements (Taken at Catawba Valley Community College) CCT 112 Ethics & High Technology CCT 121 Computer Crime Invest CCT 231 Technology Crimes & Law CCT 240 Data Recovery Techniques CCT 250 Network Vulnerabilities I CCT 285 Trends in Cyber Crime CCT 289 Capstone Project	
Humanities/Fine Arts Elective Related Requirements (May be taken at A-B Tech) CIS 110 Introduction to Computers CJC 111 Intro to Criminal Justice CJC 112 Criminology CJC 131 Criminal Law CTS 120 Hardware/Software Support NET 125 Networking Basics NOS 110 Operating System Concepts SEC 110 Security Concepts Major Requirements (Taken at C-tawba Valley Community College) CCT 110 Intro to Cyber Crime CCT 110 Intro to Cyber Crime CCT 121 Computer Crime Invest CCT 231 Technology Crimes & Law CCT 240 Data Recovery Techniques CCT 250 Network Vulnerabilities I CCT 285 Trends in Cyber Crime CCT 289 Capstone Project	3
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CJC 112 Criminology CJC 112 Criminology CJC 131 Criminal Law CTS 120 Hardware/Software Support NET 125 Networking Basics NOS 110 Operating System Concepts SEC 110 Security Concepts Major Requirements Cr (Taken at Catawba Valley Community College) CCT 110 Intro to Cyber Crime CCT 112 Ethics & High Technology CCT 121 Computer Crime Invest CCT 231 Technology Crimes & Law CCT 240 Data Recovery Techniques CCT 250 Network Vulnerabilities I CCT 285 Trends in Cyber Crime CCT 289 Capstone Project	3
CJC 131 Criminal Law CTS 120 Hardware/Software Support NET 125 Networking Basics NOS 110 Operating System Concepts SEC 110 Security Concepts Major Requirements Cr (Taken at Catawba Valley Community College) Cr CCT 110 Intro to Cyber Crime CCT 112 Ethics & High Technology CCT 121 Computer Crime Invest CCT 231 Technology Crimes & Law CCT 240 Data Recovery Techniques CCT 250 Network Vulnerabilities I CCT 285 Trends in Cyber Crime CCT 289 Capstone Project	3
CTS 120 Hardware/Software Support NET 125 Networking Basics NOS 110 Operating System Concepts SEC 110 Security Concepts Major Requirements Cr (Taken at Catawba Valley Community College) CT CCT 110 Intro to Cyber Crime CCT 112 Ethics & High Technology CCT 121 Computer Crime Invest CCT 231 Technology Crimes & Law CCT 240 Data Recovery Techniques CCT 250 Network Vulnerabilities I CCT 285 Trends in Cyber Crime CCT 289 Capstone Project	3
NET 125 Networking Basics NOS 110 Operating System Concepts SEC 110 Security Concepts Major Requirements Cr (Taken at Catawba Valley Community College) Cr CCT 110 Intro to Cyber Crime CCT 112 Ethics & High Technology CCT 121 Computer Crime Invest CCT 231 Technology Crimes & Law CCT 240 Data Recovery Techniques CCT 250 Network Vulnerabilities I CCT 285 Trends in Cyber Crime CCT 289 Capstone Project	3
NOS 110 Operating System Concepts SEC 110 Security Concepts Major Requirements Cr (Taken at Catawba Valley Community College) Cr CCT 110 Intro to Cyber Crime CCT 112 Ethics & High Technology CCT 121 Computer Crime Invest CCT 231 Technology Crimes & Law CCT 240 Data Recovery Techniques CCT 250 Network Vulnerabilities I CCT 285 Trends in Cyber Crime CCT 289 Capstone Project	3
SEC 110 Security Concepts Major Requirements Cr (Taken at Catawba Valley Community College) CT CCT 110 Intro to Cyber Crime CCT 112 Ethics & High Technology CCT 121 Computer Crime Invest CCT 231 Technology Crimes & Law CCT 240 Data Recovery Techniques CCT 250 Network Vulnerabilities I CCT 285 Trends in Cyber Crime CCT 289 Capstone Project	3
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CCT 250 Network Vulnerabilities I CCT 285 Trends in Cyber Crime CCT 289 Capstone Project	3
CCT 285 Trends in Cyber Crime CCT 289 Capstone Project	3
CCT 289 Capstone Project	3
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iolai Gredil nours Required	65

Digital Media Technology

The Digital Media Technology program prepares students for entry-level jobs in the digital design and multimedia industry. Students learn to synthesize multimedia, hypertext, computer programming, information architecture, and client/server technologies using both Internet and non-network-based media.

Students develop skills in communication, critical thinking, and problem solving as well as interface design, multimedia formats, application programming, data architecture, and client/server technologies. The program develops technical skills through practical applications that employ current and emerging standards and technologies.

Graduates should qualify for employment as web designers, graphic artists/designers, multimedia specialists, web developers, web content specialists, media specialists, information specialists, digital media specialists, animation specialists, interface designers, and many new jobs yet to be defined in this expanding field.

Digital Media Technology Associate in Applied Science Degree (A25210) Courses requiring a grade of "C" or better: ACA, ART,

Cls, COE, CSC, CTS, DBA, DME, FVP, GIS, and WEB

General E	ducation Requirements	Credits
ACA 115	Success and Study Skills	1
ENG 111	Expository Writing	3
ENG 114	Prof. Research and Reporting	3
MAT 115	Mathematical Models	3
	(or MAT 171 Precalculus Algebra)	
Huma	anities Elective	3
Socia	I Sciences Elective	3
Major Red	quirements	Credits
CIS 110	Introduction to Computers	3
CIS 115	Introduction to Programming and Logic	3
DME 110	Introduction to Digital Media	3
DME 115	Advanced Graphic Design Tools	3
DME 120	Intro to Multimedia Applications	3
DME 130	Digital Animation I	3
DME 140	Introduction to Audio/Video Media	3
DME 210	User Interface Design	3
DME 215	Graphic Design Tools II	3
DME 230	Digital Animation II	3
DME 260	Emerging Technologies in Digital Media	3
DME 270	Professional Practices in Digital Media	3
DME 285	Systems Project	3
WEB 115	Web Markup and Scripting	3
WEB 210	Web Design	3

Elective Tracks

Students have the ability to select an area of interest through the selection of their Major Electives. The following are the three interest areas and the associated classes. Students should meet with their advisor to help determine the courses that best meet their needs.

Web/Multimedia Programming Track:

Elective Track

Total Credit Hours Required

Elective 1	WEB 182	PHP Programming
Elective 2	DME 220	Interactive Multimedia Programming
	(or Co-op Work Experience)	

Artistic Track:

Elective 1	WEB 140	Web Development Tools
	(or Art cour	se approved by advisor)
Elective 2	ART course	approved by advisor
	(or Co-op W	/ork Experience)

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Video Track:

ART 266	Videography
(or FVP Prod	uction Specialties)
DME 240	Media Compression
(or Co-op Work Ex	
	ART 266 (or FVP Prod DME 240 (or Co-op W

GIS Track:

Elective 1	GIS 111	Introduction to GIS
Elective 2	GIS 121	Georeferencing and Mapping
	(or GIS 222	2 Internet Mapping)

Digital Media Technology Digital Video Certificate (C25210L1)

The Digital Video certificate provides training in multiple aspects of digital video and audio technologies including: creating graphics for video, camera and lighting techniques, capturing video, non-linear editing, and compression of audio/video media.

This certificate is designed for students who have experience with computers and want to improve digital audio and video skills. If a student does not have the prior proficiency other coursework might be required to meet course pre-requisites.

Successful applicants for the certificate must have earned a high school diploma or GED and completed all courses listed below with at least a grade of C.

Major Requirements		Credits
ART 171	Computer Art	3
ART 266	Videography I	3
DME 140	Introduction to Audio/Video Media	3
DME 240	Media Compression	3
FVP 250	Production Specialties I	3
Total Cred	lit Hours Required	15

Digital Media Technology Interactive Multimedia Certificate (C25210L2)

The Interactive Multimedia Certificate provides training in multiple aspects of interactive multimedia using the industry standard software Adobe Flash. Topics will include: drawing with Flash, using symbols, animation and motion graphics, using audio and video, designing for interactivity and Actionscript programming.

This certificate is designed for students who have experience with computers and want to improve Flash design and programming skills. Previous experience with Adobe Photoshop, Adobe Illustrator, and web design suggested. If a student does not have the prior proficiency other coursework might be required to meet course pre-requisites.

Successful applicants for this certificate must have earned a high school diploma or GED and completed all courses listed below with at least a grade of C.

Major Requirements		Credits
DME 110	Introduction to Digital Media	3
DME 120	Intro to Multimedia Applications	3
DME 130	Digital Animation I	3
DME 220	Interactive Multimedia Programming	3
Total Credit Hours Required		12

Geospatial Analysis and Visualization Certificate (C25210L3)

The Geospatial Analysis and Visualization Certificate provides a curriculum based on a solid foundation in GIS concepts. Students enrolled in this certificate will learn different methods of delivery of geographic information; principles of map design and effective cartographic communication; and delivery of geographic information through the World Wide Web.

This certificate is designed for students who have experience with computers and want to improve geospatial database skills. If a student does not have the prior proficiency other coursework might be required to meet course pre-requisites.

Successful applicants for the certificate must have earned a high school diploma or GED and completed all courses listed below with at least a grade of C.

Major Requirements			Credits
CIS	115	Intro to Programming and Logic	3
GIS	111	Introduction to GIS	3
GIS	121	Georeferencing and Mapping	3
GIS	222	Internet Mapping	3
WEB	115	Web Markup and Scripting	3
Tota	l Cred	lit Hours Required	15

Entrepreneurship

The Entrepreneurship curriculum is designed to provide students with the knowledge and the skills necessary for employment and growth as self-employed business owners.

Course work includes developing a student's ability to make informed decisions as future business owners. Courses include entrepreneurial concepts learned in innovation and creativity, business funding, and marketing. Additional course work includes computers and economics.

Through these skills, students will have a sound education base in entrepreneurship for lifelong learning. Graduates are prepared to be self-employed and open their own businesses.

Entrepreneurship Associate in Applied Science Degree (A25490)

Courses requiring a grade of "C" or better: ACA, ACC, BUS, CIS, ECO and ETR

General Education Requirements C		
ACA 115	Success and Study Skills	1
COM 231	Public Speaking	3
ENG 111	Expository Writing	3
ENG 114	Professional Research & Reporting	3
HUM 115	Critical Thinking	3
PSY 150	General Psychology	3
MAT 115	Mathematical Models (or MAT 151/MAT 151A)	3

Major Requirements

Major Requirements			Credits
ACC 1	20	Principles of Financial Accounting	4
ACC 1	21	Principles of Managerial Accounting	4
ACC 1	50	Accounting Software Applications	2
BUS 1	10	Introduction to Business	3
BUS 1	37	Principles of Management	3
BUS 1	75	Contract Negotiations	3
BUS 2	240	Business Ethics	3
BUS 2	280	REAL Small Business	4
CIS 1	10	Introduction to Computers	3
CTS 1	30	Spreadsheet	3
ECO 2	251	Principles of Microeconomics	3
ECO 2	252	Principles of Macroeconomics	3
ETR 2	210	Introduction to Entrepreneurship	3
ETR 2	215	Law for Entrepreneurs	3
ETR 2	220	Innovation and Creativity	3
ETR 2	230	Entrepreneur Marketing	3
ETR 2	240	Funding for Entrepreneurs	3
ETR 2	270	Entrepreneurship Topics	3
Total	Credit	Hours Required	75

Entrepreneurship Certificate (C25490L1)

The Entrepreneurship Certificate is designed to provide students with basic knowledge and skills necessary in establishing a new business venture. Course work includes financial accounting and understanding of the operation of a business in the free enterprise system, as well as principles of entrepreneurship and development of a business plan. Students will develop a detailed business plan that may be used for the establishment of a business venture.

Successful applicants for this certificate must have earned a high school diploma or GED.

Major Requirements Credits ACC 120 Principles of Financial Accounting 4 BUS 110 Introduction to Business 3 BUS 280 **REAL Small Business** 4 ETR 210 3 Introduction to Entrepreneurship **Total Credit Hours Required** 14

Esthetics Technology

The Esthetics Technology curriculum provides competency-based knowledge, scientific/artistic principles and hands-on fundamentals associated with the art of skin care. The curriculum provides a simulated salon environment which enables students to develop manipulative skills.

Course work includes instruction in all phases of professional Esthetics Technology, business/human relations, product knowledge, and other related topics.

Graduates should be prepared to take the North Carolina Cosmetology State Board Licensing Exam and upon passing may be licensed and qualify for employment in beauty and cosmetic/skin care salons, as a platform artist, and in related businesses.

Successful applicants for the certificate must have earned a high school diploma or GED and completed all courses listed below with at least a grade of C.

The Mountain Tech Spa, an on-campus spa facility located in the Birch Building, provides practical experience for Esthetics students under the direction of College faculty.

Specific Program Requirements

- 1 General college admission requirements.
- 2. Completion of required Hepatitis B vaccine. First dose to be completed by the first day of class. Second Hepatitis B vaccine to be completed at least one month after the first dose. Third injection to be completed six months after the first does.

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- 3. Esthetics Technology students must clock out when leaving the laboratory. To earn hours, students must be physically present in the laboratory.
- 4. Students should be physically able to operate esthetics equipment and safely use products used in esthetics.

Esthetics Technology – Certificate (C55230)

Major Requirements		Credits	
COS	119	Esthetics Concepts I	2
COS	120	Esthetics Salon I	6
COS	125	Esthetics Concepts II	2
COS	126	Esthetics Salon II	6
Tota	l Credi	t Hours Required	16

Foodservice Technology (Pending Approval)

This curriculum is designed to introduce students to the foodservice industry and prepare them for entrylevel positions in industrial, institutional or commercial production foodservice operations.

Courses include sanitation, basic and intermediate foodservice production skills, baking, menus, purchasing and basic cost control.

Graduates should qualify for employment as line cooks, prep cooks, or bakers in production foodservice settings or entry-level kitchen management in an institutional foodservice setting.

Specific Program Requirements

- 1. General college admission requirements.
- 2. Completion of first dose of Hepatitis A Vaccine is required by the first day of food preparation and service classes. Second Hepatitis A vaccine to be completed within six to twelve months of the first vaccination.

Foodservice Technology Diploma (D55250)

Courses requiring a grade of "C" or better: CUL and HRMGeneral Education RequirementsCredits			
ENG	111	Expository Writing (or ENG 110)	3
PSY	150	General Psychology	3
Major Requirements Credits			
CUL	110	Sanitation & Safety	2
CUL	110A	Sanitation & Safety Lab	1
CUL	111	Success in Hosp Studies	1
CUL	130	Menu Design	2
CUL	140	Culinary Skills I	5

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HRM Tota	260 I Credit	Procurement for Hospitality	3 38
HRM	110	Intro to Hosp & Tourism	3
CUL	273	Career Development	1
CUL	260	Baking II	3
CUL	240	Culinary Skills II	5
CUL	170	Garde Manger I	3
CUL	160	Baking I	3

Healthcare Business Informatics* (Pending Approval)

The Healthcare Business Informatics curriculum prepares individuals for employment as specialists in installation, data management, data archiving/retrieval, system design and support, and computer training for medical information systems.

Students learn about the field through multidisciplinary coursework including the study of terminology relating to informatics, systems analysis, networking technology, computer/network security, data warehousing, archiving and retrieval of information, and healthcare computer infrastructure support.

Graduates should qualify for employment as database/ data warehouse analysts, technical support professionals, informatics technology professionals, systems analysts, networking and security technicians, and computer maintenance professionals in the healthcare field.

Healthcare Business Informatics Associate in Applied Science Degree (A25510)

Courses requiring a grade of "C" or better: ACA, CIS, CTS, DBA, ETR, HBI, MED, NET, NOS, OST, SEC, WEB

Gen	Credits		
ACA	115	First-Year Seminar	1
ENG	111	Expository Writing	3
ENG	114	Prof. Research and Reporting	3
MAT	115	Mathematical Models	3
		(or MAT 161/161A)	
		Humanities Elective	3
		Social/Behavioral Science Elective	3
Maj	or Requ	irements	Credits
Maj CIS	or Requ 110	irements Introduction to Computers	Credits 3
Maj e CIS CIS	or Requ 110 115	irements Introduction to Computers Intro to Programming and Logic	Credits 3 3
Maj CIS CIS CTS	or Requ 110 115 115	lirements Introduction to Computers Intro to Programming and Logic Info Sys Business Concepts	Credits 3 3 3
Maj CIS CIS CTS CTS	or Requ 110 115 115 120	irements Introduction to Computers Intro to Programming and Logic Info Sys Business Concepts Hardware/Software Support	Credits 3 3 3 3 3 3
Majo CIS CIS CTS CTS DBA	or Requ 110 115 115 120 110	lirements Introduction to Computers Intro to Programming and Logic Info Sys Business Concepts Hardware/Software Support Database Concepts	Credits 3 3 3 3 3 3 3 3 3
Majo CIS CIS CTS CTS DBA ETR	or Requ 110 115 115 120 110 210	irements Introduction to Computers Intro to Programming and Logic Info Sys Business Concepts Hardware/Software Support Database Concepts Intro to Entrepreneurship	Credits 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
Maje CIS CIS CTS CTS DBA ETR HBI	br Requ 110 115 115 120 110 210 110	irements Introduction to Computers Intro to Programming and Logic Info Sys Business Concepts Hardware/Software Support Database Concepts Intro to Entrepreneurship Issues and Trends in HBI	Credits 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3

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HBI 113	Survey of Med Insurance	3
HBI 250	Data Management and Utilization	3
HBI 289	System Support Project	3
NET 110	Networking Concepts	3
NOS 110	Operating System Concepts	3
OST 141	Med Terms I - Med Office	3
OST 142	Med Terms II - Med Office	3
OST 149	Medical Legal Issues	3
SEC 110	Security Concepts	3
	Major Elective 1	3
	Major Elective 2	3
	Major Elective 3	3
Total Credi	t Hours Required	73

Electives

CTS 135	Integrated Software Intro
CTS 217	Computer Training and Support
DBA 120	Database Programming I
DBA 210	Database Administration
WEB 115	Web Markup and Scripting
WEB 182	PHP Programming

Hospitality Management

This curriculum prepares individuals to understand and apply the administrative and practical skills needed for supervisory and managerial positions in hotels, motels, resorts, inns, restaurants, institutions, and clubs.

Course work includes guest services, leadership, management, restaurant operations, lodging operations, marketing, sanitation, food preparation, food and beverage management and other critical areas.

Graduates should qualify for management or entrylevel supervisory positions in food and lodging operations, including restaurants, foodservice, beverage service, catering, front office, reservations and housekeeping. Opportunities are also available in product services, and technology support and sales.

Mountain Tech Lodge

An on-campus lodging facility, the Mountain Tech Lodge is operated and maintained by the Hospitality Management students, and provides practical experience under the direction of College faculty.

Specific Program Requirements

- 1. General college admission requirements.
- 2. Completion of first dose of Hepatitis A Vaccine is required by the first day of food preparation and service classes. Second Hepatitis A vaccine to be completed within six to twelve months of the first vaccination.

Hospitality Management Associate in Applied Science Degree (A25110)

Courses requiring a grade of "C" or better: ACC, COE, CUL and HRM

General Ed	Credits	
COM 231	Public Speaking	3
ENG 111	Expository Writing (or ENG 110)	3
MAT 115	Mathematical Models	3
PSY 150	General Psychology	3
	Humanities Elective	3
Major Requ	uirements	Credits
ACC 120	Principles of Financial Accounting	4
CIS 110	Introduction to Computers	3
COE 112	Co-op Work Experience I	2
CUL 110	Sanitation & Safety	2
CUL 110A	Sanitation & Safety Lab	1
CUL 111	Success in Hosp Studies	1
CUL 135	Food & Beverage Service	2
CUL 135A	Food & Beverage Service Lab	1
CUL 142	Fundamentals of Food	5
CUL 273	Career Development	1
HRM 110	Intro to Hosp & Tourism	3
HRM 120	Front Office Procedures	3
HRM 120A	Front Office Proc Lab	1
HRM 124	Guest Service Management	3
HRM 135	Facilities Management	3
	(or HRM 275 Leadership-Hospitality)	
HRM 140	Legal Issues-Hospitality	3
HRM 210	Meetings & Event Planning	3
HRM 215	Restaurant Management	3
HRM 215A	Restaurant Management Lab	1
HRM 220	Cost Control-Food & Bev	3
HRM 225	Beverage Management	3
HRM 240	Marketing for Hospitality	3
HRM 245	Human Resource Mgmt-Hosp	3
HRM 280	Mgmt Problems-Hospitality	3
Total Credi	t Hours Required	75

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Leadership in Hospitality Certificate (C25110L1)

The Leadership in Hospitality Certificate provides line employees the concepts and skills to upgrade or cross-train in their careers in the hotel and restaurant management industry. In addition, successful completion of CUL 110 leads to a nationally recognized ServSafe Certification from the National Restaurant Association.

Major Requ	Credits	
CUL 110	Sanitation and Safety	2
HRM 140	Legal Issues-Hospitality	3
HRM 240	Marketing for Hospitality	3
HRM 245	Human Resource Mgmt-Hosp	3
HRM 275	Leadership Hospitality	3
Total Credit Hours Required		14

Human Resources Management

Human Resources Management is a concentration under the curriculum title of Business Administration. The curriculum is designed to meet the demands of business and service agencies. The objective is the development of generalists and specialists in the administration, training and management of human resources.

Course work includes studies in management, interviewing, placement, needs assessment, planning, compensation and benefits, and training techniques. Also included are topics such as people skills, learning approaches, skills building, and development of instructional and training materials.

Graduates of this program will have a sound business educational base for life-long learning. Students will be prepared for employment opportunities in personnel, training, and other human resources development areas.

Human Resources Management Associate in Applied Science Degree (A2512C)

Courses requiring a grade of "C" or better: ACA, ACC, BUS, CIS, ECO and MKT

General E	Credits	
ACA 115	Success and Study Skills	1
COM 231	Public Speaking	3
ECO 252	Principles of Macroeconomics	3
ENG 111	Expository Writing (or ENG 110)	3
MAT 115	Mathematical Models	3
	Humanities Elective	3

Majo	or Req	uirements	Credits
ACC	120	Principles of Financial Accounting	4
ACC	140	Payroll Accounting	2
BUS	115	Business Law I	3
BUS	135	Principles of Supervision	3
BUS	137	Principles of Management	3
BUS	147	Business Insurance	3
BUS	151	People Skills	3
BUS	153	Human Resource Management	3
BUS	217	Employment Laws and Regulations	3
BUS	234	Training and Development	3
BUS	240	Business Ethics	3
BUS	256	Recruit, Select, and Personnel Planning	3
BUS	258	Compensation and Benefits	3
BUS	259	HRM Applications	3
CIS	110	Introduction to Computers	3
CTS	130	Spreadsheet	3
ECO	251	Principles of Microeconomics	3
MKT	120	Principles of Marketing	3
OST	136	Word Processing	3
		Elective*	3
Tota	l Cred	it Hours Required	76

*Electives: BUS 110, BUS 116, BUS 260, BUS 270.

Human Resources Management Certificate (C2512CL1)

The Human Resources Management Certificate is designed to provide students with the basic knowledge and skills necessary to advance their skill set in the area of human resources management. Coursework includes topics related to compensation and benefits, training and development, and employment law. The Human Resources Management Certificate targets individuals already working in the HR field with the desire to expand their knowledge.

Successful applicants for the certificate must have earned a high school diploma or GED.

Major Requirements		Credits	
	BUS 153	Human Resources Management	3
	BUS 217	Employment Law and Regulations	3
	BUS 234	Training and Development	3
	BUS 256	Recruit Select and Per Plan	3
	BUS 258	Compensation and Benefits	3
	iotai Credi	i nours nequireu	15

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Information Systems Security

Information Systems Security covers a broad expanse of technology concepts. This curriculum provides individuals with the skills required to implement effective and comprehensive information security controls.

Coursework includes networking technologies, operating systems administration, information policy, intrusion detection, security administration, and industry best practices to protect data communications.

Graduates should be prepared for employment as security administrators. Additionally, they will acquire the skills that allow them to pursue security certifications.

Information Systems Security Associate in Applied Science Degree (A25270)

Courses requiring a grade of "C" or better: ACA, BUS, CIS, CTS, DBA, NET, NOS and SEC

General Ed	lucation Requirements	Credits
ACA 115	Success and Study Skills	1
COM 231	Public Speaking	3
ENG 111	Expository Writing	3
ENG 114	Professional Research and Reporting	3
HUM 110	Technology and Society	3
MAT 161	College Algebra	3
MAT 161A	College Algebra Lab	1
PSY 150	General Psychology	3

Major Requirements

BUS	110	Introduction to Business	3
CIS	110	Introduction to Computers	3
CIS	115	Intro to Programming and Logic	3
DBA	110	Database Concepts	3
NET	125	Networking Basics	3
NET	126	Routing Basics	3
NET	225	Routing and Switching I	3
NET	226	Routing and Switching II	3
NOS	110	Operating System Concepts	3
NOS	120	Linux/UNIX Single User	3
NOS	220	Linux/UNIX Administration I	3
NOS	130	Windows Single User	3
SEC	110	Security Concepts	3
SEC	150	Secure Communication	3
SEC	160	Secure Administration I	3
SEC	210	Intrusion Detection	3
SEC	220	Defense In-Depth	3
SEC	289	Security Capstone Project	3
Tota	l Credit	Hours Required	74

Manicuring/Nail Technology

The Manicuring/Nail Technology curriculum provides competency-based knowledge, scientific/artistic principles, and hands-on fundamentals associated with the nail technology industry. The curriculum provides a simulated salon environment which enables students to develop manipulative skills.

Course work includes instruction in all phases of professional nail technology, business/computer principles, product knowledge, and other related topics.

Graduates should be prepared to take the North Carolina Cosmetology State Board Licensing Exam and upon passing be licensed and qualify for employment in beauty and nail salons, as a platform artist, and in related businesses.

Successful applicants for the certificate must have earned a high school diploma or GED and completed all courses listed below with at least a grade of C.

The Mountain Tech Spa, an on-campus spa facility located in the Birch Building, provides practical experience for Manicuring/Nail Technology students under the direction of College faculty.

Specific Program Requirements

Credits

- 1. General college admission requirements.
- 2. Completion of required Hepatitis B vaccine. First dose to be completed by the first day of class. Second Hepatitis B vaccine to be completed at least one month after the first dose. Third injection to be completed six months after the first does.
- 3. Manicuring/Nail Technology students must clock out when leaving the laboratory. To earn hours, students must be physically present in the laboratory.
- Students should be physically able to operate manicuring/nail technology equipment and safely use manicuring/nail technology products for long periods of time.

Manicuring/Nail Technology Certificate (C55400)

Major Requirements		Credit
COS 121	Manicure/Nail Technology I	6
COS 222	Manicure/Nail Technology II	6
Total Cred	lit Hours Required	12

Marketing and Retailing

Marketing and Retailing is a concentration under the curriculum title of Business Administration. This curriculum is designed to provide students with fundamental skills in marketing and retailing.

Course work includes marketing, retailing, merchandising, selling, advertising, computer technology, and management.

Graduates should qualify for marketing positions within manufacturing, retailing, and service organizations.

Marketing and Retailing Associate in Applied Science Degree (A2512F)

Courses requiring a grade of "C" or better: ACC, BUS, CIS, CTS, ECO and MKT

General E	ducation Requirements	Credits
COM 231	Public Speaking	3
ECO 252	Principles of Macroeconomics	3
ENG 111	Expository Writing (or ENG 110)	3
MAT 115	Mathematical Models	3
	Humanities Elective	3
Major Req	uirements	Credits
ACC 120	Principles of Financial Accounting	4
ACC 121	Principles of Managerial Accounting	4
BUS 110	Introduction to Business	3
BUS 115	Business Law I	3
BUS 137	Principles of Management	3
CIS 110	Introduction to Computers	3
CTS 130	Spreadsheet	3
ECO 251	Principles of Microeconomics	3
MKT 120	Principles of Marketing	3
MKT 121	Retailing	3
MKT 122	Visual Merchandising	3
MKT 123	Fundamentals of Selling	3
MKT 220	Advertising and Sales Promotion	3
MKT 221	Consumer Behavior	3
MKT 224	International Marketing	3
MKT 225	Marketing Research	3
MKT 227	Marketing Applications	3
MKT 229	Special Events Production	2
	Electives*	6
Total Cred	it Hours Required	76

**Electives:* BUS 147, BUS 153, BUS 225, BUS 240, BUS 260, BUS 270,CIS 165, ETR 210, ETR 220, ETR 240.

Retail Marketing Certificate (C2512FL1)

The Retail Marketing Certificate is designed to prepare students to be successful in a retail marketing environment. Students will learn the fundamentals of marketing goods and services. This certificate will provide students with the essential knowledge of retailing, including effective operations, retail structure, non-store retailing, and upcoming trends. Students will learn how to design stimulating visual displays and the importance of visual merchandising. The uniqueness of consumer behavior will be explored with emphasis on the decision-making process.

Successful applicants for this certificate must have earned a high school diploma or GED.

Major Requirements		Credits
MKT 120	Principles of Marketing	3
MKT 121	Retailing	3
MKT 122	Visual Merchandising	3
MKT 221 Total Cred	Consumer Behavior lit Hours Required	3 12

Medical Office Administration

This curriculum prepares individuals for employment in medical and other health-care related offices.

Course work will include medical terminology; information systems; office management; medical coding, billing, and insurance; legal and ethical issues; and formatting and word processing. Students will learn administrative and support functions and develop skills applicable in medical environments.

Employment opportunities are available in medical and dental offices, hospitals, insurance companies, laboratories, medical supply companies, and other health-care related organizations.

Medical Office Administration – Diploma (D25310)

Courses requiring a grade of "C" or better: CIS and OST

Entrance requirements: Keyboarding placement test into OST 134 consisting of 25 gwam at 98% accuracy using the touch system and college English placement test.

General Education Requirements			Credits
BIO	163	Basic Anatomy and Physiology	5
ENG	111	Expository Writing (or ENG 110)	3
Major Requirements			Credits
CIS	110	Introduction to Computers	3
лот	122	Koyboard Skill Ruilding	2

JST 132	Reyboard Skill Bulluing	Z
OST 134	Text Entry and Formatting	3

OST 136	Word Processing	3
OST 141	Medical Terminology I - Medical Office	3
OST 142	Medical Terminology II -Medical Office	3
OST 148	Medical Coding, Billing, and Insurance	3
OST 149	Medical Legal Issues	3
OST 164	Text Editing Applications	3
OST 184	Records Management	3
OST 243	Med Office Simulation	3
OST 289	Administrative Office Mgt	3
	Major Elective*	3
Total Credi	t Hours Required	46

*Major Electives: CTS 130, DBA 110, OST 201, OST 233, SPA 120, or OST 247 and OST 248 (requiring departmental approval). The semester in which the major elective is taken may vary.

Medical Office Administration Medical Coding Certificate (C25310L1)

The Medical Coding Certificate program will prepare individuals for entry-level employment opportunities in the allied health specialty of medical coding. This is an introductory program that may, with experience and additional training, lead to national certification. Requirements for the certificate include successful completion of the listed courses and the following documented prerequisite office skills:

Pass a keyboarding and basic computer skills test requiring:

- Keyboarding skill level of 25 words per minute for five minutes (or OST 131)
- Theory and hands-on skill using Microsoft Office software (Word, Excel, PowerPoint) and Windows with 80 percent accuracy (or CIS 110).

Major Requirements		Credits
BIO 163	Basic Anatomy and Physiology	5
OST 141	Medical Terminology I - Medical Office	3
OST 142	Medical Terminology II - Medical Office	3
OST 148	Medical Coding, Billing, and Insurance	3
OST 247	CPT Coding in the Medical Office	2
OST 248	Diagnostic Coding	2
Total Credit Hours Required		18

Medical Transcription

The Medical Transcription curriculum prepares individuals to become medical language specialists who interpret and transcribe dictation by physicians and other healthcare professionals in order to document patient care and facilitate delivery of healthcare services.

Students will gain extensive knowledge of medical terminology, pharmacology, human diseases, diagnostic studies, surgical procedures, and laboratory procedures. In addition to word processing skill and knowledge of voice processing equipment, students must master English grammar, spelling, and proofreading.

Graduates should qualify for employment in hospitals, medical clinics, doctors' offices, private transcription businesses, research facilities, insurance companies, and publishing companies. After acquiring work experience, individuals can apply to the American Association for Medical Transcription to become Certified Medical Transcriptionists.

Note: The American Association for Medical Transcription is now known as the Association for Healthcare Documentation Integrity.

Medical Transcription - Diploma (D25320)

Courses requiring a grade of "C" or better: CIS, COE, MED and OST

Entrance requirements: Keyboarding placement test into OST 134 consisting of 25 gwam at 98% accuracy using the touch system and college English placement test.

General E	ducation Requirements	Credits
BIO 163	Basic Anatomy and Physiology	5
ENG 111	Expository Writing (or ENG 110)	3
Major Red	quirements	Credits
CIS 110	Introduction to Computers	3
COE 111	Co-op Work Experience I*	1
OST 132	Keyboard Skill Building	2
OST 134	Text Entry and Formatting	3
OST 136	Word Processing	3
OST 141	Medical Terminology I - Medical Office	3
OST 142	Medical Terminology II - Medical Office	3
OST 149	Medical Legal Issues	3
OST 164	Text Editing Applications	3
OST 184	Records Management	3
OST 201	Medical Transcription I	4
OST 202	Medical Transcription II	4
OST 286	Professional Development	3
Total Cred	lit Hours Required	46

* A co-op work experience is an additional requirement of the MT curriculum. Students will be expected to complete the co-op during daytime hours Monday - Friday. 94

Networking Technology

The Networking Technology curriculum prepares individuals for employment supporting network infrastructure environments. Students will learn how to use technologies to provide reliable transmission and delivery of data, voice, image, and video communications in business, industry, and education.

Coursework includes design, installation, configuration, and management of network infrastructure technologies and network operating systems. Emphasis is placed on the implementation and management of network software and the implementation and management of hardware such as switches and routers.

Graduates may find employment in entry-level jobs as local area network managers, network operators, network analysts, and network technicians. Graduates may also be qualified to take certification examinations for various network industry certifications, depending on their local program.

Networking Technology Associate in Applied Science Degree (A25340)

Courses requiring a grade of "C" or better: ACA, BUS, CIS, CTS, DBA, NET, NOS, SEC, and WEB

General Ed	lucation Requirements	Credits
ACA 115	Success and Study Skills	1
COM 231	Public Speaking	3
ENG 111	Expository Writing	3
ENG 114	Professional Research and Reporting	3
HUM 110	Technology and Society	3
MAT 161	College Algebra	3
MAT 161A	College Algebra Lab	1
PSY 150	General Psychology	3
Major Req	uirements	Credits

BUS	110	Introduction to Business	3
CIS	110	Introduction to Computers	3
CIS	115	Intro to Programming and Logic	3
CTS	120	Hardware/Software Support	3
DBA	110	Database Concepts	3
NET	125	Networking Basics	3
NET	126	Routing Basics	3
NET	175	Wireless Technology	3
NET	225	Routing and Switching I	3
NET	226	Routing and Switching II	3
NET	289	Networking Project	3
NOS	110	Operating System Concepts	3
NOS	120	Linux/UNIX Single User	3
NOS	130	Windows Single User	3

NOS 220	Linux/UNIX Admin I	3
NOS 230	Windows Admin I	3
SEC 110	Security Concepts	3
WEB 230 Total Credi	Implementing Web Servers t Hours Benuired	3 74
Total Credi	t Hours Required	74

Networking Technology Basic Network Administration Certificate (C25340L3)

This certificate is designed for the office professional with responsibilities for an organization's local area network administration. Students will learn the basics of network administration including file management, network infrastructure, user management, security concepts, and troubleshooting using operating systems such as Microsoft Windows[™] and Linux. Upon successful completion of this certificate program students will have the knowledge they need to perform basic administrative tasks on servers in a small officehome office (SOHO) environment.

Applicants must have earned a high school diploma or GED to apply for this certificate. Applicants must also successfully complete a basic computer concepts assessment or have completed CIS 110.

Major Requirements		Credits
NET 125	Networking Basics	3
NOS 110	Operating System Concepts	3
NOS 120	Linux/UNIX Single User	3
NOS 130	Windows Single User	3
NOS 220	Linux/UNIX Admin 1	3
NOS 230	Windows Admin 1	3
Total Credit	t Hours Required	18

Networking Technology CCNA Preparation Certificate (C25340L1)

This certificate is designed to help prepare students for the Cisco Certified Net-work Association (CCNA) examination. Topics include network topologies and design, router configuration and protocols, switching theory, virtual LANS and threaded case studies. Upon successful completion of the four course sequence, students will have acquired the knowledge necessary to perform entry level design, construction, and maintenance of network infrastructures. This certificate will help prepare students for the Cisco Certified Network Associate certification exam.

Applicants must have earned a high school diploma or GED. Applicants must also successfully complete a basic computer concepts assessment or have completed CIS 110.

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Major Requirements		Credits	(
NET 125	Networking Basics	3	(
NET 126	Routing Basics	3	(
NET 225	Routing and Switching I	3	(
NET 226	Routing and Switching II	3	١
Total Credit Hours Required		12	

Office Administration

The Office Administration curriculum prepares individuals for positions in administrative support careers. It equips office professionals to respond to the demands of a dynamic computerized workplace.

Students will complete courses designed to develop proficiency in the use of integrated software, oral and written communication, analysis and coordination of office duties and systems, and other support topics. Emphasis is placed on non-technical as well as technical skills.

Graduates should qualify for employment in a variety of positions in business, government, and industry. Job classifications range from entry-level to supervisor to middle management.

Office Administration Associate in Applied Science Degree (A25370)

Courses requiring a grade of "C" or better: ACA, ACC, BUS, CIS, CTS, DBA, OST and WEB

0 I F	dua stian Daminamanta	Cue dite
General E	ducation Requirements	Credits
ACA 115	Success and Study Skills	1
COM 231	Public Speaking	3
ENG 111	Expository Writing (or ENG 110)	3
MAT 115	Mathematical Models	3
PSY 150	General Psychology	3
	Humanities Elective	3
Major Ree	quirements	Credits
ACC 120	Principles of Financial Accounting	4
ACC 140	Payroll Accounting	2
BUS 260	Business Communications	3
CIS 110	Introduction to Computers	3
CTS 130	Spreadsheet	3
CTS 217	Computer Training/Support	3
DBA 110	Database Concepts	3
OST 131	Keyboarding	2
OST 132	Keyboard Skill Building	2
OST 134	Text Entry and Formatting	3
OST 136	Word Processing	3

Office Systems Applications

Text Editing Applications

3 3

OST 137

OST 164

OST 184	Records Management	3
OST 233	Office Publications Design	3
OST 286	Professional Development	3
OST 289	Administrative Office Mgt	3
WEB 115	Web Markup and Scripting	3
	Electives*	8
Total Credit Hours Required		76

**Electives:* ACC 150, BUS 110, BUS 115, BUS 137, BUS 153, BUS 240, CIS 165, NET 110, SPA 120

Office Administration Diploma (D25370)

Courses requiring a grade of [•]C" or better: BUS, CIS, CTS and OST

General E	ducation Requirements	Credits
COM 231	Public Speaking	3
ENG 111	Expository Writing	3
Major Re	quirements	Credits
ACC 120	Principles of Financial Accounting	4
ACC 140	Payroll Accounting	2
CIS 110	Introduction to Computers	3
CTS 130	Spreadsheet	3
OST 131	Keyboarding	2
OST 132	Keyboard Skill Building	2
OST 134	Text Entry and Formatting	3
OST 136	Word Processing	3
OST 164	Text Editing Applications	3
OST 184	Records Management	3
OST 286	Professional Development	3
OST 289	Administrative Office Mgt	3
	Electives*	3
Total Cred	lit Hours Required	43

**Electives:* ACC 150, BUS 110, BUS 115, BUS 137, BUS 153, CIS 165, DBA 110, NET 110, SPA 120

Office Administration – Office Management Certificate (C25370L2)

The Office Management Certificate will prepare individuals for entry-level office management positions in business, government, and industry.

Recommendations for the certificate include successful completion of the listed courses and the following documented prerequisite office skills:

- Keyboarding skill level at 40 nwam for 5 minutes (or OST 134)
- Theory and hands-on skill using Windows and Microsoft Office software (Word, Excel, Power-Point) with 80 percent accuracy (or CIS 110)

Major Re	Credits	
ACC 120	Principles of Financial Accounting	4
OST 136	Word Processing	3
OST 164	Text Editing Applications	3
OST 289	Administrative Office Mgt	3
OST 184	Records Management	3
Total Cre	dit Hours Required	16

Office Administration – Word Processing/ Desktop Publishing Certificate (C25370L1)

This certificate program gives essential training in word processing and desktop publishing. You will learn state-of-the-art computer software that is used in offices and businesses today. Applicants must have earned a high school diploma or GED to apply for this certificate program.

Major Requirements		Credits
CIS 11	0 Introduction to Computers	3
CIS 16	5 Desktop Publishing I	3
OST 13	1 Keyboarding	2
	(or tested keyboarding proficiency)	
OST 13	4 Text Entry and Formatting	3
OST 13	6 Word Processing	3
Total C	redit Hours Required	14

Therapeutic Massage

The Therapeutic Massage curriculum prepares graduates to work in direct client care settings to provide manipulation, methodical pressure, friction and kneading of the body for maintaining wellness or treating alterations in wellness throughout the lifespan.

Courses will include content in normal human anatomy and physiology, therapeutic massage, ethical/legal issues, business practices, nutrition and psychology.

Employment opportunities include hospitals/rehabilitation centers, health departments, home health, medical offices, nursing homes, spas/health/sports clubs, and private practice. Graduates may be eligible to take the Massage and Bodywork Licensing Exam or the National Certification for Therapeutic Massage and Bodywork.

The Mountain Tech Spa, an on-campus spa facility located in the Birch Building, provides practical experience for Therapeutic Massage students under the direction of College faculty.

Specific Program Requirements

- 1. General college admission requirements.
- 2. Current CPR certification is required by the end of the first semester of study and must be maintained throughout the program.
- 3. Completion of the Student Medical Form documenting immunization history, medical history, and assessment of the applicant's physical and emotional ability to participate in the activities in a clinical setting.
- 4. Completion of required Hepatitis B vaccine. First dose to be completed by the first day of class. Second Hepatitis B vaccine to be completed at least one month after the first dose. Third injection to be completed six months after the first does.
- 5. Clinical facilities may require a criminal background check and/or drug testing prior to participation in the clinical/co-op component. In addition, national and/or state licensure boards **may prohibit** eligibility for licensure based on criminal records. Licensure is required to practice as a Massage Therapist in North Carolina. Please refer to the North Carolina Massage and Bodywork Therapy Practice Act, AR-TICLE 36 of CHAPTER 90 of the NORTH CAROLINA GENERAL STATUES (90-629.1) www.bmbt.org.
- 6. Interview with Department Chair of Spa Therapies and Operations.

Therapeutic Massage Associate in Applied Science (A45750)

Courses requiring a grade of "C" or better: ACA, BIO, BUS, CIS, COE, MTH and PSY

General E	Credits	
ACA 115	Success and Study Skills	1
BIO 168	Anatomy and Physiology I	4
BIO 169	Anatomy and Physiology II	4
COM 120	Intro to Interpersonal Communication	3
ENG 111	Expository Writing (or ENG 110)	3
PSY 275	Health Psychology	3
	Humanities Elective	3
Maior Rec	Credits	

Major Requirements

PSY 150

BIO	271	Pathophysiology	3
BUS	280	REAL Small Business	4
CIS	110	Introduction to Computers	3
COE	111	Co-Op Work Experience I	1
MTH	110	Fundamentals of Massage	10
MTH	120	Therapeutic Massage Applications	10
MTH	121	Clinical Supplement I	1
MTH	125	Ethics of Massage	2
MTH	210	Advanced Skills of Massage Therapy	8
MTH	220	Outcome Based Massage	7
MTH	221	Clinical Supplement II	2
PSY	150	General Psychology	3
Total	Credit	Hours Required	75

Therapeutic Massage – Diploma (D45750)

Courses requiring a grade of "C" or better: ACA, BIO, CIS. MTH and PSY

Gene	eral Edu	ucation Requirements	Credits
ACA	115	Success and Study Skills	1
BIO	168	Anatomy and Physiology I	4
BIO	169	Anatomy and Physiology II	4
ENG	111	Expository Writing (or ENG 110)	3
PSY	275	Health Psychology	3
Majo	or Requ	irements	Credits
Majo CIS	or Requ 110	irements Introduction to Computers	Credits 3
Majo CIS MTH	or Requ 110 110	irements Introduction to Computers Fundamentals of Massage	Credits 3 10
Majo CIS MTH MTH	or Requ 110 110 120	irements Introduction to Computers Fundamentals of Massage Therapeutic Massage Applications	Credits 3 10 10
Maje CIS MTH MTH MTH	or Requ 110 110 120 121	irements Introduction to Computers Fundamentals of Massage Therapeutic Massage Applications Clinical Supplement I	Credits 3 10 10 1

3 44

General Psychology

Total Credit Hours Required

Web Technologies

The Web Technologies curriculum prepares graduates for careers in the information technology arena using computers and distributed computing to disseminate and collect information via the web.

Coursework in this program covers the terminology and use of computers, network devices, networks, servers, databases, applications, programming languages, as well as web applications, site development and design. Studies will provide opportunity for students to learn related industry standards.

Graduates should qualify for career opportunities as designers, administrators, or developers in the areas of web applications, websites, web services, and related areas of distributed computing.

Web Technologies Associate in Applied Science (A25290)

Courses requiring a grade of "C" or better: ACA, BUS, CIS, CSC, DBA, GIS, NET, NOS, SEC, WEB

General Ec	lucation Requirements	Credits
ACA 115	Success and Study Skills	1
ENG 111	Expository Writing	3
ENG 114	Prof. Research and Reporting	3
MAT 115	Mathematical Models (or MAT 171)	3
	Social/Behavioral Science Elective	3
	Humanities Elective	3
Major Req	uirements	Credits
CIS 110	Introduction to Computers	3
CIS 115	Intro to Programming and Logic	3
CTS 115	Information System Business Concepts	3
DBA 110	Database Concepts	3
DBA 120	Database Programming I	3
NET 110	Networking Concepts	3
NOS 110	Operating Systems Concepts	3
NOS 120	Linux/UNIX Single User	3
SEC 110	Security Concepts	3
WEB 110	Internet/Web Fundamentals	3
WEB 115	Web Markup and Scripting	3
WEB 120	Introduction to Internet Multimedia	3
WEB 140	Web Development Tools	3
WEB 182	PHP Programming	3
WEB 210	Web Design	3
WEB 230	Implementing Web Serv	3

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Total Credit Hours Required		
	Electives*	6
WEB 289	Internet Technologies Project	3
WEB 250	Database Driven Websites	3

**Electives: COE 212WB, COE 215WB,* CSC 134, CSC 139, CSC 151, DBA 210, GIS 111, NOS 220, WEB 186, WEB 215

Web Technologies – Web Designer Certificate (C25290L1)

The Web Designer certificate provides students with an essential set of courses that prepares them to create effective Web sites. Students will learn essential skills of Web design and gain proficiency in the software tools necessary to create Web sites. Courses cover multiple aspects of Internet-related technologies, including: Internet protocols and tools, web site design, markup languages, client-side scripting, and multimedia development.

This certificate is designed for students who have experience with computers and wish to acquire a credential that provides evidence of their proficiency in web design.

Successful applicants for this certificate must have earned a high school diploma or GED and completed all courses listed below with at least a grade of C.

Major Red	Credits	
WEB 110	Internet/Web Fundamentals	3
WEB 115	Web Markup and Scripting	3
WEB 120	Introduction to Internet Multimedia	3
WEB 140	Web Development Tools	3
WEB 210	Web Design	3
Total Credit Hours Required		15

Web Technologies – Web Programmer Certificate (C25290L2)

The Web Programming certificate provides courses in the programming/database aspects of Internet-related technologies. Coursework includes client- and serverside scripting, Web/database programming, and an advanced programming elective (XML, Java, or Advanced Markup and Scripting).

This certificate is designed for students who have experience with computers and wish to acquire a credential that provides evidence of their proficiency in web programming.

Successful applicants for this certificate must have earned a high school diploma or GED and completed all courses listed below with at least a grade of C.

Major Rec	Credits	
DBA 120	Database Programming I	3
WEB 115	Web Markup and Scripting	3
WEB 182	PHP Programming	3
WEB 250	Database Driven Websites	3
	Electives*	3
Total Cred	15	

*Electives: CSC 151, WEB 186, WEB 215

Engineering and Applied Technology

The Engineering and Applied Technology division offers a variety of Associate in Applied Science degree programs in engineering technologies and applied technologies. Most programs are available on a day and evening basis.

Students enrolled in this division are provided an appropriate mix of theory and hands-on applications. Students in the diploma programs spend much of their time working under industrial shop conditions. Modern facilities include well-equipped laboratories and shops to support goals of the programs. Emphasis is placed on student proficiency in the use of procedures, equipment, and instruments related to the specific program area. Appropriate related and general education courses support these applied programs.

For students interested in starting or managing their own business, the Student Business Incubator is one of many programs and services offered by the A-B Tech Small Business Center/Business Incubator.

A.A.S. Degrees Conferred

Automotive Systems Technology Civil Engineering Technology Computer-Aided Drafting Technology Computer Engineering Technology Computer-Integrated Machining Technology Construction Management Technology Electrical/Electronics Technology Electronics Engineering Technology Heavy Equipment and Transport Technology Industrial Systems Technology Mechanical Engineering Technology Surveying Technology Sustainability Technologies Welding Technology

Diplomas Awarded

Air Conditioning, Heating, and Refrigeration Technology Automotive Systems Technology Carpentry Electrical/Electronics Technology Heavy Equipment and Transport Technology Industrial Systems Technology Computer-Integrated Machining Technology Welding Technology

Certificates

Air Conditioning, Heating and Refrigeration Technology - Basic Air Conditioning, Heating and Refrigeration Technology -Intermediate Air Conditioning, Heating and Refrigeration Technology - Advanced Automotive Systems Technology - Basic Automotive Repair Automotive Systems Technology - Drive Trains Automotive Systems Technology - Electrical/Electronics Automotive Systems Technology - Under-Car Carpentry - Basic Carpentry Carpentry - Basic Cabinetry Computer Engineering Technology -Personal Computer and Network Maintenance Computer-Aided Drafting Technology - Computer-Aided Drafting Computer-Aided Drafting Technology - Architectural Drafting Computer-Aided Drafting Technology -Landscape Architecture Drafting Computer-Integrated Machining Technology - Basic Computer-Integrated Machining Technology - CNC Programming Computer-Integrated Machining Technology -Advanced CNC Programming Computer-Integrated Machining Technology -Fundamentals of Metals Construction Management Technology Electrical/Electronics Technology - Electrical Wiring Electrical/Electronics Technology - Instrumentation and Control Electrical/Electronics Technology - Building Automation & Controls Heavy Equipment and Transport Technology Industrial Systems Technology - Basic Maintenance Industrial Systems Technology - Metal Fabrication Mechanical Engineering Technology - Plastic Injection Molding Mechanical Engineering Technology - Mechanical Drafting Mechanical Engineering Technology - Quality & cGMP Landscape Architecture Drafting Surveying Technology - Civil/Surveying CAD Surveying Technology - Surveying Fundamentals Welding Technology - Basic Welding I Welding Technology - Ornamental Ironwork

Air Conditioning, Heating and Refrigeration Technology

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

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

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

Please note: The Intermediate and Advanced Certificates include mechanical & fuel gas codes, residential system sizing, and advanced comfort systems. The AAS Degree is not offered, however Students who complete the Air Conditioning, Heating, and Refrigeration Diploma may be interested in completing an Associates Degree in either Construction Management, Industrial Systems, or General Occupational Technology. Some of the courses taken in the diploma may apply to those degrees.

Air Conditioning, Heating and Refrigeration Technology Diploma (D35100)

Courses requiring a grade of "C" or better: AHR, and ELC 132

General Ed	ucation Requirements	Credits
COM 120	Interpersonal Communication (or COM 231)	3
PHY 121	Applied Physics I	4
Major Req	uirements	Credits
AHR 110	Introduction to Refrigeration	5
AHR 111	Introduction to Electricity	3
AHR 112	Heating	4
AHR 113	Comfort Cooling	4
AHR 114	Heat Pump Technology	4
AHR 130	HVAC Controls	3
AHR 160	Refrigerant Certification	1
AHR 170	Heating Lab (or AHR 120)	1
AHR 172	Heat Pump Lab (or AHR 115)	1
AHR 210	Residential Building Code	2
	(or AHR 211 or AHR 212 or ALT 120)	
ELC 132	Electrical Drawings	2
WLD 113	Soldering and Brazing	2
Total Credi	t Hours Required	39

Air Conditioning, Heating and Refrigeration Technology Basic Certificate (C35100L1)

The Basic Air Conditioning and Heating Certificate program teaches the student the concepts and skills needed to service and repair various types of domestic furnaces and air conditioners.

Major Req	Credits	
AHR 110	Introduction to Refrigeration	5
AHR 111	Introduction to Electricity	3
AHR 112	Heating	4
AHR 170	Heating Lab (or AHR 120)	1
ELC 132	Electrical Drawings	2
AHR 210 Total Credi	Residential Building Code t Hours Required	2 17
	•	

Air Conditioning, Heating and Refrigeration Technology Intermediate Certificate (C35100L2)

The Intermediate Air Conditioning and Heating Certificate program teaches the student the concepts and skills needed to service and repair domestic heat pumps, light commercial air conditioning, and light commercial heating units. The material for the EPA's CFC license will be covered, and the exam for this will be given during the program.

The Basic Air Conditioning and Heating certificate program must be completed before beginning this program.

Major Req	uirements	Credits
AHR 113	Introduction to Cooling	4
AHR 114	Heat Pump Technology	4
AHR 130	HVAC Controls	3
AHR 160	Refrigerant Certification	1
AHR 172	Heat Pump Lab	1
AHR 211	Residential System Design	3
WLD 113 Total Cred i	Soldering and Brazing it Hours Required	2 18

Engineering and Applied Technology

Automotive Systems Technology

The Automotive Systems Technology curriculum prepares individuals for employment as Automotive Service Technicians. It provides an introduction to automotive careers and increases student awareness of the challenges associated with this fast and everchanging field.

Classroom and lab experiences integrate technical and academic course work. Emphasis is placed on theory, servicing and operation of brakes, electrical/electronic systems, engine performance, steering/suspension, automatic transmission/transaxles, engine repair, climate control, and manual drive trains.

Upon completion of this curriculum, students should be prepared to take the ASE exam and be ready for full-time employment in dealerships and repair shops in the automotive service industry.

Automotive Systems Technology Associate in Applied Science Degree (A60160)

Courses requiring a grade of "C" or better: ACA, AUT, COE

Gene	eral Fd	ucation Requirements	Credits
	115	Success and Study Skills	1
	120	Intro to Internersonal Communication	3
00101	120	(or COM 221 or ENG 114)	5
ENIC	110	Freehman Composition (or ENC 111)	2
	101	Analiand Composition (or ENG TTT)	3
PHY	IZI		4
		(or PHY 110/110A, or CHM 121/121A)	
		Humanities/Fine Arts Elective	3
		Social/Behavioral Science Elective	3
Majo	or Req	uirements	Credits
AUT	110	Intro to Automotive Technology	3
AUT	116	Engine Repair	3
AUT	116A	Engine Repair Lab	1
AUT	141	Suspension and Steering Systems	3
AUT	141A	Suspension and Steering Sys. Lab	1
AUT	151	Brake Systems	3
AUT	151A	Brake Systems Lab	1
AUT	161	Basic Automotive Electricity	5
AUT	163	Advanced Automotive Electricity	3
AUT	171	Auto Climate Control	4
AUT	181	Engine Performance I	3
AUT	221	Automotive Transmissions	3
AUT	221A	Automotive Transmissions Lab	1
AUT	231	Manual Trans/Axles/D. Trains	3
AUT	231A	Manual Trans/Axles/D. Trains Lab	1

			101
AUT	281	Advanced Engine Performance	3
AUT	285	Intro to Alternative Fuels	3
CIS	110	Introduction to Computers	3
COE	112	Co-operative Work Experience	2
COE Tota	122 I Credi t	Co-operative Work Experience t Hours Required	2 68

Automotive Systems Technology Diploma (D60160)

Courses requiring a grade of "C" or better: ACA, AUT

General E	Credits	
ACA 115	Success and Study Skills	1
ENG 110	Freshman Composition (or ENG 111)	3
PHY 121	Applied Physics I	4
	(or PHY 110/110A, or CHM 121/121A)	

Credits
3
3
1
3
1
3
1
5
3
4
3
3
41

Automotive Systems Technology Basic Automotive Repair Certificate (C60160L5) Maior Requirements Credits

•			
AUT	110	Intro to Automotive Technology	3
AUT	151	Brake Systems	3
AUT	151A	Brake Systems Lab	1
AUT	161	Basic Automotive Electricity	5
AUT	163	Advanced Automotive Electricity	3
Tota	l Credit	t Hours Required	15

Automotive Systems Technology Drive-Trains Certificate (C60160L2)

Major Requirements

AUT 110	Intro to Automotive Technology	3
AUT ITU	Intro to Automotive recimology	5
AUT 116	Engine Repair	3
AUT 116A	Engine Repair Lab	1
AUT 221	Automotive Transmissions	3
AUT 221A	Automotive Transmissions Lab	1
AUT 231	Manual Trans/Axles/D. Trains	3
AUT 231A	Manual Trans/Axles/D. Trains Lab	1
Total Credit	t Hours Required	15

Automotive Systems Technology Electrical/Electronics Certificate (C60160L3)

Major Requirements

AUT	110	Intro to Automotive Technology	3
AUT	161	Basic Automotive Electricity	5
AUT	163	Advanced Automotive Electricity	3
AUT	281	Advanced Engine Performance	3
AUT	285	Intro to Alternative Fuels	3
Tota	l Credit	t Hours Required	17

Automotive Systems Technology Under-Car Certificate (C60160L4)

Major Requirements

AUT	110	Introduction to Automotive
AUT	141	Suspension and Steering Systems
AUT	141A	Suspension and Steering Sys. Lab
AUT	151	Brake Systems
AUT	152	Brake Systems Lab
AUT	231	Manual Trans/Axles/D. Trains
AUT	231A	Manual Trans/Axles/D. Trains Lab
Tota	Credit	Hours Required

Carpentry

Credits

Credits

Credits

The Carpentry curriculum is designed to train students to construct residential structures using standard building materials and hand and power tools. Carpentry skills and a general knowledge of residential construction methods will also be taught.

Course work includes footings and foundations, framing, interior and exterior trim, cabinetry, blueprint reading, residential planning and estimating, and other related topics. Students will develop skills through hands-on participation.

Graduates should qualify for employment in the residential building construction field as rough carpenters, framing carpenters, roofers, maintenance carpenters, and other related job titles.

Carpentry Diploma (D35180)

Courses requiring a grade of "C" or better: BPR, CAB, CAR, DFT and ARC

General Ed	Credits	
ENG 110	Freshman Composition	3
	(or ENG 111, ENG 102, or COM 120)	
MAT 101	Applied Mathematics I	3
	(or PHY 121, or MAT 121, or PHY 110/110A)	

Major Req	uirements	Credits
ARC 111 I	ntro to Arch Technology	3
(or MI	EC 110 and MEC 181 or ARC 131)	
BPR 130	Blueprint Reading/Construction	2
CAB 111	Cabinetmaking I (or CAB 119)	7
CAR 110	Introduction to Carpentry	2
CAR 111	Carpentry I	8
CAR 112	Carpentry II	8
CAR 113	Carpentry III	6
CAR 115	Residential Planning/Estimating	3
SST 110	Intro to Sustainability	3
Total Cred	it Hours Required	48

Basic Carpentry Certificate (C35180L1)

Major Req	Credits	
BPR 130	Blueprint Reading/Construction	2
CAR 110	Introduction to Carpentry	2
CAR 111	Carpentry I (or CAR 111AB & CAR 111BB)	8
CAR 114	Residential Building Codes	3
CAR 115	Residential Planning and Estimating	3
Total Credi	t Hours Required	18

Engineering and Applied Technology

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Basic Cabinetry Certificate (Evenings) (C35180L2)

Major Requ	uirements	Credits
CAB 111	Cabinetmaking I	7
	(or CAB 111AB & CAB 111BB)	
CAB 119	Cabinetry/Millworking	7
	(or CAB 119AB & CAB 119BB)	
MEC 110	Intro to CAD/CAM	2
MEC 181	Intro to CIM	2
Total Credit	t Hours Required	18

Civil Engineering Technology

The Civil Engineering Technology curriculum provides the application of relevant theory of engineering needed by technicians to carry out planning and supervisory tasks in the construction of transportation systems, residential and commercial buildings, bridges, dams, and water and wastewater treatment systems.

Coursework includes the communication and computational skills required to support the fields such as materials testing, structures, estimating, project management, hydraulics, environmental technology, and surveying. Additional coursework will cover the operation of computers and application software including computer-aided drafting.

Graduates should qualify for technician level jobs with both public and private engineering, construction, and surveying agencies.

Civil Engineering Technology Associate in Applied Science Degree (A40140)

Courses requiring a grade of "C" or better: ACA, CIS, CIV, DFT, EGR, SRV

General Ed	Credits	
ACA 115	Success and Study Skills	1
	(or EGR 110 or EGR 150)	
ENG 111	Expository Writing	3
ENG 114	Prof. Research and Reporting	3
	(or COM 120 or COM 231)	
MAT 121	Algebra/Trigonometry I (or MAT171/171A)	3
	Humanities/Fine Arts Elective	3
	Social/Behavioral Sciences Elective	3

Мај	or Red	quirements	Credits
CIS	110	Introduction to Computers	3
CIV	110	Statics/Strength of Materials	4
		(or MEC 250)	
CIV	111	Soils and Foundations	3
CIV	125	Civil/Surveying CAD	3
CIV	210	Engineering Materials	2
CIV	211	Hydraulics and Hydrology	3
CIV	212	Environmental Planning	3
CIV	215	Highway Technology	2
CIV	220	Basic Structural Concepts	2
CIV	221	Steel and Timber Design	3
CIV	222	Reinforced Concrete	3
CIV	230	Construction Estimating	3
CIV	240	Project Management	3
CIV	250	Civil Eng Tech Project	2
DFT	119	Basic CAD	2
EGR	115	Intro to Technology	3
SRV	110	Surveying I	4
SRV	111	Surveying II	4
Tota	l Cred	lit Hours Required	68

Computer-Aided Drafting Technology

This curriculum prepares individuals for employment as computer-aided drafting technicians. Graduates should be prepared for a wide variety of jobs that involve managing the hardware and software of a CAD system. Emphasis is placed on developing the student's ability to interface with computer hardware and software in a CAD office.

Students will use CAD workstations to create and manage two and three-dimensional models for a wide variety of fields. Students will link CAD documents to other applications such as a database, GIS maps, spreadsheets, word processing, or CNC machining systems. Course work includes the study of drafting, computer hardware and operating systems, two- and three- dimensional computer models, solid modeling, rendering, and engineering systems.

Graduates should qualify for CAD jobs in a wide variety of fields that use computer-aided drafting technology. Job titles include CAD technician, CAD manager, CAD drafter and detail drafter.

Please note: The CAD program also includes course work in creating architectural and landscape designs, with an emphasis on sustainable practices in these areas.

Computer-Aided Drafting Technology Associate in Applied Science Degree (A50150)

Courses requiring a grade of "C" or better: ACA, ARC, ART, CET, CIS, CST, DFT, EGR, GIS, LAR, MEC, SRV

General E	ducation Requirements	Credits
COM 231	Public Speaking (or ENG 114)	3
ENG 111	Expository Writing	3
MAT 121	Algebra/Trigonometry I	3
	(or MAT 171/171A)	
	Humanities/Fine Arts Elective	3
	Social/Behavioral Science Elective	3
Major Re	quirements	Credits
ACA 115	Success and Study Skills (or EGR 110)	1
ARC 111	Intro to Architecture Technology	3
ARC 112	Construction Materials and Methods	4
ARC 113	Residential Architecture Technology	3
ARC 230	Environmental Systems	4
CET 111	Computer Upgrade/Repair I	3
CIV 125	Civil/Surveying CAD	3
CST 211	Construction Surveying (or SRV 110)	3
DFT 151	CAD I	3
DFT 152	CAD II	3
DFT 153	CAD III	3
DFT 154	Intro to Solid Modeling	3

DFT 253	CAD Data Management	3
DFT 259	CAD Project	3
EGR 125	Application Software for Technicians	2
	(or CIS 110, or CIS 111)	
LAR 210	Prin of Landscape Arch	2
LAR 230	Prin of Exterior Planting	4
LAR 242	Planning and Environment	3
MEC 110	Introduction to CAD/CAM	2
	Elective*	1-3
Total Credi	t Hours Required	71-73

*Electives: ARC 131, ARC 210, ARC 240, ARC 261, ART 121, ART 171, CET 211, COE 111CA, DFT 170, DFT 189, GIS 111

Computer-Aided Drafting Technology Certificate (C50150L1)

The purpose of this certificate program is to provide basic computer-aided drafting (CAD) skills. Students learn CAD techniques for producing 2D and 3D technical drawings using different CAD software programs. Accurate and efficient use of the computer and software are emphasized.

Major Requirements		Credits	
DFT	151	CAD I	3
DFT	152	CAD II	3
DFT	153	CAD III	3
DFT	154	Intro to Solid Modeling	3
		(or CIV 125 or DFT 189)	
Tota	l Cred	lit Hours Required	12

Architectural Drafting Certificate (C50150L2)

The purpose of this certificate program is to provide basic architectural drafting skills. Students will produce residential construction drawings including floor plans, foundation plans, typical wall sections, elevations, and details following standard practices. Topics include drafting practices, 2D CAD software, traditional and sustainable building methods, and building materials.

Major Requirements		irements	Credits
ARC 1	11	Intro to Architecture Technology	3
ARC 1	12	Construction Materials and Methods	4
ARC 1	13	Residential Architecture Technology	3
DFT 1	51	CAD I	3
Total	Credit	Hours Required	13

Engineering and Applied Technology

Landscape Architecture Drafting Certificate (C50150L3)

The purpose of this certificate program is to provide basic drafting and planning skills for sustainable landscape design. Students will study regenerative strategies for landscape planning. They will also construct landscape architecture drawings using 2D and 3D CAD programs. Topics include drafting practices, 2D and 3D CAD software, sustainable practices for landscape design, and plant selection.

Major Requirements		Credit	
DFT	151	CAD I	3
LAR	210	Principles of Landscape Architecture	2
LAR	230	Principles of Exterior Planting	4
LAR	242	Planning and Environment	3
Tota	l Cred	(or CIV 125) it Hours Required	12

Computer Engineering Technology

The Computer Engineering Technology curriculum provides the skills required to install, service, and maintain computers, peripherals, networks, and microprocessor and computer controlled equipment. It includes training in both hardware and software, emphasizing operating systems concepts to provide a unified view of computer systems.

Course work includes mathematics, physics, electronics, digital circuits, and programming, with emphasis on the operation, use, and interfacing of memory and devices to the CPU. Additional topics may include communications, networks, operating systems, programming languages, Internet configuration and design, and industrial applications.

Graduates should qualify for employment opportunities in electronics technology, computer service, computer networks, server maintenance, programming, and other areas of knowledge in electronics and computer systems. Graduates may also qualify for certification in electronics, computers, or networks.

Computer Engineering Technology Associate in Applied Science Degree (A40160)

Courses requiring a grade of "C" or better: CET, COE, CSC, EGR, ELC, ELN, MAT, PHY

General Education Requirements		Credits
ENG 111	Expository Writing	3
ENG 114	Professional Research and Reporting	3
MAT 121	Algebra/Trigonometry I	3
	(or MAT 171/171A)**	

			105
MAT 1	122	Algebra/Trigonometry II	3
		(or MAT 172/172A)**	
		Humanities Elective	3
		Social/Behavioral Science Elective	3
Majo	r Requ	uirements	Credits
CET 1	111	Computer Upgrade/Repair I	3
CET 2	211	Computer Upgrade/Repair II	3
CET 2	212	Integrated Manufacturing Systems	2
CSC 1	143	Object-Oriented Programming	3
		(or CET 161)	
EGR 1	110	Introduction to Engineering	2
EGR 1	125	Application Software for Technology	2
ELC 1	117	Motors and Controls	4
ELC 1	128	Introduction to PLC	3
ELC 1	138	DC Circuit Analysis	3
ELC 1	139	AC Circuit Analysis	3
ELN 1	133	Digital Electronics	4
ELN 1	137	Electrical Devices & Circuits	5
ELN 1	154	Introduction to Data Communications	3
		(or ELN 234)	
ELN 2	232	Introduction to Microprocessors	4
ELN 2	237	Local Area Networks (1st minimester)	3
ELN 2	238	Advanced LANs (2nd minimester)	3
PHY 1	131	Physics-Mechanics (or PHY 151)**	4
		Elective*	3
Total	Credi	t Hours Required	75

*Electives: CET 125, CHM 135, ELC 133, ELC 213, ELC 228, ELC 233, ELN 133A, ELN 150, EGR 285, MAT 151/MAT 151A, MAT 271, COE 112/COE 115.

**Recommended courses for students seeking transfer for bachelor's degree in engineering technology.

Computer Engineering Technology Personal Computer and Network Maintenance Certificate (C40160L1)

This Training program provides the individual the theory and hands-on experience to become a PC specialist capable of performing maintenance and upgrades on all types of personal computer systems. This program combines the theory of computer and network operation with the practical skills necessary for efficient diagnosis and repair work in the field. The program provides the foundation for further study of networks and new computer-based products.

uirements	Credits
Computer Upgrade/Repair I	3
Voice and Data Cabling	3
Computer Upgrade/Repair II	3
Local Area Networks	3
ELN 238 Advanced LAN Total Credit Hours Required	
	uirements Computer Upgrade/Repair I Voice and Data Cabling Computer Upgrade/Repair II Local Area Networks Advanced LAN t Hours Required

Computer-Integrated Machining Technology

The Computer-Integrated Machining Technology curriculum is designed to develop skills in the theory and safe use of hand tools, power machinery, computerized equipment and sophisticated precision inspection instruments.

Students will learn to interpret blueprints, set up manual and CNC machines, perform basic and advanced machining operations and make decisions to ensure that work quality is maintained.

Employment opportunities for machining technicians exist in manufacturing industries, public institutions, governmental agencies and in a wide range of specialty machining job shops.

Computer-Integrated Machining Technology Associate in Applied Science Degree (A50210)

Courses requiring a grade of "C" or better: ACA, BPR, MAC, MEC, WLD

General Education Requirements		Credits
ACA 115	Success and Study Skills	1
COM 231	Public Speaking (or COM 120)	3
ENG 110	Freshman Composition (or ENG 111)	3
MAT 121	Algebra/Trigonometry (or PHY 121)	3
SOC 215	Group Processes	3
	Humanities Elective	3

Major Req	Credits	
BPR 111	Blueprint Reading	2
BPR 121	Blueprint Reading-Mech	2
MAC 111	Machining Technology I	6
MAC 112	Machining Technology II	6
MAC 121	Introduction to CNC	2
MAC 122	CNC Turning	2
MAC 124	CNC Milling	2
MAC 151	Machining Calculations	2
MAC 152	Advanced Machining Calculations	2
MAC 222	Advanced CNC Turning	2
MAC 224	Advanced CNC Milling	2
MAC 226	CNC EDM Machining	2
MAC 241	Jigs and Fixtures I	4
MAC 245	Mold Construction I	4
MAC 247	Production Tooling	2
MEC 231	Comp-Aided Manufacturing I	3
MEC 232	Comp-Aided Manufacturing III	3
Total Cred	Electives* it Hours Required	2-6 66-70

*Electives: WLD 112, MAC 234, MAC 228, MAC 231

Computer-Integrated Machining Technology -Diploma (D50210)

Courses requiring a grade of "C" or better: ACA, BPR, MAC

General E	Credits	
ACA 115	Success and Study Skills	1
COM 231	Public Speaking	3
ENG 110	Freshman Composition (or ENG 111)	3
SOC 215	Group Processes	3
Major Red	quirements	Credits
BPR 111	Blueprint Reading	2
BPR 121	Blueprint Reading-Mech	2
MAC 111	Machining Technology	6
MAC 112	Machining Technology II	6
MAC 121	Introduction to CNC	2
MAC 122	CNC Turning	2
MAC 124	CNC Milling	2
MAC 151	Machining Calculations	2
MAC 152	Advanced Machining Calculations	2
Total Cred	lit Hours Required	36

Computer-Integrated Machining Technology Basic Certificate (C50210L1)

This certificate program is designed to develop fundamental skills in the operation of machine tools including drilling, turning, milling and grinding. Training in basic measuring, layout, and blueprint reading is also provided.

Completers will be prepared for employment as entrylevel machine operators/machinist apprentices in area manufacturing firms. Courses in this program can be transferred directly into the Computer-Integrated Machining Technology Associate Degree curriculum.

Major Requirements		Credits
BPR 111	Blueprint Reading	2
MAC 121	Introduction to CNC	2
MAC 124	CNC Milling	2
MAC 111	Machining Technology	6
Total Credit Hours Required		12

Computer-Integrated Machining Technology CNC Programming Certificate (C50210L2)

The purpose of this certificate program is to introduce basic CAD/CAM programming skills to individuals who want to learn computer numerical control (CNC) machining. Students will learn 2D and 3D programming as well as 2 axis and 3 axis machining. The student will make the parts they design.

Major Requirements		Credits
BPR 111	Blueprint Reading	2
MAC 121	Introduction to CNC	2
MAC 151	Machining Calculations	2
MAC 122	CNC Turning	2
MAC 124	CNC Milling	2
MEC 231	CAMI	3
Total Credit	Hours Required	13

Computer-Integrated Machining Technology Advanced CNC Programming Certificate (C50210L3)

The purpose of this certificate program is to introduce advanced CAD/CAM programming skills to individuals who have completed the courses in the CNC Programming Certificate or equivalent. Students will learn 4 axis and 5 axis programming and machining. The students will make the parts they design.

Major Req	Credits	
MAC 228	Advanced CNC Processes	3
MAC 231	CAM: CNC Turning	3
MAC 234	Adv Multi-Axis Machining	6
Total Cred	12	

Computer-Integrated Machining Technology Fundamentals of Metals Certificate (C50210L4)

The purpose of this certificate program is to introduce dual enrolled High School students to metals manufacturing.

Major Requirements		Credits
BPR 111	Blueprint Reading	2
BPR 121	Blueprint Reading-Mech	2
MAC 111	Machining Technology I	6
MAC 112	Machining Technology II	6
Total Credit Hours Required		16

Construction Management Technology

This curriculum is designed to prepare individuals for careers in the construction management field. Such positions may include project manager, superintendent, estimator, or foreman.

Course work includes safety, planning, scheduling, cost control, productivity, human relations, estimating, and building codes. Students will also gain proficiency in specific construction-related skills.

Graduates should qualify for entry-level positions in the field of construction management.

Construction Management Technology Associate in Applied Science – Evening Schedule (A35190)

Courses requiring a grade of "C" or better: ACA, ARC, BPR, CIS, CIV, CMT, COE, SPA

General Education Requirements			Credit
ACA	115	Success and Study Skills (or EGR 110)	1
ENG	111	Expository Writing (or ENG 110)	3
ENG	114	Professional Research and Reporting	3
		(or COM 120, or COM 231)	
MAT	115	Mathematical Models**	3
		(or MAT 121, or PHY 121)	
		Humanities/Fine Arts Elective	3
		Social/Behavioral Sciences Elective	3
Maj	or Req	uirements	Credits
ACC	120	Principles of Accounting I	4
ARC	112	Construction Materials and Methods	4
BPR	130	Blueprint Reading/Construction	2
CAR	115	Residential Planning/Estimating	3
CIS	111	Introduction to Computers	2
		(or CIS 110, or EGR 125)	
CIV	230	Construction Estimating	3
CMT	210	Professional Construction Supervision	3
CMT	212	Total Safety Performance	3
1	\cap	10	
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CMT 214	Planning and Scheduling	3
CMT 216	Costs and Productivity	3
CMT 218	Human Relations Issues	3
COE 111	Co-op Work Experience	1
SPA 120	Spanish for the Workplace*	3
SST 140	Green Building Concepts	2
	Electives	14
Estimation/Code Elective Total Credit Hours Required		
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*Students who meet the requirements may substitute SPA 111 for SPA 120 with department chair approval.

**Students who meet the requirements may substitute MAT 171/171A or MAT 151/151A for the math requirement.

Electives:

At least 14 semester hours credit from one of the following areas of specialization (unless approved by the department chair, students can only select courses from one specialty area):

- AHR 112, AHR 211, ALT 250, ELC 132, WLD 113
- CAR 111, CAR 112, CAR 113
- ALT 220, ALT 240, ELC 111, ELC 113, ELC 233
- ARC 111, ARC 261, CIV 125, DFT 151, DFT 152

Estimation/Code Electives:

Select one from: AHR 210, CAR 114, ARC 131, ELC 118

Except for Electrical/Electronics, Technical and Estimation/Code Electives may be completed in either the day or evening. Currently, courses with the CMT prefix are scheduled as evening classes.

Additional electives may be accepted from Industrial Construction Technology, Industrial Systems Technology, Masonry, and Plumbing programs taken at other institutions in the North Carolina Community College System.

Construction Management Technology

Certificate - Evening Schedule (C35190L1)

The Construction Management Technology certificate is designed for the skilled tradesman who is experienced in the construction industry and has the desire to advance to construction management. Recent high school graduates will also be accepted.

Major Requirements		Credits
BPR 130	Blueprint Reading/Construction	2
CMT 210	Professional Construction Supervision	3
CMT 212	Total Safety Performance	3
CMT 214	Planning and Scheduling	3
CMT 216	Costs and Productivity	3
CMT 218	Human Relations Issues	3
Total Cred	it Hours Required	17

Electrical/Electronics Technology

The Electrical/Electronics Technology curriculum is designed to provide training for persons interested in the installation and maintenance of electrical/electronic systems found in residential, commercial and industrial facilities.

Training, most of which is hands-on, includes such topics as AC/DC theory, basic wiring practices, digital electronics, programmable logic controllers, industrial motor controls, the National Electric Code, and other subjects as local needs require.

Graduates should qualify for a variety of jobs in the electrical/electronics field as an on-the-job trainee or apprentice, assisting in the layout, installation, and maintenance of electrical/electronic systems.

Electrical/Electronics Technology Associate in Applied Science Degree (A35220)

Courses requiring a grade of "C" or better: COE, EGR, ELC. ELN

General E	General Education Requirements	
ENG 111	Expository Writing (or ENG 110)	3
ENG 114	Prof Research and Report Writing	3
		(or
COM 120, o	or COM 231)	
MAT 121	Algebra/Trigonometry	3
MAT 122	Algebra/Trigonometry II	3
	(or Natural Science/Math Elective)*	
	Humanities Elective	3
	Social/Behavioral Science Elective	3
Major Rec	quirements	Credits

EGR	110	Introduction to Engineering Tech.	2
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EGR	125	Application Software for Tech	2
ELC	112AB	DC/AC Electricity (or ELC 138)	3
ELC	112BB	DC/AC Electricity (or ELC 139)	2
ELC	113	Basic Wiring I	4
ELC	115	Industrial Wiring	4
ELC	117	Motors and Controls	4
ELC	118	National Electrical Code	2
ELC	128	Introduction to PLC	3
ELC	213	Instrumentation	4
ELC	228	PLC Applications	4
ELN	133	Digital Electronics	4
ELN	137	Electronic Devices & Circuits	5
ELN	152	Fabrication Techniques	2
HYD	110	Hydraulics/Pneumatics	3
PHY	131	Physics-Mechanics	4
		Technical Elective*	2
Tota	Total Credit Hours Required 72		

*A minimum of two hours of Technical Elective hours to be selected from: ELC 229, ELC 233, COE 112, ALT 120, SST 120

Electrical/Electronics Technology Diploma (D35220)

Courses requiring a grade of "C" or better: EGR, ELC, ELN

Gen	eral Ed	ucation Requirements	Credits
COM	120	Intro to Interpersonal Communications	3
		(or ENG 110 or ENG 111)	
MAT	101	Applied Mathematics I (or MAT 121*)	3
Maj	or Requ	irements	Credits
EGR	125	Application Software for Tech	2
ELC	113	Basic Wiring I	4
ELC	115	Industrial Wiring	4
ELC	117	Motors and Controls	4
ELC	118	National Electrical Code	2
ELC	128	Introduction to PLC	3
ELC	213	Instrumentation	4
ELC	112AB	DC/AC Electricity (or ELC 138)	3
ELC	112BB	DC/AC Electricity (or ELC 139)	2
ELN	152	Fabrication Techniques	2
Tota	I Credit	t Hours Required	36

Electrical/Electronics Technology Electrical Wiring Certificate (C35220L1)

The Electrical Wiring Certificate program teaches the student the concepts and skills needed to install and repair residential, commercial, and industrial wiring systems. Preparation for State and local licenses are achieved through laboratory and classroom studies that focus on the National Electrical Code.

Major RequirementsCreditELC 112DC/AC Electricity5ELC 113Basic Wiring I4ELC 115Industrial Wiring4Total Credit Hours Required13

Electrical/Electronics Technology Instrumentation and Control Certificate (C35220L2)

The Instrumentation and Control Certificate program teaches the student the concepts and skills needed to program, install, calibrate and service systems that acquire and record industrial and environmental data.

Major Requirements		Credit	
ELC	112	DC/AC Electricity	5
ELC	128	Introduction to PLC	3
ELC	213	Instrumentation	4
Total Credit Hours Required		12	

Electrical/Electronics Technology Building Automation & Controls (C35220L3)

This advanced certificate is intended to help prepare students to install and maintain automated energy and environmental control systems.

Major Requirements		Credits	
ELC	117	Motors and Controls	4
ELC	128	Intro to PLCs	3
ELC	213	Instrumentation	4
ELC	233	Energy Management	3
Total Credit Hours			14

Electronics Engineering Technology

The Electronics Engineering Technology curriculum

110

prepares individuals to become technicians who design, build, install, test, troubleshoot, repair, and modify developmental and production electronic components, equipment, and systems such as industrial/ computer controls, manufacturing systems, communication systems, and power electronic systems.

A broad-based core of courses, including basic electricity, solid-state fundamentals, digital concepts, and microprocessors, ensures the student will develop the skills necessary to perform entry-level tasks. Emphasis is placed on developing the student's ability to analyze and troubleshoot electronic systems.

Graduates should qualify for employment as engineering assistants or electronic technicians with job titles such as electronics engineering technician, field service technician, maintenance technician, electronic tester, electronic systems integrator, bench technician, and production control technician.

Electronics Engineering Technology Associate in Applied Science Degree (A40200)

Courses requiring a grade of "C" or better: COE, ELC, and ELN

General Education Requirements		Credits	
ENG	111	Expository Writing	3
ENG	114	Prof. Research and Report Writing	3
MAT	121	Algebra/Trigonometry I	3
		(or MAT171/171A**)	3
MAT	122	Algebra/Trigonometry II	3
		(or MAT172/172A**)	
		Humanities Elective	3
		Social/Behavioral Science Elective	3
Maj	or Requ	uirements	Credits
CET	111	Computer Upgrade/Repair I	3
DFT	151	CAD I (or ELN 150)	3
EGR	110	Introduction to Engineering Tech.	2
EGR	125	Application Software for Technicians	2
ELC	117	Motors and Controls	4
ELC	128	Introduction to PLC	3
ELC	138	DC Circuit Analysis	3
ELC	139	AC Circuit Analysis	3
ELN	133	Digital Electronics	4
ELN	137	Electronic Devices & Circuits	5
ELN	152	Fabrication Techniques	2
ELN	232	Introduction to Microprocessors	4
ELN	234	Communications Systems	4
ELN	133A	Digital Electronics Lab	1

Total Credit Hours Required		71
	Electives*	6
PHY 131	Physics-Mechanics (or PHY 151**)	4

*Electives: CET 125, CET 211, CET 212, CHM 135, EGR 285, ELC 133, ELC 213, ELC 228, ELC 229, ELC 233, ELN 237, MAT 151/151A, MAT 271, PHY 152, COE 112/115.

**Recommended courses for students seeking transfer for bachelor's degree in engineering technology.

Heavy Equipment and Transport Technology (Diesel)

The Heavy Equipment and Transport Technology curriculum is designed to prepare individuals with the knowledge and skills needed to service, troubleshoot, and repair medium and heavy duty vehicles.

The course work includes the purpose, construction features, and principles of operation of medium and heavy duty vehicles.

Graduates of the curriculum should qualify for entry level employment opportunities in a dealership, fleet shop, or independent garage as a technician. Graduates that have met the work experience requirement should also be prepared to take the ASE certification exam.

Heavy Equipment and Transport Technology Diploma (D60240)

Courses requiring a grade of "C" or better: ACA, HET, COE

General E	ducation Requirements	Credits
ACA 115	Success and Study Skills	1
ENG 102	Applied Communications II*	3
	(or ENG 110, or ENG 111)	
PHY 121	Applied Physics I (or MAT 121)	4
Major Red	quirements	Credits
CIS 110	Introduction to Computers	3
HET 110	Engines	6
HET 112	Diesel Electrical System	5
HET 115	Electronic Engines	3
HET 116	A/C/Diesel Equipment	2
HET 118	Mechanical Orientation	2
HET 119	Mechanical Transmissions	3
HET 125	Preventative Maintenance	2
HET 231	Medium-Heavy Duty Brake Systems	2
HET 233	Suspension and Steering	4
HYD 112	Hydraulics Medium/Heavy Duty	2
MEC 111	Machine Processes I	3

WLD 112	Basic Welding Processes	2
Total Credit	Hours Required	47

* Students intending to complete an associate's degree should take either ENG 110 or ENG 111.

Heavy Equipment and Transport Technology Associate in Applied Science -Evening Associate Degree Completion (A60240) (Evening Only Program)

To be taken after completion of Diploma (day) program

General Education Requirements	Credits
Communications Elective*	3
Humanities/Fine Arts Elective	3
Social/Behavioral Science Elective	3

Major Requirements			Credits
COE	112	Co-op Work Experience I	2
COE	122	Co-op Work Experience II	2
HET	114A	Powertrains	3
HET	114B	Powertrains	2
HET	128	Medium/Heavy Duty Tune-Up	2
Tota	I Credi	it Hours Required	67

*Communications Elective: COM 120, COM 231, or ENG114

Heavy Equipment and Transport Technology Certificate (C60240L1)

Credits

Major Requirements

HET	110	Engines	6
HET	112	Diesel Electrical Systems	5
HET	118	Mechanical Orientation	2
HET	125	Preventative Maintenance	2
HET	231	Med/Heavy Brake Systems	2
		(or HET 119)	
Tota	Total Credit Hours Required		

Industrial Systems Technology

The Industrial Systems Technology curriculum is designed to prepare or upgrade individuals to safely service, maintain, repair, or install equipment. Instruction includes theory and skill training needed for inspecting, testing, troubleshooting, and diagnosing industrial systems.

Students will learn multi-craft technical skills in blueprint reading, mechanical systems maintenance, electricity, hydraulics/pneumatics, welding, machining or fabrication, and includes various diagnostic and repair procedures. Practical application in these industrial systems will be emphasized and additional advanced course work may be offered.

Upon completion of this curriculum, graduates should be able to individually, or with a team, safely install, inspect, diagnose, repair, and maintain industrial process and support equipment. Students will also be encouraged to develop their skills as life-long learners.

Industrial Systems Technology Associate in Applied Science Degree (A50240)

Courses requiring a grade of "C" or better: AHR, ATR, BPR, COE, CMT, DFT, EGR, ELC, HET, HYD, ISC, MAC, MEC, MNT, WAT, and WLD

General Ed	ucation Requirements	Credits
ACA 115	Success & Study Skills (or EGR 110 or EGR 150)	1
COM 231	Public Speaking (or COM 120, or ENG 114)	3
ENG 110	Freshman Composition (or ENG 111)	3
PHY 121	Applied Physics I	4
	(or PHY 110/110A, or CHM 121/121A or	
	MAT 121 or BIO 140/140A)	
	Humanities/Fine Arts Elective	3
	Social/Behavioral Science Elective	3
Major Requ	uirements	Credits
BPR 111	Blueprint Reading (BPR 130)	2
EGR 115	Intro to Technology	3
EGR 125	App. Software for Technicians (or CIS 110)	2
ELC 111	Introduction to Electricity	3
ELC 117	Motors and Controls	4
ELC 128	Introduction to PLC	3
ELC 213	Instrumentation	4
CMT 210	Professional Construction Supervision	3
HYD 110	Hydraulics and Pneumatics	3
ISC 121	Environmental Health and Safety	3
MEC 111	Machining Processing I (or MAC 111)	3
MNT 110	Intro to Maintenance Procedures	2
MNT 120	Industrial Wiring Methods (or ELC 113)	2
WLD 112	Basic Welding Processes	2

Select one subject area:

Industrial Maintenance Option Requirements

AHR IIZ Heating lechnology	AHR 112	Heating Technology	
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AHR 170	Heating Lab	1
ATR 282	Robotics and CIM (or ATR 112)	4
BPR 121	Blueprint Reading: Mechanical	2
MEC 161	Manufacturing Processes 1	3
MNT 111	Maintenance Practices	3
Total Credi	Electives t Hours Required	*2 75
	•	

*Electives: COE 111, COE 121, HET 118, HET 125, MAC 114, MEC 180, WLD 212

BioGas Option Requirements:

Total	Credit	Hours Required	75
WLD	145	Thermoplastic Welding	2
WAT	161	Solid Waste Management	2
ISC	255	Engineering Economy	3
HET	110	Diesel Engines	6
ALT	131A	Biogas Operations II Lab (or COE 121)	1
ALT	131	Biogas Operations II	2
ALT	130A	Biogas Operations I Lab (or COE 111)	1
ALT	130	Biogas Operations I	2

Industrial Systems Technology Diploma (D50240)

Courses requiring a grade of "C" or better: ATR, BPR, EGR, ELC, HYD, ISC, MAC, MEC, MNT, WLD

General Education Requirements		
ENG 110	Freshman Composition	3
	(or ENG 111 or COM 120)	
PHY 121	Applied Physics I	4
	(or PHY 110/110A, CHM 121/121A or MAT 121)
Major Req	uirements	Credits

-	-		
ATR	282	Robotics and CIM (or ATR 112)	4
BPR	111	Blueprint Reading	2
BPR	121	Blueprint Reading: Mechanical	2
EGR	125	App. Software for Technicians (or CIS 110)	2
elc	111	Introduction to Electricity	3
elc	117	Motors and Controls	4
elc	128	Introduction to PLC	3
HYD	110	Hydraulics and Pneumatics	3
ISC	121	Environmental Health & Safety	3
MEC	111	Machining Processing I (or MAC 111)	3
MEC	161	Manufacturing Processes 1	3
MNT	110	Intro to Maintenance Procedures	2
WLD	112	Basic Welding Processes	2
Tota	l Credit	t Hours Required	43

Industrial Systems Technology Basic Maintenance Certificate (C50240L1)

The Industrial Systems Basic Maintenance program abtech.edu

teaches the student the concepts and skills needed to service and repair various types of mechanical equipment.

Major Requirements			Credits
BPR	111	Blueprint Reading	2
HYD	110	Hydraulics and Pneumatics	3
ISC	121	Environmental Health & Safety	3
ELC	111	Intro to Electricity	3
MNT	110	Intro to Maintenance Procedures	2
WLD Tota	112 Cred	Basic Welding Processes it Hours Required	2 15

Industrial Systems Technology Metal Fabrication Certificate (C50240L2)

The Industrial Systems Metal Fabrication program teaches the student the concepts and skills needed to fabricate simple fixtures and equipment.

Major Requirements			Credit
BPR	111	Blueprint Reading	2
ISC	121	Environmental Health & Safety	3
MEC	111	Machine Processes I (or MAC 111)	3
WLD	112	Basic Welding Processes	2
WLD Total	212 Cred	Inert Gas Welding it Hours Required	2 12

Mechanical Engineering Technology

The Mechanical Engineering Technology curriculum prepares graduates for employment as mechanical technicians. This program also maximizes transfer credit to certain four-year university engineering and/ or industrial programs. Typical assignments would include assisting in the design, development, testing and repair of mechanical equipment. Emphasis is placed on the integration of theory and mechanical principles.

Coursework includes applied mechanics, manufacturing methods and processes, computer usage, computer-aided drafting, mathematics, physics, and oral and written communications. The courses will stress critical thinking, planning, and problem solving.

Graduates of the curriculum will find employment opportunities in the diversified branches of the mechanical field. Mechanical engineering technicians are employed in many types of manufacturing, fabrication, research and development, and service industries.

Mechanical Engineering Technology Associate in Applied Science Degree (A40320)

Courses requiring a grade of "C" or better: ACA, ATR,

Engineering and Applied Technology

CIV, COE, DFT, EGR, ELC, HYD, ISC, MAT, MEC, PLA, WLD

Genera	Education Requirements	Credits
COM 23	1 Public Speaking	3
ENG 110	D Freshman Composition* (or ENG 111)	3
MAT 12	1 Algebra/Trigonometry I*	3
	(or MAT 161/161A, MAT 171/171A, MAT 175)	
	Humanities/Fine Arts Elective	3
	Social/Behavioral Elective	3
Major F	lequirements	Credits
ACA 11	5 Success and Study Skills	1
	(or EGR 110 or EGR 150)	
ATR 282	2 Robotics and CIM (or ATR 112)	4
CIV 110) Statics and Strength of Materials	4
DFT 15	1 CAD I (or DFT 170)	3
DFT 154	4 Introduction to Solid Modeling	3
EGR 11	5 Intro to Technology	3
EGR 12	5 Applied Software for Technicians	2
ELC 11	1 Introduction to Electricity	3
ELC 213	3 Instrumentation	4
HYD 11) Hydraulics/Pneumatics	3
ISC 12	1 Environmental Health & Safety	3
MEC 11	Machine Processes I (or MAC 111)	3
MEC 15	5 Env Benign Manufacturing	3
MEC 16	Manufacturing Process I	3
MEC 18	D Engineering Materials	3
MEC 18	I Introduction to CIM	2
MEC 26	D Fundamentals of Machine Design	3
PLA 110	D Introduction to Plastics	2
PLA 120	D Injection Molding	3
	Elective Group 1*	3
	Elective Group 2**	2
Total Cr	edit Hours Required	75
*MEC E	lective Group 1 – Select one course from:	
EGR 13	0 Engineering Cost Control	3
ELC 12	3 Introduction to PLC	3
ISC 132	2 Mfg Quality Control	3
ISC 27	9 Auditing for cGMP	3
**Elect	ive Group 2	
COE 112	2 Co-Op Work Experience I	2

EGR 285

Design Project

			113
BPR	111	Blueprint Reading	2
DFT	111	Technical Drafting I	2
ISC	278	cGMP Quality Systems	2
ISC	280	Validation Fundamentals	2

Students transferring to a 4-year institution are strongly encouraged to take the following four courses in addition to those listed above: ENG 114, CHM 135 or CHM 151, PHY 131 or PHY 151, MAT 151/151A.

Mechanical Engineering Technology Plastic Injection Molding Certificate (C40320L2)

The Mechanical Engineering Technology Plastic Injection Molding Certificate program is designed to develop the fundamental knowledge of plastics and plastic injection molding. This certificate prepares students for employment opportunities in the plastics industry.

Major Requirements			Credits
ATR	282	Robotics and CIM (or ATR 112)	4
BPR	111	Blueprint Reading	2
ISC	121	Environmental Health and Safety	3
PLA	110	Introduction to Plastics	2
PLA Tota	120 I Cred	Injection Molding	3 14
		in nouro noquirou	14

Mechanical Engineering Technology Mechanical Drafting Certificate (C40320L3)

The Mechanical Engineering Technology Mechanical Drafting Certificate program is designed to develop fundamental skills in CAD, engineering drafting, threedimensional solid modeling and design software, engineering materials, and the different machining and manufacturing processes.

Major Requirements		Credits	
DFT	111	Technical Drafting I	2
DFT	151	CAD I (or DFT 170)	3
DFT	154	Introduction to Solid Modeling	3
MEC	111	Machine Processes I (or MAC 111)	3
MEC	161	Manufacturing Processes I	3
MEC	180	Engineering Materials	3
Total	Credi	t Hours Required	17

Mechanical Engineering Technology Quality and cGMP Certificate (C40320L4)

The Mechanical Engineering Technology Quality and

114

cGMP Certificate program is designed to develop fundamental skills in Quality Systems, cGMP and FDA compliant Validation. This certificate prepares students for employment opportunities in regulated manufacturing industries.

Major Requirements			Credits
ISC	121	Environmental Health and Safety	3
ISC	132	Manufacturing Quality Control	3
ISC	278	cGMP Quality Systems	2
ISC	279	Auditing for cGMP	3
ISC	280	Validation Fundamentals	2
Total Credit Hours Required		13	

Surveying Technology

The Surveying Technology curriculum provides training for technicians in the many areas of surveying. Surveyors are involved in land surveying, route surveying, construction surveying, photogrammetry, mapping, global positioning systems, geographical information systems, and other areas of property description and measurements.

Course work includes the communication and computational skills required for boundary, construction, route, and control surveying, photogrammetry, topography, drainage, surveying law, and subdivision design, with emphasis upon applications of electronic data collection and related software including CAD.

Graduates should qualify for jobs as survey party chief, instrument person, surveying technician, highway surveyor, mapper, GPS technician, and CAD operator. Graduates will be prepared to pursue the requirements necessary to become a Professional Land Surveyor in North Carolina.

Surveying Technology Associate in Applied Science Degree (A40380)

Courses requiring a grade of "C" or better: ACA, CIS, CIV, DFT, EGR, GIS, SRV

Gen	General Education Requirements		
ACA	115	Success and Study Skills	1
		(or EGR 110 or EGR 150)	
ENG	111	Expository Writing	3
ENG	114	Prof. Research and Reporting	3
		(or COM 120, or COM 231)	
MAT	121	Algebra/Trigonometry I	3
		(or MAT 171/171A)	
		Humanities/Fine Arts Elective	3
		Social/Behavioral Sciences Elective	3
Major Requirements			Credits
CIS	110	Introduction to Computers	3
CIV	125	Civil/Surveying CAD	3

CST	211	Construction Surveying	3
DFT	119	Basic CAD	2
EGR	115	Intro to Technology	3
GIS	112	Introduction to GPS	3
SRV	110	Surveying I	4
SRV	111	Surveying II	4
SRV	210	Surveying III	4
SRV	240	Topo/Site Surveying	4

Select one subject area:

Geos	spatial	Technology Requirements	Credits
CIS	115	Intro to Programming and Logic	3
DBA	110	Database Concepts	3
GIS	111	Introduction to GIS	3
GIS	120	Introduction to Geodesy	3
GIS	121	Georeferencing and Mapping	3
GIS	215	GIS Data Models	3
GIS	232	Spatial Databases	3
GIS	240	Air Photo Interpretation	3
Tota	l Credit	t Hours Required	73

Land	l Surve	ey Requirements	Credits
CIV	110	Statics/Strength of Materials	4
CIV	111	Soils and Foundations	3
CIV	211	Hydraulics and Hydrology	3
CIV	215	Highway Technology	2
SRV	220	Surveying Law	3
SRV	230	Subdivision Planning	3
SRV	250	Advanced Surveying	4
SRV	260	Field & Office Practices	2
Tota	l Credi	t Hours Required	73

Surveying Technology Surveying Fundamentals Certificate (C40380L1)

Major Requirements			Credits
CST	211	Construction Surveying	3
EGR	115	Intro to Technology	3
MAT	121	Algebra/Trigonometry I	3
SRV	110	Surveying I	4
SRV	111	Surveying II	4
Tota	Cred	lit Hours Required	17

Surveying Technology Civil/Surveying CAD Certificate (C40380L2)

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Major Requirements
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Engineering and Applied Technology

iota	i crean	t Hours Required	13
Tata		Laura Dominad	10
SRV	260	Field & Office Practices	2
EGR	115	Intro to Technology	3
DFT	119	Basic CAD	2
CIV	125	Civil/Surveying CAD	3
CIS	110	Introduction to Computers	3

Sustainability Technologies

The Sustainability Technologies curriculum is designed to prepare individuals for employment in environmental, construction, alternative energy, manufacturing, or related industries, where key emphasis is placed on energy production and waste reduction along with sustainable technologies.

Course work may include alternative energy, environmental engineering technology, sustainable manufacturing, and green building technology. Additional topics may include sustainability, energy management, waste reduction, renewable energy, site assessment, and environmental responsibility.

Graduates should qualify for positions within the alternative energy, construction, environmental, and/or manufacturing industries. Employment opportunities exist in both the government and private industry sectors where graduates may function as manufacturing technicians, sustainability consultants, environmental technicians, or green building supervisors.

Sustainability Technologies Associates in Applied Science Technology (A40370)

Courses requiring a grade of "C" or better: ALT, ARC, ENV, SST

General E	ducation Requirements	Credits
ENG 111	Expository Writing	3
ENG 114	Prof. Research and Reporting	3
MAT 121	Algebra/Trigonometry I	3
PHY 131	Physics - Mechanics(or PHY 151)	4
	Humanities/Fine Arts Elective	3
	Social/Behavioral Sciences Elective	3
Major Red	Credits	
AHR 211	Residential System Design	3
	(or ARC 230)	
ALT 120	Renewable Energy Tech 2	3
ALT 220	Photovoltaic Sys Tech	3
ARC 111	Intro to Arch Technology	3
ARC 112	Construction Materials & Methods	4
ARC 131	Building Codes	3
ARC 210	Intro. to Sustainable Design	2

ARC	261	Solar Technology	2
CIV	110	Statics/Strength of Materials	4
DFT	170	Engineering Graphics 2	3
EGR	110	Intro to Engineering Tech (or EGR 150)	2
EGR	125	App. Software for Tech.	2
ELC	111	Intro to Electricity	3
ENV	110A	Environmental Science Lab	1
ENV	110	Environmental Science	3
SST	110	Intro to Sustainability	3
SST	120	Energy Use Analysis	3
SST	130AB	Modeling Renewable Energy	2
SST	130BB	Modeling Renewable Energy	1
SST	140	Green Building Concepts	2
SST	210	Issues in Sustainability	3
Tota	l Credit	t Hours Required	74
	ARC CIV DFT EGR EGR ENV ENV SST SST SST SST SST SST Tota	ARC 261 CIV 110 DFT 170 EGR 110 EGR 125 ELC 111 ENV 110A ENV 110 SST 120 SST 120 SST 130AB SST 130BB SST 140 SST 210 Total Credit	ARC261Solar TechnologyCIV110Statics/Strength of MaterialsDFT170Engineering Graphics 2EGR110Intro to Engineering Tech (or EGR 150)EGR125App. Software for Tech.ELC111Intro to ElectricityENV110AEnvironmental Science LabENV110Intro to SustainabilitySST120Energy Use AnalysisSST130BBModeling Renewable EnergySST140Green Building ConceptsSST210Issues in SustainabilityTotal Credit Hours RequiredItom

Welding Technology

The Welding Technology curriculum provides students with a sound understanding of the science, technology, and applications essential for successful employment in the welding and metal industry. Instruction includes consumable and non-consumable electrode welding and cutting processes.

Courses in math, blueprint reading, metallurgy, welding inspection, and destructive and nondestructive testing provides the student with industry-standard skills developed through classroom training and practical application.

Successful graduates of the Welding Technology curriculum may be employed as entry level technicians in welding and metalworking industries. Career opportunities also exist in construction, manufacturing, fabrication, sales, quality control, supervision, and welding-related self-employment.

Welding Technology Associate in Applied Science Degree (A50420)

Courses requiring a grade of "C" or better: ACA, WLD

Gonoral F	ducation Requirements	Cradite
Ucheral L	uucation nequirements	orcuita
ACA 115	Success and Study Skills	1
ENG 110	Freshman Composition (or ENG 111)	3
MAT 121	Algebra/Trigonometry I (or PHY 121)	3
Comn	nunications Elective*	3
Huma	anities Elective	3
Socia	I/ Behavioral Science Elective	3
Major Red	quirements	Credits
DFT 161	Pattern Design and Layout	2
	(or PCS 110 or PCJ 262)	

MEC 110	Introduction to CAD/CAM	2				
MEC 111	Machine Processes I	3				
SPA 120	Spanish for the Workplace	3				
	(or PCS 112)					
WLD 110	Cutting Processes	2				
WLD 115	SMAW (Stick) Plate	5				
WLD 116	SMAW (Stick) Plate/Pipe	4				
WLD 121	GMAW (MIG) Plate	4				
WLD 122	GMAW (MIG) Plate/Pipe	3				
WLD 131	GTAW (TIG) Plate	4				
WLD 132	GTAW (TIG) Plate/Pipe	3				
WLD 141	Symbols & Specifications	3				
WLD 143	Welding Metallurgy	2				
WLD 151	Fabrication I	4				
WLD 215	SMAW (Stick) Pipe	4				
WLD 231	GTAW (TIG) Pipe	3				
WLD 251	Fabrication II	3				
WLD 261	Certification Practices	2				
WLD 262	Inspection & Testing	3				
Total Cred	Total Credit Hours Required 75					

*Communications Elective: COM 120, COM 231, ENG 114

Welding Technology - Diploma (D50420)

Courses requiring a grade of "C" or better: ACA, WLD

General Ed	General Education Requirements				
ACA 115	Success and Study Skills	1			
ENG 110	Freshman Composition (or ENG 102)	3			
MAT 121	Algebra/Trigonometry I (or PHY 122)	3			
Major Requ	uirements	Credits			
MEC 111	Machine Processes	3			
WLD 110	Cutting Processes	2			
WLD 115	SMAW (Stick) Plate	5			
WLD 116	SMAW (Stick) Plate/Pipe	4			
WLD 121	GMAW (MIG) FCAW (Flux) Plate	4			
WLD 131	GTAW (TIG) Pipe	4			
WLD 141	Symbols and Specifications	3			
WLD 122	GMAW (MIG) Plate/Pipe	3			
WLD 143	Welding Metallurgy	2			
WLD 262	Inspection and Testing	3			
Total Credi	t Hours Required	40			

Welding Technology Basic Welding Certificate I (C50420L2)

The following courses give students a basic under-

standing of the principles, and skills of modern day welding. Upon completion, students should be able to apply basic welding techniques in both SMAW and GMAW welding.

Major Rec	Credits	
WLD 110	Cutting Processes	2
WLD 115	SMAW (Stick) Plate	5
WLD 121	GMAW/FCAW/Plate	4
WLD 122	GMAW (MIG) Plate/Pipe (or WLD 131)	3
Total Cred	lit Hours Required	14

Welding Technology Ornamental Ironwork Certificate (C50420L4) - Day Schedule

The following courses give students an understanding of the principles, methods, techniques, and skill for working in the ornamental Ironworking industry. This certificate is designed for metal workers and artists.

Majo	or Re	Credits	
WLD	110	Cutting Processes	2
PCS	110	Intro to Metal Sculpture	5
PCS	112	Beg, Welding for Artists	3
PCJ	262	Hand Wrought Metal	2
Tota	l Crea	lit Hours Required	12

Arts and Sciences

General Education

Consistent with Asheville-Buncombe Technical Community College's commitment to student success, the general education program provides students with a knowledge base of historical, societal, and environmental contexts for succeeding in the changing global community. The general education program represents a full spectrum of English composition, communication, and literature; humanities and fine arts; social and behavioral sciences; natural sciences; chemistry and physics; mathematics; and related elective components.

The purposes of the general education program are to facilitate student acquisition and sharing of knowledge, to encourage social interaction, and to promote an educated citizenry. General education courses develop broad, cross-curriculum knowledge and skill sets that prepare the student to successfully master the challenges of post-graduation endeavors.

Upon successful completion of the general education requirements, the student will have mastered the following cross-curriculum competencies:

- 1. Demonstrate effective speaking, writing, reading and listening skills.
- 2. Demonstrate proficiency in analyzing problems and making logical decisions through locating, evaluating, and using information.
- 3. Demonstrate proficiency with math skills and/ or natural science knowledge by organizing and analyzing information to come to logical conclusions.
- 4. Demonstrate basic competency in computer technology.
- 5. Demonstrate knowledge of cultural diversity.

Learning Communities: Interdisciplinary Studies

Emphasizing interdependency between varied disciplines encourages students to view their education as a comprehensive experience. The interdisciplinary unifying structure is an invitational approach connecting individual courses and demonstrating the necessity of such links for a more conscious experience. A-B Tech's Interdisciplinary Studies Program includes linked courses from the general education program. These learning communities allow students to understand the relationships connecting natural and social sciences, humanities, and history.

The IDS Program includes 25 of the 44 general education credit hours for the A.A. Degree or Diploma. It is an ideal avenue for those planning to pursue a Bachelor's Degree. The program is designed to be completed in 4 semesters: IDS1 and 3 during fall semester and IDS 2 and 4 during spring semester. IDS1=HIS 111 and ENG 111; IDS2=ENG 113 and SOC 225; IDS3=BIO 110 and HUM 115; and IDS4= HIS 112 and HUM 220.

Degrees Conferred

Associate in Arts Associate in Science Associate in Fine Arts A.A.S., Biotechnology A.A.S., General Occupational Technology

Diplomas Awarded

Associate in Arts Associate in Science General Occupational Technology

Curriculum Requirements for the Associate in Arts (A.A.) Degree (A10100)

Program Summary	Hours	
General Education		
English/Composition	6	
Humanities/Communication/Fine Arts	12	
Social/Behavioral Sciences	12	
Natural Sciences	8	
Mathematics	6	
Other Courses	21	
Program Total	65	

General Education Core Requirements 44 Semester Hours

English Composition (6 semester hours)

- 1. ENG 111 Expository Writing is required.
- 2. Select one additional course from:

ENG 112 Argument-Based Research ENG 113 Literature-Based Research ENG 114 Professional Research and Reporting

Humanities/Fine Arts (12 semester hours)

- 1. A communications course is required in lieu of one humanities/fine arts course. COM 231, Public Speaking, is preferred. COM 120, Introduction to Interpersonal Communication, and COM 140, Introduction to Intercultural Communication, are also acceptable.
- 2. Select three additional courses from at least two of the following discipline areas: art, drama, foreign languages, humanities, literature, music, philosophy, and religion. At least one course must be a literature (*) course.

ART 111	ENG 232*	GER 211	MUS 110	REL 211
ART 114	ENG 241*	GER 212	MUS 112	REL 212
ART 115	ENG 242*	HUM 110	MUS 113	RUS 111
ART 117	ENG 243*	HUM 115	MUS 114	RUS 112
DRA 111	ENG 261*	HUM 121	MUS 210	RUS 211
DRA 112	ENG 262*	HUM 122	PHI 210	RUS 212
DRA 122	FRE 111	HUM 130	PHI 215	SPA 111
DRA 126	FRE 112	HUM 150	PHI 230	SPA 112
DRA 211	FRE 211	HUM 160	PHI 240	SPA 211
DRA 212	FRE 212	HUM 211	REL 110	SPA 212
ENG 131*	GER 111	HUM 212	REL 111	
ENG 231*	GER 112	HUM 220	REL 112	

Social/Behavioral Sciences (12 semester hours)

Select four courses from at least three of the following discipline areas: anthropology, economics, geography, history, political science, psychology, and sociology. **At least one course must be a history (*) course.**

ANT	210	GEO	111	HIS	132*	PSY	237	SOC	220
ANT	220	GEO	112	POL	110	PSY	239	SOC	225
ANT	240	HIS	111*	POL	120	PSY	241	SOC	240
ECO	151	HIS	112*	POL	210	PSY	281		
ECO	251	HIS	115*	POL	220	SOC	210		
ECO	252	HIS	131*	PSY	150	SOC	213		

Natural Sciences (8 semester hours)

Select two courses, including accompanying laboratory* work, from the astronomy, biology, chemistry, geology, or physics disciplines. Either BIO 110 or BIO 111 count as the A.A. science requirement, not both.

AST	111	BIO	120	CHM	135	GEL	113	PHY	152
AST	111A*	BIO	130	CHM	136	GEL	230	PHY	251
BIO	110	BIO	140	CHM	151	PHY	110	PHY	252
BIO	111	BIO	140A*	CHM	152	PHY	110A*		
BIO	112	CHM	132	GEL	111	PHY	151		

Mathematics (6 semester hours)

1. MAT 161 or higher is required. Select one course from:

MAT 161*	College Algebra
MAT 171*	Precalculus Algebra
MAT 172*	Precalculus Trigonometry
MAT 175	Precalculus
MAT 271	Calculus I
MAT 272	Calculus II
MAT 273	Calculus III

2. Select a second course from the following:

MAT 140	MAT 171*	MAT 175	MAT 272	CIS	110
MAT 151*	MAT 172*	MAT 271	MAT 273	CIS	115

*A math lab is required for this course. Labs count as elective hours.

Other Required Hours (21 Semester Hours)

- 1. ACA 115, Success and Study Skills is required
- 2. Additional Courses (20 Semester Hours):

These include general education, pre-major and elective courses that have been approved for transfer (see following list).

A second foreign language course is recommended (elective)*. Math lab hours, when required as a corequisite, count as an elective. <u>Students should</u> <u>refer to Pre-Major Articulation Agreements before</u> <u>making selections for required hours:</u> www.ga.unc.edu/student_info/caa/.

Recommended Additional Courses:

Although these courses are not required, they are recommended for all students who have sufficient available credit hours.

- 1. Computing (3 semester hours): CIS 110 Introduction to Computers
- 2. Health and Physical Education (3 semester hours):

HEA 110, HEA 112, or PED 110 plus any PED activity course

Total Semester Hours

65

*Foreign language courses should be selected in a sequence that meets the requirements of the receiving college/university. Most colleges/ universities require a two-semester sequence of foreign language.

All college transfer courses submitted for graduation require a minimum grade of "C". Courses selected may vary according to requirements of the pre-major, senior institution, etc. Health and Physical Education courses may be selected any semester.

Electives - Associate in Arts (20 semester hours)

Any approved transfer course (including core courses) may be taken as an elective. Listed below are electives taught at A-B Tech. No elective course may be substituted for an approved general education core course. All PED (physical education) courses count as electives.

ACC	120 (4)	BIO	224 (2)	FGR	230 (3)	MAT	172A (1)
ACC	121 (4)	BIO	225 (2)	FNG	125 (3)	MAT	280 (3)
ART	121 (3)	BIO	226 (2)	FNG	126 (3)	MAT	285 (3)
ART	122 (3)	BIO	250 (4)	FNG	133 (3)	MUS	121 (4)
ART	131 (3)	BIO	271 (3)	ENG	134 (3)	MUS	122 (4)
ART	132 (3)	BIO	275 (4)	ENG	135 (3)	MUS	131 (1)
ART	135 (3)	BUS	110 (3)	ENG	234 (3)	MUS	132 (1)
ART	171 (3)	BUS	115 (3)	ENG	235 (3)	MUS	231 (1)
ART	231 (3)	CHM	251 (4)	ENG	271 (3)	MUS	232 (1)
ART	240 (3)	CHM	252 (4)	ENG	272 (3)	PHS	140 (3)
ART	241 (3)	CHM	265 (4)	ENG	273 (3)	POL	130 (3)
ART	244 (3)	CHM	271 (3)	ENG	274 (3)	PSY	215 (3)
ART	260 (3)	CJC	111 (3)	ENG	275 (3)	PSY	231 (3)
ART	261 (3)	CJC	121 (3)	FRE	181 (1)	PSY	246 (3)
ART	262 (3)	CJC	141 (3)	FRE	182 (1)	PSY	259 (3)
ART	264 (3)	COM	150 (3)	GER	141 (3)	PSY	271 (3)
ART	265 (3)	COM	250 (3)	GER	181 (1)	PSY	275 (3)
ART	266 (3)	DRA	120 (3)	GER	182 (1)	RUS	181 (1)
ART	271 (3)	DRA	124 (3)	GER	221 (3)	RUS	182 (1)
ART	274 (3)	DRA	130 (3)	HEA	110 (3)	SOC	215 (3)
ART	275 (3)	DRA	131 (3)	HEA	112 (2)	SOC	232 (3)
ART	281 (3)	DRA	135 (3)	HEA	120 (3)	SOC	234 (3)
ART	282 (3)	DRA	140 (3)	HIS	162 (3)	SOC	244 (3)
ART	283 (3)	DRA	141 (3)	HIS	212 (3)	SOC	254 (3)
ART	284 (3)	DRA	145 (2)	HIS	221 (3)	SPA	141 (3)
BIO	143 (2)	DRA	170 (3)	HIS	226 (3)	SPA	181 (1)
BIO	155 (3)	DRA	171 (3)	HIS	227 (3)	SPA	182 (1)
BIO	163 (5)	DRA	240 (3)	HIS	236 (3)	SPA	221 (3)
BIO	168 (4)	DRA	250 (2)	HUM	123 (3)		
BIO	169 (4)	EDU	216 (4)	MAT	151A (1)		
BIO	175 (3)	EGR	150 (2)	MAT	161A (1)		
BIO	223 (3)	EGR	220 (3)	MAT	171A (1)		

Curriculum Requirements for the Transfer Core Diploma in Arts (D10100)

Program Summary	Hours
General Education	44
English/Composition	6
Humanities/ Communication/Fine Arts	12
Social/Behavioral Sciences	12
Natural Sciences	8
Mathematics	6
Other Courses	1
Program Total	45

General Education Core Requirements 44 Semester Hours

English Composition (6 semester hours)

- 1. ENG 111 Expository Writing is required.
- 2. Select one additional course from:

ENG 112 Argument-Based Research ENG 113 Literature-Based Research ENG 114 Professional Research and Reporting

Humanities/Fine Arts (12 semester hours)

- 1. A communications course is required in lieu of one humanities/fine arts course. COM 231, Public Speaking, is preferred. COM 120, Introduction to Interpersonal Communication, and COM 140, Introduction to Intercultural Communication, are also acceptable.
- 2. Select three additional courses from at least two of the following discipline areas: art, drama, foreign languages, humanities, literature, music, philosophy, and religion. At least one course must be a literature (*) course.

ART	111	ENG	232*	GER 211	MUS	110	REL	211
ART	114	ENG	241*	GER 212	MUS	112	REL	212
ART	115	ENG	242*	HUM 110	MUS	113	RUS	111
ART	117	ENG	243*	HUM 115	MUS	114	RUS	112
DRA	111	ENG	261*	HUM 121	MUS	210	RUS	211
DRA	112	ENG	262*	HUM 122	PHI	210	RUS	212
DRA	122	FRE	111	HUM 130	PHI	215	SPA	111
DRA	126	FRE	112	HUM 150	PHI	230	SPA	112
DRA	211	FRE	211	HUM 160	PHI	240	SPA	211
DRA	212	FRE	212	HUM 211	REL	110	SPA	212
ENG	131*	GER	111	HUM 212	REL	111		
ENG	231*	GER	112	HUM 220	REL	112		

Social/Behavioral Sciences (12 semester hours)

Select four courses from at least three of the following discipline areas: anthropology, economics, geography, history, political science, psychology, and sociology. **At least one course must be a history (*) course.**

ANT	210	GEO	111	HIS	132*	PSY	237	SOC	220
ANT	220	GEO	112	POL	110	PSY	239	SOC	225
ANT	240	HIS	111*	POL	120	PSY	241	SOC	240
ECO	151	HIS	112*	POL	210	PSY	281		
ECO	251	HIS	115*	POL	220	SOC	210		
ECO	252	HIS	131*	PSY	150	SOC	213		

Natural Sciences (8 semester hours)

Select two courses, including accompanying laboratory* work, from the astronomy, biology, chemistry, geology, or physics disciplines. Either BIO 110 or BIO 111 may count as the A.A. science requirement, not both.

AST	111	BIO	120	CHM	135	GEL	113	PHY	152
AST	111A*	BIO	130	CHM	136	GEL	230	PHY	251
BIO	110	BIO	140	CHM	151	PHY	110	PHY	252
BIO	111	BIO	140A*	CHM	152	PHY	110A*		
BIO	112	CHM	132	GEL	111	PHY	151		

Mathematics (6 semester hours)

1. MAT 161 or higher is required. Select one course from:

MAT 161* College Algebra MAT 171* Precalculus Algebra MAT 172* Precalculus Trigonometry MAT 175 Precalculus MAT 271 Calculus I MAT 272 Calculus II MAT 273 Calculus III

2. Select a second course from the following:

MAT	140	MAT 171	* MAT	175	MAT	272	CIS	110
MAT	151*	MAT 172	* MAT	271	MAT	273	CIS	115

*Math lab is required for this course. Labs count as elective hours.

Other Required Hours (1 Semester Hour)

1. ACA 115, Success and Study Skills is required

Total Semester Hours

Curriculum Requirements for the Associate in Science (A.S.) Degree (A10400)

Program Summary	Hours
General Education	44
English/Composition	6
Humanities/Communication/Fine Arts	9
Social/Behavioral Sciences	9
Natural Sciences/Mathematics	20
Other Courses	21
Program Total	65

General Education Core Requirements 44 Semester Hours

English Composition (6 semester hours)

- 1. ENG 111 Expository Writing is required.
- 2. Select one additional course from:

ENG 112 Argument-Based Research ENG 113 Literature-Based Research ENG 114 Professional Research and Reporting

Humanities/Fine Arts (9 semester hours)

- 1. A communications course is required in lieu of one humanities/fine arts course. COM 231, Public Speaking, is preferred. COM 120, Introduction to Interpersonal Communication, and COM 140, Introduction to Intercultural Communication, are also acceptable.
- 2. Select two additional courses from two of the following discipline areas: art, drama, foreign languages, humanities, literature, music, philosophy and religion. One course must be a literature (*) course.

ART	111	ENG	241*	GER 212	MUS	112	RUS	111
ART	114	ENG	242*	HUM 110	MUS	113	RUS	211
ART	115	ENG	243*	HUM 115	MUS	114	RUS	212
ART	117	ENG	261*	HUM 121	MUS	210	SPA	111
DRA	111	ENG	262*	HUM 122	PHI	210	SPA	112
DRA	112	FRE	111	HUM 130	PHI	215	SPA	211
DRA	122	FRE	112	HUM 150	PHI	230	SPA	212
DRA	126	FRE	211	HUM 160	PHI	240		
DRA	211	FRE	212	HUM 211	REL	110		
ENG	131*	GER	111	HUM 212	REL	211		
ENG	231*	GER	112	HUM 220	REL	212		
ENG	232*	GER	211	MUS 110	RUS	112		

Social/Behavioral Sciences (9 semester hours)

Select three courses from three of the following discipline areas: anthropology, economics, geography, political science, psychology and sociology. One course must be a history (*) course.

ANT	210	GEO	111	HIS	132*	PSY	237	SOC	220
ANT	220	GEO	112	POL	110	PSY	239	SOC	225
ANT	240	HIS	111*	POL	120	PSY	241	SOC	240
ECO	151	HIS	112*	POL	210	PSY	281		
ECO	251	HIS	115*	POL	220	SOC	210		
ECO	252	HIS	131*	PSY	150	SOC	213		

Natural Science/Mathematics

(20 semester hours)

Natural Sciences (8 semester hours)

Select a minimum two-course sequence from the following general biology, general chemistry, or general physics courses.

BIO 111 and BIO 112 CHM 151 and CHM 152 PHY 151 and PHY 152 PHY 251 and PHY 252

Mathematics (6 semester hours)

1. MAT 171 or higher is required. Select one course from:

MAT 171* Precalculus Algebra MAT 175 Precalculus MAT 172* Precalculus Trigonometry MAT 271 Calculus I MAT 272 Calculus II MAT 273 Calculus III

2. Select a second course from the following:

MAT 15	51* MAT	175	MAT	272	CIS	110
MAT 17	72* MA	271	MAT	273	CIS	115

*A math lab is required for this course. Labs count as elective hours.

Either BIO 110 or BIO 111 count as the A.A. science requirement, not both. Six additional semester hours may be selected from either natural sciences (listed below) or mathematics (listed above):

BIO	110	BIO	140/	CHM 132	CHM 136	GEL	113
BIO	120	BIO	140A	CHM 135	GEL 111	GEL	230
BIO	130						

Other Required Hours (21 Semester Hours)

- 1. ACA 115, Success and Study Skills is required
- 2. Additional Courses (14 Semester Hours):

A minimum of 14 SHC of college transfer courses in mathematics, natural sciences, or computer science is required.

3. Additional Elective Courses (6 Semester Hours):

Math lab hours, when required as a corequisite, count as electives. A second foreign language course is recommended (elective)*. Students should refer to Pre-Major Articulation Agreements before making selections for required hours:

www.ga.unc.edu/student_info/caa/

Recommended Additional Courses:

Although these courses are not required, they are recommended for all students who have sufficient available credit hours.

- 1. Computing (3 semester hours): CIS 110 Introduction to Computers
- 2. Health and Physical Education (3 semester hours): HEA 110, HEA 112, or PED 110 plus any PED activity course

Total Semester Hours

*Foreign language courses should be selected in a sequence that meets the requirements of the receiving college/university. Most colleges/universities require a two-semester sequence of foreign language.

65

All college transfer courses submitted for graduation require a minimum grade of "C". Courses selected may vary according to requirements of the pre-major, senior institution, etc. Health and Physical Education courses may be selected any semester.

Electives – Associate in Science

(20 semester hours)

Fourteen semester hours in mathematics, natural sciences, or computer science is required. Any approved transfer course (including core courses) may be taken as an elective. Listed below are electives taught at A-B Tech. No elective course may be substituted for an approved general education core course.

All PED (physical education) courses count as electives.

ACC	120 (4)	BIO	224	(2)	ENG	125 (3)	MAT	285 (3)
ACC	121 (4)	BIO	225	(2)	ENG	126 (3)	MUS	121 (4)
ART	121 (3)	BIO	226	(2)	ENG	133 (3)	MUS	122 (4)
ART	122 (3)	BIO	250	(4)	ENG	134 (3)	MUS	131 (1)
ART	131 (3)	BIO	271	(3)	ENG	135 (3)	MUS	132 (1)
ART	132 (3)	BIO	275	(4)	ENG	234 (3)	MUS	231 (1)
ART	135 (3)	BUS	110	(3)	ENG	235 (3)	MUS	232 (1)
ART	171 (3)	BUS	115	(3)	ENG	271 (3)	PHS	140 (3)
ART	231 (3)	CHM	251	(4)	ENG	272 (3)	PHY	110 (3)
ART	240 (3)	CHM	252	(4)	ENG	273 (3)	PHY	110A (1
ART	241 (3)	CHM	265	(4)	ENG	274 (3)	PSY	215 (3)
ART	244 (3)	CHM	271	(3)	ENG	275 (3)	PSY	243 (3)
ART	260 (3)	CJC	111	(3)	FRE	181 (1)	PSY	259 (3)
ART	261 (3)	CJC	121	(3)	FRE	182 (1)	PSY	271 (3)
ART	262 (3)	CJC	141	(3)	GER	141 (3)	PSY	275 (3)
ART	264 (3)	COM	150	(3)	GER	181 (1)	RUS	181 (1)
ART	265 (3)	COM	250	(3)	GER	182 (1)	RUS	182 (1)
ART	266 (3)	DRA	120	(3)	GER	221 (3)	SOC	215 (3)
ART	271 (3)	DRA	124	(3)	HEA	110 (3)	SOC	232 (3)
ART	275 (3)	DRA	130	(3)	HEA	112 (2)	SOC	234 (3)
ART	281 (3)	DRA	131	(3)	HEA	120 (3)	SOC	244 (3)
ART	282 (3)	DRA	135	(3)	HIS	212 (3)	SOC	254 (3)
ART	283 (3)	DRA	140	(3)	HIS	162 (3)	SPA	141 (3)
ART	284 (3)	DRA	141	(3)	HIS	226 (3)	SPA	181 (1)
AST	111 (3)	DRA	145	(3)	HIS	227 (3)	SPA	182 (1)
AST	111A (1)	DRA	170	(3)	HIS	236 (3)	SPA	221 (3)
BIO	143 (2)	DRA	171	(3)	HUM	123 (3)		
BIO	155 (3)	DRA	240	(3)	MAT	151A (1)		
BIO	163 (5)	DRA	250	(2)	MAT	161 (3)		
BIO	168 (4)	EDU	216	(4)	MAT	161A (1)		
BIO	169 (4)	EGR	150	(2)	MAT	171A (1)		
BIO	175 (3)	EGR	220	(3)	MAT	172A (1)		
BIO	223 (3)	EGR	230	(3)	MAT	280 (3)		

Curriculum Requirements for the Transfer Core Diploma in Science (D10400)

Program Summary	Hours
General Education	44
English/Composition	6
Humanities/Communication/Fine Arts	9
Social/Behavioral Sciences	9
Natural Sciences/Mathematics	20
Other Courses	1
Program Total	45

General Education Core Requirements 44 Semester Hours

English Composition (6 semester hours)

- 1. ENG 111 Expository Writing is required.
- 2. Select an additional course from:

ENG 112 Argument-Based Research ENG 113 Literature-Based Research ENG 114 Professional Research and Reporting

Humanities/Fine Arts (9 semester hours)

- 1. A communications course is required in lieu of one humanities course. COM 231, Public Speaking, is preferred. COM 120, Introduction to Interpersonal Communication, is also acceptable.
- 2. Select two additional courses from two of the following discipline areas: art, drama, foreign languages, humanities, literature, music, philosophy and religion. **One course must be a literature (*) course.**

ART	111	ENG	241*	GER 212	MUS	112	REL	212
ART	114	ENG	242*	HUM 110	MUS	113	RUS	111
ART	115	ENG	243*	HUM 115	MUS	114	RUS	112
ART	117	ENG	261*	HUM 121	MUS	210	RUS	211
DRA	111	ENG	262*	HUM 122	PHI	210	RUS	212
DRA	112	FRE	111	HUM 130	PHI	215	SPA	111
DRA	122	FRE	112	HUM 150	PHI	230	SPA	112
DRA	126	FRE	211	HUM 160	PHI	240	SPA	211
DRA	211	FRE	212	HUM 211	REL	110	SPA	212
ENG	131*	GER	111	HUM 212	REL	111		
ENG	231*	GER	112	HUM 220	REL	112		
ENG	232*	GER	211	MUS 110	REL	211		

Social/Behavioral Sciences (9 semester hours)

Select three courses from three of the following discipline areas: anthropology, economics, geography, political science, psychology and sociology. **One course must be a history (*) course.**

ANT	210	GEO	111	HIS	132*	PSY	239	SOC	225
ANT	220	GEO	112	POL	110	PSY	241	SOC	240
ANT	240	HIS	111*	POL	120	PSY	281		
ECO	151	HIS	112*	POL	210	SOC	210		
ECO	251	HIS	115*	PSY	150	SOC	213		
ECO	252	HIS	131*	PSY	237	SOC	220		

Natural Science/Mathematics (20 semester hours)

Natural Sciences (8 semester hours)

Select a minimum two-course sequence from the following general biology, general chemistry, or general physics courses.

BIO	111	CHM 151	PHY 151	PHY	251
and		and	and	and	
BIO	112	CHM 152	PHY 152	PHY	252

Mathematics (6 semester hours)

1. MAT 171 or higher is required. Select one course from:

MAT 171* Precalculus Algebra MAT 175* Precalculus MAT 172 Precalculus Trigonometry MAT 271 Calculus I MAT 272 Calculus II MAT 273 Calculus III

2. Select a second course from the following:

MAT	151*	MAT 175	MAT 272	CIS	110
MAT	172*	MAT 271	MAT 273	CIS	115

*A math lab is required for this course. Labs count as elective hours.

Either BIO 110 or BIO 111 count as the A.A. science requirement, not both. Six additional semester hours may be selected from either natural sciences (listed below) or mathematics (listed above):

BIO	110	BIO	140/	CHM	135	(GEL	113
BIO	120	BIO	140A	CHM	136	(GEL	230
BIO	130	CHM	132	GEL	111			

Other Required Hours (1 Semester Hour)

1. ACA 115, Success and Study Skills is required

Total Semester Hours

Curriculum Requirements for the Associate in Fine Arts (A.F.A.) Degree

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Program Summary	Hours
General Education Core	28
English/Composition	6
Humanities/Communication/Fine Arts	6
Social/Behavioral Sciences	9
Natural Sciences	4
Mathematics	3
Other Required Courses in Concentration	36-37 SHC
Program Total	65

General Education Core Requirements 28 Semester Hours

English Composition (6 semester hours)

- 1. ENG 111 Expository Writing is required.
- 2. Select one additional course from:

ENG 112 Argument-Based Research ENG 113 Literature-Based Research ENG 114 Professional Research and Reporting

Humanities/Fine Arts (6 semester hours)

- 1. A communication course is required in lieu of one humanities course. COM 231, Public Speaking, is preferred. COM 120, Introduction to Interpersonal Communication, and COM 140, Introduction to Intercultural Communication, are also acceptable.
- 2. Select one literature course from the following:

ENG	131	ENG	232	ENG	241	ENG	243	ENG	262
ENG	231	ENG	233	ENG	242	ENG	261		

Social/Behavioral Sciences (9 semester hours)

Select three courses from three of the following discipline areas: anthropology, economics, geography, political science, psychology and sociology. **One course must be a history (*) course.**

ANIT	210	ОГО	111	LIIC	100*	DCV	207	SOC	220
ANI	210	GEU	111	ΠΙЭ	132	161	237	200	ZZU
ANT	220	GEO	112	POL	110	PSY	239	SOC	225
ANT	240	HIS	111*	POL	120	PSY	241	SOC	240
eco	151	HIS	112*	POL	210	PSY	281		
eco	251	HIS	115*	POL	220	SOC	210		
ECO	252	HIS	131*	PSY	150	SOC	213		

Natural Sciences (4 semester hours)

Select one course, including laboratory^{*} work, from the astronomy, biology, chemistry, geology, or physics disciplines.

AST	111	BIO	130	CHM 135	GEL	111	PHY	110A*
AST	111A*	BIO	140	CHM 136	GEL	113	PHY	151
BIO	110	BIO	140A	CHM 151	GEL	230		
BIO	120	CHM	132	CHM 152	PHY	110		

Mathematics (3 semester hours)

MAT 161 College Algebra or higher is required.

Associate in Fine Arts Pre-Major Art Concentration (A1020A)

Major Art Core Requirements 15 Semester Hours

The following courses are required for the A.F.A. Degree with ART concentration:

ART 114 ART 115 ART 121 ART 122 ART 131

Other Required Hours (22 SHC)

1. ACA 115, Success and Study Skills is required

2. ART 171 (3 SHC)

3. Additional Elective Courses (18 SHC):

Select additional courses to equal 18 SHC from those listed below:

ART 117 (3)	ART 241 (3)	ART 264 (3)	ART 271 (3)	ART 283 (3)
ART 132 (3)	ART 244 (3)	ART 265 (3)	ART 275 (3)	ART 284 (3)
ART 231 (3)	ART 261 (3)	ART 266 (3)	ART 281 (3)	
ART 240 (3)	ART 262 (3)	ART 267 (3)	ART 282 (3)	

Total Semester Hours

Associate in Fine Arts Pre-Major Drama Concentration (A1020C)

Major Drama Core Requirements (14 SHC)

The following courses are required for the A.F.A. Degree with DRAMA concentration:

DRA 120 DRA 130 DRA 131 DRA 140 DRA 145

Play Production Select 3 SHC from the following:

DRA 170 DRA 171

Other Required Hours (20 SHC)

Electives: Select 6 SHC from those listed below:

DRA 112 (3) DRA 122 (3) DRA 211 (3) DRA 240 (3) DRA 250 (3)

Select 14 SHC Other Electives from ART, DRA or MUS courses approved for transfer to the University of North Carolina constituent institutions.

Total Semester Hours

All courses submitted for graduation require a minimum grade of "C".

Courses selected may vary according to requirements of the pre-major, senior institution.

Pre-major Articulation Agreements

Pre-major Articulation Agreements are agreements between the 16-member University of North Carolina system, some private colleges and universities, and the 58 North Carolina Community Colleges. The agreements state that if you follow one of the pre-major tracks offered by the college (see list below), have no grade below "C," and are accepted by the senior institution, you will be eligible to apply for admission as a junior in that major. Pre-major articulation agreements are available from Student Services and academic advisors, or on the web at: **www.ga.unc.edu/student_info/caa/.**

CAUTION: You MUST see your advisor before registering for one of these programs!

Associate in Arts and Associate in Science Degree – Pre-major Tracks

Associate in Arts

65

Anthropology Art Education Business Administration, Accounting, Economics, Finance and Marketing **Business Education and Marketing Education Communication and Communication Studies Computer Science** Criminal Justice **Elementary Education** English **English Education** Geography Health Education History Information Systems Liberal Studies Mass Communication/Journalism Middle Grade Education Nursing Physical Education Political Science Psychology Social Science (Secondary Education) Social Work Sociology Special Education

Associate in Science

Biology and Biology Education Chemistry and Chemistry Education Engineering Mathematics Mathematics Education

Elementary and Special Education 2+2 Agreements

The 2+2 Agreement allows students who successfully complete two years at A-B Tech to transfer seamlessly into their next two years in a highly acclaimed teacher education program. The 2+2 Agreement outlines which credits transfer and which additional courses an A-B Tech transfer student must complete at the senior institution to earn a bachelor's degree in education. Please see an advisor in the Transfer Advising Center for information about the program and the colleges which offer the 2+2 Agreement.

Lateral Entry Program

The lateral entry program is an alternative route to teaching for qualified individuals outside of the public education system. The individual is hired by a school system, which recommends the individual for a lateralentry license. The individual is issued a two-year lateral-entry license. The license may be extended annually for one additional year beyond the two years. Lateral entry teachers must meet testing requirements within the first 2 years of employment and complete all course requirements within a three year period. Please contact Lori Seiderman for information about the program and the college which offers the lateral entry program or contact the instructor for Teacher Education for Secondary Schools in the Arts & Sciences Division.

Biotechnology

The Biotechnology curriculum is designed to meet the increasing demands for skilled Bioprocessing technicians in various fields of bioprocess manufacturing, pharmaceutical manufacturing, and chemical manufacturing.

Course work emphasizes Bioprocessing, biology, chemistry, mathematics, and technical communications. The curriculum objectives are designed to prepare graduates to serve in three distinct capacities: Bioprocessing technician, research assistant to biologist or chemist; and quality control/quality assurance technician.

Graduates may find opportunities in employment or degree advancement. A biotechnology degree qualifies students for employment in various areas of industry and government, including biopharmaceutical processing, chemical processing, research and development, sales, and customer service. Graduates wanting to earn an undergraduate degree may receive transfer the AAS degree through bilateral articulation agreements with selective universities.

Biotechnology Associate in Applied Science Degree (A20100)

Courses requiring a grade of "C" or better: ACA, BIO, BTC, CHM, COE

General Ed	Credits	
ACA 115	Success and Study Skills	1
COM 231	Public Speaking	3
ENG 111	Expository Writing	3
ENG 114	Professional Research & Reporting	3
MAT 161	College Algebra	3
MAT 161A	College Algebra Lab	1
	Humanities/Fine Arts Elective	3
	Social/Behavioral Science Elective	3
Maior Dom	-izemente	Credito

Maj	Credits		
BIO	111	General Biology I	4
BIO	112	General Biology II	4
BIO	275	Microbiology	4
BTC	181	Basic Lab Techniques	4
BTC	250	Molecular Genetics	3
BTC	270	Recombinant DNA Tech	4
BTC	282	Biotechnology Fermentation I	4
BTC	283	Biotech Fermentation II	4
BTC	285	Cell Culture	3
BTC	286	Immunological Techniques	4
BTC	288	Biotech Lab Experience	2
		(or COE 211 Co-op Work Experience)	

CHM	132	Organic & Biochemistry	4
CHM	151	General Chemistry I	4
		(or CHM 131 and CHM 131A)	
CIS	110	Computers Concepts	3
MAT	151	Statistics	3
MAT	151A	Statistics Lab	1
Total Credit Hours Required			75

General Occupational Technology (A55280)

The General Occupational Technology curriculum provides individuals with an opportunity to upgrade their skills and to earn an associate degree or diploma by taking courses suited for their occupational interests and/or needs.

The curriculum content will be individualized for students according to their occupational interests and needs. A program of study for each student will be selected from non-developmental level courses offered by the College.

Graduates will become more effective workers, better qualified for advancements within their field of employment, and become qualified for a wide range of entry-level employment opportunities. Please see a counselor for additional information.

A.A.S. Degree Program Summary	Credit Hours
General Education	15
Major Hours	49
Other Required Hours	0-7
Program Total	64-71
Diploma Program Summary	Credit Hours
General Education	6
Major Hours	30
Other Required Hours	0-4
Program Total	26.40

Course Descriptions

The following section contains descriptions of courses offered by Asheville-Buncombe Technical Community College. The following example explains each component of the course description entry.



* When only three numbers are listed, the middle number always designates Lab Hours.

** Credit Hours are always the last number.

Course Numbers consist of three digits, and numbers are assigned as follows:

- The first digit indicates the year the course is normally taken. A first digit of "0" is used for Guided Studies courses.
- The second digit denotes the credential for which the course is intended:

100-109 and 200-209: Courses for stand-alone certificate and diploma programs.

110-189 and 210-289: Courses for associate degree programs;

these courses may also be used in certificate and diploma programs.

190-199 and 290-299: Seminar and Selected Topics courses for all programs.

• The third digit indicates the order in which the course is usually taken.

Example: ACC 120 Principles of Financial Accounting

ACC 121 Principles of Managerial Accounting

Please examine each course description before registering and determine if all prerequisites have been met. Prerequisites shown are those courses that must be successfully completed before attempting further study. In certain cases the department chairperson may waive some prerequisites.

*Credit by Examination is not available for courses marked with an asterisk because of the nature of the course and in some cases safety requirements in the use of equipment. Any exceptions must be with the approval of the department chairperson.

Course Descriptions

	A A S. Humanities / Fine Arts General Education Electives	130 GE
	A A S Social / Behavioral Sciences General Education Electives	130 GI
ACA	Academic Related	.131 H
ACC	Accounting	.131 HE
AHR	Air Conditioning, Heating, and Refrigeration	.132 HE
ALT	Alternative Energy Technology	.133 HI
ANT	Anthropology	.134 HF
ARC	Architecture	.134 HS
ART	Art	.135 HL
AST	Astronomy	.137 H
ATR	Automation Training	.138 I S
AUT	Automotive	.138 L A
B 10	Biology	.139 M
BPA	Baking and Pastry Arts	.142 M
BPR	Blueprint Reading	.143 M
BTC	Biotechnology	.143 M
BUS	Business Administration	.144 M
CAB	Cabinetmaking	.146 M
CAR	Carpentry	.146 M
CCT	Cyber Crime	146 M
CET	Computer Engineering Technology	.147 M
CHM	Chemistry	147 M
CIS	Information Systems	149 N
CIV	Civil Engineering	149 N(
CLIC	Criminal Justice	150 NI
CMT	Construction Management	153 0
COF	Cooperative Education	153 P F
COM	Communications	154 PC
COS	Cosmetology	155 PC
CSC	Computer Programming	157 PE
CST	Construction	157 PF
CTS	Computer Information Technology	157 PF
CUI	Culinary Arts	158 PF
DRA	Database Management Technology	161 PI
	Developmental Disabilities	161 PC
DEN	Dental	161 PS
DET	Drafting	164 B
DMF	Digital Media Technology	165 RF
DRA	Drama	166 RF
FCO	France	167 SA
FDU	Education	168 SE
ENG	Engineering	172 SC
FIC	Flortrical	173 SC
FIN	Electronics	174 SF
FMS	Emergency Medical Science	175 SF
ENG	English	177 SI
ENV	Environmental Science	
FTR	Entrepreneurshin	181 SV
FIP	Fire Protection Technology	181
FRF	French	183
F\/P	Film and Video Production	183 \//
CEI	Gology	183 \ \/
GEO	Georgraphy	184
GLU	Goography	

GER	German	184
GIS	Geographic Information Systems	185
HEA	Health	186
HBI	Healthcare Business Informatics	186
HET	Heavy Equipment and Transport Technology	186
HIS	History	
HRM	Hospitality Management	
HSE	Human Services	
HUM	Humanities	191
HYD	Hydraulics	192
ISC	Industrial Science	192
LAR	Landscape Architecture	193
MAC	Machining	193
MAT	Mathematics	195
MFC.	Mechanical	198
MED	Medical Assisting	198
MHΔ	Mental Health	200
VIKT	Marketing and Retailing	200
MIT	Medical Laboratory Technology	200
	Maintanance	201
	Therapeutic Massage	202
	Music	20J 202
NET	Natworking Technology	203 204
	Networking Operating Systems	204
NUS	Nursing Operating Systems	203
NON NOT	Office Administration	200
DDT	Dhabatamy	200
	Professional Crafta, Saulatura	200
-03 101	Professional Grafter, Jaughr	209
-0J 200	Professional Grants: Jeweiry	209
ED	Physical Education	209
HI	Philosophy	Z
2H2	Physical Science	
'HY	Physics	
LA		213
PUL	Political Science	213
SY	Psychology	214
RAD	Radiography	215
RED	Reading	217
REL	Religion	217
SAB	Substance Abuse	217
SEC	Information Systems Security	218
SOC	Sociology	218
SON	Medical Sonography	219
SPA	Spanish	220
SRV	Surveying	221
SUR	Surgical Technology	222
SST	Sustainability Technologies	223
SWK	Social Work	224
VET	Veterinary Medical Technology	224
WAT	Water and Wastewater Treatment	225
NEB	Web Technologies	226
WLD	Welding	226

A.A.S. Humanities / Fine Arts **General Education Electives**

The following courses are classified as Humanities/Fine Arts for A.A.S. degree programs. A.A.S. students may take any course on this list.

ART

ART 111 Art Appreciation

- ART 114 Art History Survey I
- ART 115 Art History Survey II
- ART 117 Non-Western Art History

COMMUNICATIONS

COM 140 Intro to Intercultural Communications

DRAMA

DRA	111	Theatre Appreciation
DRA	112	Literature of the Theatre
DRA	122	Oral Interpretation
DRA	124	Readers Theatre
DRA	211	Theatre History I

DRA 211 DRA 212 Theatre History II

ENGLISH*

ENG	131	Introduction to Literature
ENG	231	American Literature I
ENG	232	American Literature II
ENG	241	British Literature I
ENG	242	British Literature II
ENG	243	Major British Writers
ENG	261	World Literature I
FNG	262	World Literature II

*English literature courses may be taken with advisor's approval. All prerequisites must be met.

HIMANITIES

110101	~	20
HUM	110	Technology and Society
HUM	115	Critical Thinking
HUM	120	Cultural Studies
HUM	121	The Nature of America
HUM	122	Southern Culture
HUM	123	Appalachian Culture
HUM	130	Myth and Human Culture
HUM	150	American Women's Studies
HUM	160	Introduction to Film
HUM	211	Humanities I
HUM	212	Humanities II
HUM	220	Human Values and Meaning

MUSIC

MUS	110	Music Appreciation
MUS	112	Introduction to Jazz
MUS	113	American Music

MUS 114 Non-Western Music

PHILOSOPHY

PHI	210	History of Philosophy
PHI	215	Philosophical Issues
PHI	230	Introduction to Logic

Introduction to Logic PHI 240 Introduction to Ethics

RELIGION

REL	110	World Religions
REL	211	Intro to Old Testament

REL 212 Intro to New Testament

A.A.S. Social / Behavioral Sciences **General Education Electives**

The following courses are classified as Social/Behavioral Sciences for A.A.S. degree programs. A.A.S. students may take any course on this list.

ANTHROPOLOGY

- ANT 210 General Anthropology
- ANT 220 Cultural Anthropology
- ANT 240 Archaeology

ECONOMICS

- ECO 151 Survey of Economics
- ECO 251 Principles of Microeconomics
- ECO 252 Principles of Macroeconomics

GEOGRAPHY

- GEO 111 World Regional Geography
- GEO 112 Cultural Geography

HISTORY

- HIS 111 World Civilizations I
- HIS 112 World Civilizations II
- HIS 115 Introduction to Global History
- HIS 131 American History I
- HIS 132 American History II
- Women and History HIS 162
- 221 African American History HIS
- HIS 226 The Civil War
- 227 HIS Native American History
- HIS 236 North Carolina History

POLITICAL SCIENCE

- POL 110 Introduction to Political Science
- American Government POL 120
- POL 130 State and Local Government
- POL 210 **Comparative Government**
- POL 220 International Relations

PSYCHOLOGY

- PSY 110 Life Span Development
- Interpersonal Psychology PSY 118
- General Psychology PSY 150
- PSY 231 Forensic Psychology
- PSY 237 Social Psychology
- 239 Psychology of Personality PSY
- PSY 241 **Developmental Psychology**
- PSY 246 Adolescent Psychology
- PSY 271 Sports Psychology
- PSY 275 Health Psychology
- Abnormal Psychology PSY 281

SOCIOLOGY

- SOC 210 Introduction to Sociology
- SOC 213 Sociology of the Family
- SOC 215 **Group Processes**
- SOC 220 Social Problems
- SOC Social Diversity 225
- SOC 232 Social Context of Aging SOC 234
- Sociology of Gender
- SOC 240 Social Psychology
- SOC 254 Rural and Urban Sociology

1 2 2

Academic Related

ACA 111 College Student Success	1 0 1
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Prerequisites: None

Corequisites: None

Available: As Needed

This course introduces the college's physical, academic, and social environment and promotes the personal development essential for success. Topics include campus facilities and resources; policies, procedures, and programs; study skills; and life management issues such as health, self-esteem, motivation, goal-setting, diversity, and communication. Upon completion, students should be able to function effectively within the college environment to meet their educational objectives.

ACA 115 Success and Study Skills

Prerequisites: None

Corequisites: None

Available: Fall, Spring, Summer

This course provides an orientation to the campus resources and academic skills necessary to achieve educational objectives. Emphasis is placed on an exploration of facilities and services, study skills, library skills, self-assessment, wellness, goal-setting, and critical thinking. Upon completion, students should be able to manage their learning experiences to successfully meet educational goals.

Accounting

ACC 120 Principles of Financial Accounting 3 2 4 Prerequisites: None

Corequisites: None

Available: Fall

This course introduces business decision-making using accounting information systems. Emphasis is placed on analyzing, summarizing, reporting, and interpreting financial information. Upon completion, students should be able to prepare financial statements, understand the role of financial information in decision-making and address ethical considerations. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

ACC 121 Principles of Managerial Accounting 3 2 4

Prerequisites: ACC 120 Corequisites: None

Available: Spring

This course includes a greater emphasis on managerial and cost accounting skills. Emphasis is placed on managerial accounting concepts for external and internal analysis, reporting and decision-making. Upon completion, students should be able to analyze and interpret transactions relating to managerial concepts, including product costing systems. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

ACC 129 Individual Income Taxes

Prerequisites: None Corequisites: None

Available: Fall

This course introduces the relevant laws governing individual income taxation. Topics include tax law, electronic research and methodologies, and the use of technology for preparation of individual tax returns. Upon completion, students should be able to analyze basic tax scenarios, research applicable tax law, and complete various individual tax forms.

ACC 130 Business Income Taxes 2 2 3

Prerequisites: ACC 129 Corequisites: None Available: Spring

This course introduces the relevant laws governing business and fiduciary income taxes. Topics include tax law relating to business organizations, electronic research and methodologies, and the use of technology for the preparation of business tax returns. Upon completion, students should be able to analyze basic tax scenarios, research applicable tax law, and complete various business tax forms.

ACC 131 Federal Income Taxes	2	2	3
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Prerequisites: None

0 2 1

Corequisites: None

Available: As Needed

This course provides an overview of federal income taxes for individuals, partnerships, and corporations. Topics include tax law, electronic research and methodologies, and the use of technology for the preparation of individual and business tax returns. Upon completion, students should be able to analyze basic tax scenarios, research applicable tax law, and complete federal tax returns for individuals, partnerships, and corporations.

ACC 140 Payroll Accounting

Prerequisites: ACC 115 or ACC 120

Corequisites: None

Available: Spring

This course covers federal and state laws pertaining to wages, payroll taxes, payroll tax forms, and journal and general ledger transactions. Emphasis is placed on computing wages; calculating social security, income, and unemployment taxes; preparing appropriate payroll tax forms; and journalizing/posting transactions. Upon completion, students should be able to analyze data, make appropriate computations, complete forms, and prepare accounting entries using appropriate technology.

ACC 150 Accounting Software Applications 1 2 2

Prerequisites: ACC 115 or ACC 120

Corequisites: None

Available: Summer

This course introduces microcomputer applications related to accounting systems. Topics include general ledger, accounts receivable, accounts payable, inventory, payroll, and correcting, adjusting, and closing entries. Upon completion, students should be able to use a computer accounting software package to solve accounting problems.

ACC 180 Practices in Bookkeeping 3 0 3

Prerequisites: ACC 120 Corequisites: None

Available: Spring

2 2 3

This course provides advanced instruction in bookkeeping and record-keeping functions. Emphasis is placed on mastering adjusting entries, correction of errors, depreciation, payroll, and inventory. Upon completion, students should be able to conduct all key bookkeeping functions for small businesses.

*ACC 220 Intermediate Accounting I

Prerequisites: ACC 120 Corequisites: None Available: Fall

This course is a continuation of the study of accounting principles with in-depth coverage of theoretical concepts and financial statements. Topics include generally accepted accounting principles and extensive analyses of financial statements. Upon completion, students should be able to demonstrate competence in the conceptual framework underlying financial accounting, including the application of financial standards.

3 2 4

ACC 240 Government & Not-for-Profit Accounting 3 0 3

Prerequisites: ACC 121

Corequisites: None

Available: Fall, Spring

This course introduces principles and procedures applicable to governmental and not-for-profit organizations. Emphasis is placed on various budgetary accounting procedures and fund accounting. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered.

*ACC 269 Auditing and Assurance Services

Prerequisites: ACC 220

Corequisites: None

Available: Spring

This course introduces selected topics pertaining to the objectives, theory and practices in engagements providing auditing and other assurance services. Topics will include planning, conducting and reporting, with emphasis on the related professional ethics and standards. Upon completion, students should be able to demonstrate an understanding of the types of professional services, the related professional standards, and engagement methodology.

Air Conditioning, Heating, and Refrigeration

*AHR 110	Introduction to Refrigeration	2	6	5
Prerequisites:	None			

Corequisites: None

Available: Fall, Spring

This course introduces the basic refrigeration process used in mechanical refrigeration and air conditioning systems. Topics include terminology, safety, and identification and function of components; refrigeration cycle; and tools and instrumentation used in mechanical refrigeration systems. Emphasis will be placed on how refrigeration theory, principles and practice are used in the refrigeration (cooling trades). Upon completion, students should be able to identify refrigeration systems and components, explain the refrigeration process, and use the tools and instrumentation of the trade.

AHR 111	HVACR Electricity	2	2	3
Prerequisites:	None			
Corequisites:	None			

Available: Fall

This course introduces electricity as it applies to HVACR equipment. Emphasis is placed on power sources, interaction of electrical components, wiring of simple circuits, and the use of electrical test equipment. Upon completion, students should be able to demonstrate good wiring practices and the ability to read simple wiring diagrams.

*AHR 112	Heating Technology	2	4	4
Prerequisites	s: None			

Corequisites: None Available: Fall

This course covers the fundamentals of heating including oil, gas, and electric heating systems. Topics include safety, tools and instrumentation, system operating characteristics, installation techniques, efficiency testing, electrical power, and control systems. Upon completion, students should be able to explain the basic oil, gas, and electrical heating systems and describe the major components of a heating system.

*AHR 113 Comfort Cooling

Prerequisites: None Corequisites: None Available: Spring

This course covers the installation procedures, system operations, and maintenance of residential and light commercial comfort cooling systems. Topics include terminology, component operation, and testing and repair of equipment used to control and produce assured comfort levels. Upon completion, students should be able to use psychometrics, manufacturer specifications, and test instruments to determine proper system operation.

*AHR 114 Heat Pump Technology

Prerequisites: AHR 110 or AHR 113

Corequisites: None

3

30

Available: Fall, Summer

This course covers the principles of air source and water source heat pumps. Emphasis is placed on safety, modes of operation, defrost systems, refrigerant charging, and system performance. Upon completion, students should be able to understand and analyze system performance and perform routine service procedures.

*AHR 115	Refrigeration Systems	1 3 2

Prerequisites: AHR 110 Corequisites: None Available: As Needed

This course introduces refrigeration systems and applications. Topics include defrost methods, safety and operational control, refrigerant piping, refrigerant recovery and charging, and leak testing. Emphasis will be placed on how refrigeration theory, principles and practice are used in the air conditioning trade. Upon completion, students should be able to assist in installing and testing refrigeration systems and perform simple repairs.

*AHR 125 HVAC Electronics 1 3 2

Prerequisites: None

Corequisites: AHR 111 or ELC 111

Available: Spring

This course introduces the common electronic control components in HVAC systems. Emphasis is placed on identifying electronic components and their functions in HVAC systems and motor-driven control circuits. Upon completion, students should be able to identify components, describe control circuitry and functions, and use test instruments to measure electronic circuit values and identify malfunctions.

*AHR 130 HVAC Controls

Prerequisites: AHR 111 or ELC 111 Corequisites: None Available: Spring This course covers the types

This course covers the types of controls found in residential and commercial comfort systems. Topics include electrical and electronic controls, control schematics and diagrams, test instruments, and analysis and troubleshooting of electrical systems. Upon completion, students should be able to diagnose and repair common residential and commercial comfort systems controls.

AHR 160 Refrigerant Certification 1 0 1

Prerequisites: None

Corequisites: None

Available: Summer

This course covers the requirements for the EPA certification examinations. Topics include small appliances, high pressure systems, and low pressure systems. Upon completion, students should be able to demonstrate knowledge of refrigerants and be prepared for the EPA certification examinations.

2 4 4

2 2 3

AHR 170 Heating Lab

Prerequisites: None Corequisites: AHR 112 Available: Fall, Spring

This course provides a laboratory experience in heating technology. Emphasis is placed on providing practical experience in the fundamentals of heating. Upon completion, students should be able to demonstrate an understanding of electric, oil, and gas fueled heating systems.

AHR 172 Heat Pump Lab

Prerequisites: None

Corequisites: AHR 114

Available: Fall, Summer

This course provides a laboratory experience in heat pump technology. Emphasis is placed on providing practical experience with air source and water heat pumps. Upon completion, students should be able to demonstrate an understanding of heat pump year round comfort systems.

*AHR 210 Residential Building Code 1 2

Prerequisites: Basic computer literacy is necessary (if you do not have basic skills, CTS 060 will give you the foundation for this course)

Corequisites: None

Available: Fall, Spring

This course covers the residential building codes that are applicable to the design and installation of HVAC systems. Topics include current residential codes as applied to HVAC design, service, and installation. Upon completion, students should be able to demonstrate the correct usage of residential building codes that apply to specific areas of the HVAC trade.

*AHR 211 Residential System Design 2 2

Prerequisites: None

Corequisites: None

Available: As Needed

This course introduces the principles and concepts of conventional residential heating and cooling system design. Topics include heating and cooling load estimating, basic psychometrics, equipment selection, duct system selection, and system design. Upon completion, students should be able to design a basic residential heating and cooling system.

*AHR 212 Advanced Comfort Systems 2 6 4

Prerequisites: AHR 114

Corequisites: None

Available: As Needed

This course covers water-cooled comfort systems, watersource/geothermal heat pumps, and high efficiency heat pump systems including variable speed drives and controls. Emphasis is placed on the application, installation, and servicing of watersource systems and the mechanical and electronic control components of advanced comfort systems. Upon completion, students should be able to test, analyze, and troubleshoot watercooled comfort systems, water-source/geothermal heat pumps, and high efficiency heat pumps. Hydronic (hot water) and steam heating systems will also be studied.

Alternative Energy Technology

ALT 120 Renewable Energy Tech

Prerequisites: AHR 111, ELC 111, ELC 112 or ELC 139 Corequisites: SST 130AB Available: As Needed

This course provides an introduction to multiple technologies that allow for the production and conservation of energy from renewable sources. Topics include hydroelectric, wind power, passive and active solar energy, tidal energy, appropriate building techniques, and energy conservation methods.

1 Upon completion, students should be able to demonstrate an understanding of renewable energy production and its impact on humans and their environment.

ALT 130 Biogas Operations I 2 0 2

Prerequisite: Enrollment in the Industrial Systems Technology Program Corequisites: ALT 130A or COE 111

Available: As Needed

03

0 3 1

2

3

2 2 3

This course introduces the extraction and collection of biogas. Emphasis is placed on gas production and operations. Upon completion, students should be able to demonstrate an understanding of the operation and maintenance of a biogas production facility.

ALT 130A Biogas Operations I Lab 0 3 1

Prerequisite: None

Corequisites: ALT 130

Available: As Needed

This course provides students with the opportunity to enhance skills associated with industrial operations in the extraction and collection of biogas. Emphasis is placed on location, equipment, components, and facilities associated with biogas production and operations. Upon completion, students should be able to demonstrate an understanding of the equipment, components and facilities necessary to operate a biogas production facility.

ALT 131 Biogas Operations II 2 0 2

Prerequisite: ALT 130

Corequisites: ALT 131A or COE 121 Available: As Needed

Available. As needed

This course introduces the combustion and use of energy from biogas. Emphasis is placed upon gas combustion flaring, air quality, and gas to energy production. Upon completion, students should be able to demonstrate an understanding of gas combustion principles and energy production at a biogas production facility.

ALT 131A Biogas Operations II Lab

Prerequisite: None Corequisites: ALT 131

Available: As Needed

This course provides students with the opportunity to enhance skills associated with processes necessary to turn biogas into an effective combustible energy source. Emphasis is placed on industrial equipment, components, and facilities that are necessary for managing biogas processes, combustion flaring, air quality, and gas-to-energy production. Upon completion, students should be able to demonstrate an understanding of biogas processes, equipment, components, and facilities necessary for biogas production

ALT 220 Photovoltaic Sys Tech 2 3 3

Prerequisites: ALT 120 Corequisites: SST 130BB

Available: As Needed

This course introduces the concepts, tools, techniques, and materials needed to understand systems that convert solar energy into electricity with photovoltaic (pv) technologies. Topics include site analysis for system integration, building codes, and advances in photovoltaic technology. Upon completion, students should be able to demonstrate an understanding of the principles of photovoltaic technology and current applications.

134

ALT 240 Wind & Hydro Power Sys

Prerequisite: None Corequisites: None

Available: As Needed

This course introduces concepts, designs, tools, techniques, and material requirements for systems that convert wind and water into usable energy. Topics include the analysis, measurement, and estimation of potential energy of wind and water systems. Upon completion, students should be able to demonstrate an understanding of the technologies associated with converting wind and water into a viable energy source.

ALT 250	Thermal Systems	2	2	3
ALI 290	i nermai Systems	2	2	

Prerequisites: None

Corequisites: None

Available: As Needed

This course introduces concepts, tools, techniques, and materials used to convert thermal energy into a viable, renewable energy resource. Topics include forced convection, heat flow and exchange, radiation, the various elements of thermal system design, regulations, and system installation and maintenance. Upon completion, students should be able to demonstrate an understanding of geothermal and solar thermal systems and corresponding regulations.

Anthropology

ANT 210	General Anthropology	3	0	3
Prerequisites:	None			
Corequisites:	None			
Available: Fal	I, Spring			
This course	e introduces the physical, archaeological	lin	guis	tic.

and ethnological fields of anthropology. Topics include human origins, genetic variations, archaeology, linguistics, primatology, and contemporary cultures. Upon completion, students should be able to demonstrate an understanding of the four major fields of anthropology. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

ANT 220 **Cultural Anthropology** 3 0 3

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course introduces the nature of human culture. Emphasis is placed on cultural theory, methods of fieldwork, and crosscultural comparisons in the areas of ethnology, language, and the cultural past. Upon completion, students should be able to demonstrate an understanding of basic cultural processes and how cultural data are collected and analyzed. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/ behavioral sciences.

ANT 240	Archaeology
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Prerequisites: None Corequisites: None

Available: Fall, Spring

This course introduces the scientific study of the unwritten record of the human past. Emphasis is placed on the process of human cultural evolution as revealed through archaeological methods of excavation and interpretation. Upon completion, students should be able to demonstrate an understanding of how archaeologists reconstruct the past and describe the variety of past human cultures. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

23 Architecture

2

ARC 111 Intro to Arch Technology

Prerequisites: None

Corequisites: None Available: Fall

This course introduces basic architectural drafting techniques, lettering, use of architectural and engineer scales, and sketching. Topics include orthographic, axonometric, and oblique drawing techniques using architectural plans, elevations, sections, and details; reprographic techniques; and other related topics. Upon completion, students should be able to prepare and print scaled drawings within minimum architectural standards.

ARC 112 Construction Materials and Methods 3 2 4

Prerequisites: None

Corequisites: None Available: Fall, Spring

This course introduces construction materials and their methodologies. Topics include construction terminology, materials and their properties, manufacturing processes, construction techniques, and other related topics. Upon completion, students should be able to detail construction assemblies and identify construction materials and properties.

ARC 113 Residential Arch Tech 1 6 3

Prerequisites: ARC 111

Corequisites: ARC 112 Available: Spring

This course covers intermediate residential working drawings. Topics include residential plans, elevations, sections, details, schedules, and other related topics. Upon completion, students should be able to prepare a set of residential working drawings that are within accepted architectural standards.

ARC 131 Building Codes

Prerequisites: ARC 112 or CAR 111 Corequisites: None Available: As Needed

This course covers the methods of researching building codes for specific projects. Topics include residential and commercial building codes. Upon completion, students should be able to determine the code constraints governing residential and commercial projects.

1 3 2 ARC 210 Intro to Sustain Design

Prerequisites: ARC-111 Corequisites: None

Available: Fall

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This course introduces concepts and principles related to sustainable site development and architectural design. Topics include low impact and sustainable site development, water efficiency, energy efficiency, material and resource management, indoor environmental quality, and return on investment. Upon completion, students should be able to articulate and integrate sustainable design principles into site and architectural design.

ARC 230 Environmental Systems

Prerequisites: ARC 111 and MAT 121, MAT 151, MAT 161, MAT 171, or MAT 175

Corequisites: None

Available: Fall

This course introduces plumbing, mechanical (HVAC), and electrical systems for the architectural environment. Topics include basic plumbing, mechanical, and electrical systems for residential and/or commercial buildings with an introduction to selected code requirements. Upon completion, students should be able to perform related calculations.

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Course Descriptions

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ARC 240 Site Planning

Prerequisites: ARC 111 or LAR 111 Corequisites: None Available: As Needed

This course introduces the principles of site planning, grading plans, and earthwork calculations. Topics include site analysis, site work, site utilities, cut and fill, soil erosion control, and other related topics. Upon completion, students should be able to prepare site development plans and details and perform cut and fill calculations.

ARC 261 Solar Technology

Prerequisites: ARC 111

Corequisites: None Available: As Needed

This course introduces passive and active solar design theory and application. Topics include passive solar design, active solar theory, heat loss analysis, and other related topics. Upon completion, students should be able to design a passive solar system.

Art

ART 111 Art Appreciation

Prerequisites: None Corequisites: None

Available: Fall, Spring, Summer

This course introduces the origins and historical development of art. Emphasis is placed on the relationship of design principles to various art forms including but not limited to sculpture, painting, and architecture. Upon completion, students should be able to identify and analyze a variety of artistic styles, periods, and media. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

ART 114 Art History Survey I

Prerequisites: None Corequisites: None

Available: Fall

This course covers the development of art forms from ancient times to the Renaissance. Emphasis is placed on content, terminology, design, and style. Upon completion, students should be able to demonstrate an historical understanding of art as a product reflective of human social development. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

ART 115 Art History Survey II

Prerequisites: None Corequisites: None

Available: Spring

This course covers the development of art forms from the Renaissance to the present. Emphasis is placed on content, terminology, design, and style. Upon completion, students should be able to demonstrate an historical understanding of art as a product reflective of human social development. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

2 2 3 **ART 117 Non-Western Art History**

Prerequisites: None

Corequisites: None

This course introduces non-Western cultural perspectives. Emphasis is placed on, but not limited to, African, Oriental, and Oceanic art forms throughout history. Upon completion, students should be able to demonstrate an historical understanding of art as a product reflective of non-Western social and cultural development. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

ART 121	Two-Dimensional Design	0	6	3
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Prerequisites: None

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3 0 3 Corequisites: None

Available: Fall, Spring

This course introduces the elements and principles of design as applied to two-dimensional art. Emphasis is placed on the structural elements, the principles of visual organization, and the theories of color mixing and interaction. Upon completion, students should be able to understand and use critical and analytical approaches as they apply to two-dimensional visual art. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

ART 122 Three-Dimensional Design Λ 6 3

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course introduces basic studio problems in threedimensional visual design. Emphasis is placed on the structural elements and organizational principles as applied to mass and space. Upon completion, students should be able to apply three-dimensional design concepts. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

ART 131 Drawing I

Prerequisites: None

Corequisites: None Available: Fall

This course introduces the language of drawing and the use of various drawing materials. Emphasis is placed on drawing techniques, media, and graphic principles. Upon completion, students should be able to demonstrate competence in the use of graphic form and various drawing processes. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

This course continues instruction in the language of drawing

and the use of various materials. Emphasis is placed on

experimentation in the use of drawing techniques, media, and

graphic materials. Upon completion, students should be able

to demonstrate increased competence in the expressive use of

graphic form and techniques. This course has been approved

to satisfy the Comprehensive Articulation Agreement pre-

major and/or elective course requirement.

ART 132 Drawing II Prerequisites: ART 131

Corequisites: None Available: Spring

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Course Descriptions

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ART 171 Computer Art I

Prerequisites: None Corequisites: None

Available: Fall, Spring

This course introduces the use of the computer as a tool for solving visual problems. Emphasis is placed on fundamentals of computer literacy and design through bit-mapped image manipulation. Upon completion, students should be able to demonstrate an understanding of paint programs, printers, and scanners to capture, manipulate, and output images. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

ART 214 I	Portfolio and Resume	0	2	1
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Prerequisites: None

Corequisites: None

Available: Spring

This course covers resume writing, interview skills, and the preparation and presentation of an art portfolio. Emphasis is placed on the preparation of a portfolio of original artwork, the preparation of a photographic portfolio, approaches to resume writing, and interview techniques. Upon completion, students should be able to mount original art for portfolio presentation, photograph and display a professional slide portfolio, and write an effective resume. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

ART 231 Print	tmaking I O	6
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Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course introduces printmaking: its history, development techniques, and processes. Emphasis is placed on basic applications with investigation into image source and development. Upon completion, students should be able to produce printed images utilizing a variety of methods. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/ or elective course requirement.

ART 240 Painting I

Prerequisites: ART 121 or ART 131 or Department Chair's approval of student's art portfolio to replace prerequisites

Corequisites: None

Available: Fall, Spring

This course introduces the language of painting and the use of various painting materials. Emphasis is placed on the understanding and use of various painting techniques, media, and color principles. Upon completion, students should be able to demonstrate competence in the use of creative processes directed toward the development of expressive form. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

ART 241 Painting II

Prerequisites: ART 240 Corequisites: None Available: Spring

This course provides a continuing investigation of the materials, processes, and techniques of painting. Emphasis is placed on the exploration of expressive content using a variety of creative processes. Upon completion, students should be able to demonstrate competence in the expanded use of form and variety. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

3 ART 244 Watercolor 0 6 Prerequisites: ART 121 or ART 131 or Department Chair's approval of

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student's art portfolio to replace prerequisites Corequisites: None

Available: Fall, Spring

This course introduces basic methods and techniques used in watercolor. Emphasis is placed on application, materials, content, and individual expression. Upon completion, students should be able to demonstrate a variety of traditional and nontraditional concepts used in watercolor media. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

ART 260Photography Appreciation303Prerequisites: NoneCorequisites: NoneAvailable: Fall, Spring

Available: Fall, Spring This course introduce:

This course introduces the origins and historical development of photography. Emphasis is placed on the study of composition and history of photography as an art form. Upon completion, students should be able to recognize and produce, using color transparencies, properly exposed, well-composed photographs. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

ART 261 Photography I 0 6 3 Prerequisites: None

Corequisites: None

Available: Fall, Spring

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This course introduces photographic equipment, theory, and processes. Emphasis is placed on camera operation, composition, darkroom technique, and creative expression. Upon completion, students should be able to successfully expose, develop, and print a well-conceived composition. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

ART 262	Photography II	0	6
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Prerequisites: Art 261 Corequisites: None

Available: Spring

This course introduces the creative manipulation of alternative photographic materials and processes such as toning, hand coloring, infrared, and multiple exposure. Emphasis is placed on personal vision and modes of seeing. Upon completion, students should be able to create properly exposed images using a variety of photographic materials and processes. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

ART 264	Digital Photography I	1 4 3
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Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course introduces digital photographic equipment, theory and processes. Emphasis is placed on camera operation, composition, computer photo manipulation and creative expression. Upon completion, students should be able to successfully expose, digitally manipulate, and print a wellconceived composition. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

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Course Descriptions

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ART 265 Digital Photography II

Prerequisites: Art 264 Corequisites: None Available: Spring

This course provides exploration of the concepts and processes of photo manipulation through complex composite images, special effects, color balancing and image/text integration. Emphasis is placed on creating a personal vision and style. Upon completion, students should be able to produce well-executed images using a variety of photographic and photo manipulative approaches. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

ART 266 Videography I 0

Prerequisites: None Corequisites: None Available: Fall

This course introduces various aspects of basic video production including concept development, scripting, camera operation, and post-production. Emphasis is placed on creative expression, camera handling, story boarding and editing. Upon completion, students should be able to demonstrate a basic understanding of video camera operation and production techniques. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

ART 271Computer Art II063Prerequisites: Art 171

Corequisites: None

Available: Spring

This course includes advanced computer imaging techniques. Emphasis is placed on creative applications of digital technology. Upon completion, students should be able to demonstrate command of computer systems and applications to express their personal vision. This course has been approved to satisfy the Comprehensive Articulation Agreement premajor and/or elective course requirement.

ART 275 Intro to Commercial Art

Prerequisites: Art 171

Corequisites: None

Available: As Needed

This course introduces the materials and techniques used in creative layout design for publication. Emphasis is placed on design for advertising in a variety of techniques and media including computer graphics. Upon completion, students should be able to demonstrate competence In manual cameraready layout design and computer graphics literacy. This course has been approved to satisfy the Comprehensive Articulation Agreement as a pre-major and/or elective course requirement.

AKI 281 Sculpture I	ART 281	Sculpture I	
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Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course provides an exploration of the creative and technical methods of sculpture with focus on the traditional processes. Emphasis is placed on developing basic skills as they pertain to three-dimensional expression in various media. Upon completion, students should be able to show competence in a variety of sculptural approaches. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

3 ART 282 Sculpture II Prerequisites: ART 281

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Corequisites: None Available: Spring

This course builds on the visual and technical skills learned in ART 281. Emphasis is placed on developing original solutions to sculptural problems in a variety of media. Upon completion, students should be able to express individual ideas using the techniques and materials of sculpture. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

ART 283 Ceramics I Prerequisites: None Corequisites: None Available: Fall

This course provides an introduction to three-dimensional design principles using the medium of clay. Emphasis is placed on fundamentals of forming, surface design, glaze application, and firing. Upon completion, students should be able to demonstrate skills in slab and coil construction, simple wheel forms, glaze technique, and creative expression. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

ART 284 Ceramics II Prerequisites: ART 283 Corequisites: None Available: Spring

This course covers advanced hand building and wheel techniques. Emphasis is placed on creative expression, surface design, sculptural quality, and glaze effect. Upon completion, students should be able to demonstrate a high level of technical competence in forming and glazing with a development of three-dimensional awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

Astronomy

AST 111 Descriptive Astronomy	3	0	3
Prerequisites: None			
Corequisites: AST 111A			
Available: Fall, Spring			
This course introduces an overall view of modern a	astr	ono	my.
Topics include an overview of the solar system	i, th	ne s	un,
stars, galaxies, and the larger universe. Upon c	omp	oleti	on,
students should be able to demonstrate an underst	stan	ding	g of
the universe around them. This course has been	ар	prov	ved
to satisfy the Comprehensive Articulation Agreeme	ent g	gene	eral
education core requirement in natural science/math	iema	atics	S.

AST 111A Descriptive Astronomy Lab 0 2 1

Prerequisites: None Corequisites: AST 111

Available: Fall, Spring

The course is a laboratory to accompany AST 111. Emphasis is placed on laboratory experiences which enhance the materials presented in AST 111 and which provide practical experience. Upon completion, students should be able to demonstrate an understanding of the universe around them. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

Automation Training

*ATR 112 Introduction to Automation	2	3	3
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Prerequisites: None

Corequisites: None

Available: As Needed

This course introduces the basic principles of automated manufacturing and describes the tasks that technicians perform on the job. Topics include the history, development, and current applications of robots and automated systems including their configuration, operation, components, and controls. Upon completion, students should be able to understand the basic concepts of automation and robotic systems.

*ATR 282 **Robotics and CIM**

Prerequisites: None

Corequisites: None

Available: Spring

This course covers robotics and CIM. Topics include application, programming, and maintenance of robotic devices and the relationship between robotics and CIM. Upon completion, students should be able to safely program, operate, and maintain robots and understand the relationship between robotics and CIM.

Automotive

*AUT 110	Introduction to Automotive Technology	2	2	3
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Prerequisites: None

Corequisites: None

Available: Fall

This course covers work-place safety, hazardous material and environmental regulations and procedures, proper use of hand tools, use of service information resources, and the basic concepts, systems and terms of automotive technology. Topics include familiarization with vehicle systems along with identification and proper use of various automotive hand and power tools. Upon completion, students should be able to describe safety and environmental procedures, terms associated with automobiles, identify and use basic tools and shop equipment.

*AUT 116 2 3 3 **Engine Repair**

Prerequisites: None Corequisites: AUT 116A

Available: Fall, Spring

This course covers the theory, construction, inspection, diagnosis, and repair of internal combustion engines and related systems. Topics include fundamental operating principles of engines and diagnosis, inspection, adjustment, and repair of automotive engines using appropriate service information. Upon completion, students should be able to perform basic diagnosis, measurement and repair of automotive engines using appropriate tools, equipment, procedures, and service information.

*AUT 116A Engine Repair Lab

Prerequisites: None Corequisites: AUT 116

Available: Fall, Spring

This course is an optional lab for the program that needs to meet NATEF hour standards but does not have a Coop component in the program. Topics include diagnosis, inspection, adjustment, and repair of automotive engines using appropriate service information. Upon completion, students should be able to perform basic diagnosis, measurement and repair of automotive engines using appropriate tools, equipment, procedures, and service information.

*AUT 141 **Suspension and Steering Systems**

Prerequisites: None

Corequisites: AUT 141A

Available: Fall, Summer

This course covers principles of operation, types, and diagnosis/repair of suspension and steering systems to include steering geometry. Topics include manual and power steering systems and standard and electronically controlled suspension and steering systems. Upon completion, students should be able to identify steering and suspension problems, service and repair steering and suspension components, check and adjust alignment angles, and repair and balance tires.

*AUT 141A Suspension and Steering Systems Lab 3 1

Prereguisites: None

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Corequisites: AUT 141 Available: Fall, Summer

This course is an optional lab for the program that needs to meet NATEF hour standards but does not have a Co-op component in the program. Topics include manual and power steering systems and standard and electronically controlled suspension and steering systems. Upon completion, students should be able to identify steering and suspension problems, service and repair steering and suspension components, check and adjust alignment angles, and repair and balance tires.

*AUT 151 **Brake Systems** 2 3 3

Prerequisites: None Corequisites: AUT 151A

Available: Fall, Spring

This course covers principles of operation and types, diagnosis, service, and repair of brake systems. Topics include drum and disc brakes involving hydraulic, vacuum boost, hydra-boost, electrically powered boost, and anti-lock and parking brake systems. Upon completion, students should be able to diagnose, service, and repair various automotive braking systems.

*AUT 151A Brake Systems Lab Λ

Prerequisites: None

Corequisites: AUT 151 Available: Fall, Spring

This course is an optional lab for the program that needs to meet NATEF hour standards but does not have a Co-op component in the program. Topics include drum and disc brakes involving hydraulic, vacuum-boost, hydra-boost, electrically powered boost, and anti-lock, parking brake systems and emerging brake systems technologies. Upon completion, students should be able to diagnose, service, and repair various automotive braking systems.

*AUT 161 **Basic Automotive Electricity** 3 5

Prerequisites: None

Corequisites: None

Available: Fall

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This course covers basic electrical theory, wiring diagrams, test equipment, and diagnosis/repair/replacement of batteries, starters, and alternators. Topics include Ohm's Law, Circuit construction, wiring diagrams, circuit testing, and basic trouble shooting. Upon completion, students should be able to read and understand wiring diagrams, diagnose, test, and repair basic wiring, battery, starting, charging, and basic electrical concerns.

abtech.edu

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*AUT 163 Advanced Automotive Electricity/Electronics 2 3 3

Prerequisites: AUT 161

Corequisites: None

Available: Fall, Spring

This course covers basic electronic theory, wiring diagrams, test equipment, and diagnosis /repair/replacement of electronics, lighting, gauges, driver information, horn, wiper, accessories, and body modules. Topics include networking and module communication, circuit construction, wiring diagrams, circuit testing, and basic trouble shooting. Upon completion, students should be able to read and understand wiring diagrams, diagnose, test, and repair basic wiring, lighting, gauges, accessories, modules, and basic electronic concerns.

*AUT 171 Automotive Climate Control	2	4	4
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Prerequisites: None

Corequisites: None

Available: Summer

This course covers the theory of refrigeration and heating, electrical/electronic/pneumatic controls, and diagnosis/repair of climate control systems. Topics include diagnosis and repair of climate control components and systems, recovery/recycling of refrigerants, and safety and environmental regulations. Upon completion, students should be able to describe the operation, diagnose, and safely service climate control systems using appropriate tools, equipment, and service information.

*AUT 181 Engine Performance 1 2 3 3

Prerequisites: None

Corequisites: None

Available: Spring, Summer

This course covers the introduction, theory of operation, and basic diagnostic procedures required to restore engine performance to today's vehicles equipped with complex engine control systems. Topics include an overview of engine operation, ignition components and systems, fuel delivery, injection components and systems and emission control devices. Upon completion students should be able to describe operation of and diagnose/repair basic ignition, fuel and emission related drivability problems using appropriate test equipment and service information.

*AUT 221 Automatic Transmissions/Transaxles 2 3

Prerequisites: None

Corequisites: AUT 221A

Available: Spring

This course covers operation, diagnosis, service, and repair of automatic transmissions/transaxles. Topics include hydraulic, pneumatic, mechanical, and electrical/electronic operation of automatic drive trains and the use of appropriate service tools and equipment. Upon completion, students should be able to explain operational theory, diagnose and repair automatic drive trains.

*AUT 221A Automatic Transmissions/Transaxles Lab 0 3 1

Prerequisites: None

Corequisites: AUT 221

Available: Spring

This course is an optional lab for the program that needs to meet NATEF hour standards but does not have a Co-op component in the program and covers diagnosis, service, and repair of automatic transmissions/transaxles. Topics include hydraulic, pneumatic, mechanical, and electrical/electronic operation of automatic drive trains and the use of appropriate service tools and equipment. Upon completion, students should be able to diagnose and repair automatic drive trains.

*AUT 231 Manual Trans/Transaxles and Drivetrains 2 3 3

Prerequisites: None Corequisites: AUT 231A Available: Fall This course course the

This course covers the operation, diagnosis, and repair of manual transmissions/transaxles, clutches, driveshafts, axles, and final drives. Topics include theory of torque, power flow, and manual drive train servicing and repair using appropriate service information, tools, and equipment. Upon completion, students should be able to explain operational theory, diagnose and repair manual drive trains.

*AUT 231A Manual Trans/Transaxles and Drivetrains Lab 0 3 1

Prerequisites: None

Corequisites: AUT 231

Available: Fall

This course is an optional lab for the program that needs to meet NATEF hour standards but does not have a Co-op component in the program. Topics include manual drive train diagnosis, service and repair using appropriate service information, tools, and equipment. Upon completion, students should be able to diagnose and repair manual drive trains.

*AUT 281 Advanced Engine Performance 2 2 3

Prerequisites: None

Corequisites: None Available: Spring, Summer

This course utilizes service information and specialized test equipment to diagnose and repair power train control systems. Topics include computerized ignition, fuel and emission systems, related diagnostic tools and equipment, data communication networks, and service information. Upon completion, students should be able to perform diagnosis and repair.

*AUT 285 Intro to Alternative Fuels 2 2 3

Prerequisites: None

Corequisites: None Available: Spring, Summer

This course is an overview of alternative fuels and alternative fueled vehicles. Topics include composition and use of alternative fuels, including compressed natural gas, propane, biodiesel, ethanol, electric, hydrogen, synthetic fuels, and vehicles that use alternative fuels. Upon completion, students should be able to identify alternative fuel vehicles, explain how each alternative fuel delivery system works, and make minor repairs.

Biology

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BIO 090 Foundations of Biology	3	2	4
Prerequisites: None			
Corequisites: RED 090			
Available: As Needed			
This course introduces basic biological concept	ts.	Тор	ics
include basic biochemistry, cell structure and	fu	ncti	on,
interrelationships among organisms, scientific method	lolo	gy, a	nd
other related topics. Upon completion, students shou	ıld l	be al	ble
to demonstrate preparedness for college-level biology	v co	urse	s.
BIO 094 Concepts of Human Biology	3	2	4

Corequisites: ENG 095 or RED 090

Available: As Needed

This course focuses on fundamental concepts of human biology. Topics include terminology, biochemistry, cell biology, tissues, body systems, and other related topics. Upon completion, students should be able to demonstrate preparedness for college-level anatomy and physiology courses.

140

BIO 110 Principles of Biology

Prerequisites: None Corequisites: None

Available: Fall, Spring, Summer

This course provides a survey of fundamental biological principles for non-science majors. Emphasis is placed on basic chemistry, cell biology, metabolism, genetics, taxonomy, evolution, ecology, diversity, and other related topics. Upon completion, students should be able to demonstrate increased knowledge and better understanding of biology as it applies to everyday life. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

3 3 4 **BIO 111 General Biology I**

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course introduces the principles and concepts of biology. Emphasis is placed on basic biological chemistry, cell structure and function, metabolism and energy transformation, genetics, evolution, classification, and other related topics. Upon completion, students should be able to demonstrate understanding of life at the molecular and cellular levels. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

BIO 112	General Biology II	3	3	4
Prerequisites	: BIO 111			
Corequisites:	None			

Available: Fall, Spring

This course is a continuation of BIO 111. Emphasis is placed on organisms, biodiversity, plant and animal systems, ecology, and other related topics. Upon completion, students should be able to demonstrate comprehension of life at the organismal and ecological levels. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

BIO 120	Introductory Botany	3	3	4
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Prerequisites: BIO 110 or BIO 111

Corequisites: None

Available: Fall, Spring

This course provides an introduction to the classification, relationships, structure, and function of plants. Topics include reproduction and development of seed and non-seed plants, levels of organization, form and function of systems, and a survey of major taxa. Upon completion, students should be able to demonstrate comprehension of plant form and function, including selected taxa of both seed and non-seed plants. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

BIO 130	Introductory Zoology	3	3	4
Prerequisites	: BIO 110 or BIO 111			
Corequisites:	None			
Available: Fa	II, Spring			
This cours	e provides an introduction to the cla	ssifi	cati	or
			. 1.	1.

relationships, structure, and function of major animal phyla. Emphasis is placed on levels of organization, reproduction and development, comparative systems, and a survey of selected phyla. Upon completion, students should be able to demonstrate comprehension of animal form and function including comparative systems of selected groups. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

BIO 140 Environmental Biology

Prerequisites: None Corequisites: None Available: Fall, Spring

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This course introduces environmental processes and the influence of human activities upon them. Topics include ecological concepts, population growth, natural resources, and a focus on current environmental problems from scientific, social, political, and economic perspectives. Upon completion, students should be able to demonstrate an understanding of environmental interrelationships and of contemporary environmental issues. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.

BIO 140A Environmental Biology Lab 0 3 1

Prerequisites: None

Corequisites: BIO 140 Available: Fall, Spring

This course provides a laboratory component to complement BIO 140. Emphasis is placed on laboratory and field experience. Upon completion, students should be able to demonstrate a practical understanding of environmental interrelationships and of contemporary environmental issues. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.

BIO 143 Field Biology Minicourse 2 2 1 Prerequisites: None Corequisites: None

Available: As Needed

This course introduces the biological and physical components of a field environment. Emphasis is placed on a local field environment with extended field trips to other areas. Upon completion, students should be able to demonstrate an understanding of the biological and physical components of the specific biological environment. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

BIO 155 Nutrition

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Prerequisites: None

Corequisites: None Available: Fall, Spring, Summer

This course covers the biochemistry of foods and nutrients with consideration of the physiological effects of specialized diets for specific biological needs. Topics include cultural, religious, and economic factors that influence a person's acceptance of food, as well as nutrient requirements of the various life stages. Upon completion, students should be able to identify the functions and sources of nutrients, the mechanisms of digestion, and the nutritional requirements of all age groups. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

BIO 161 Intro to Human Biology

Prerequisites: None

Corequisites: None

Available: Fall

This course provides a basic survey of human biology. Emphasis is placed on the basic structure and function of body systems and the medical terminology used to describe normal and pathological states. Upon completion, students should be able to demonstrate an understanding of normal anatomy and physiology and the appropriate use of medical terminology.

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BIO 163 Basic Anatomy and Physiology

Prerequisites: RED 090

Corequisites: None

Available: Fall, Spring

This course provides a basic study of the structure and function of the human body. Topics include a basic study of the body systems as well as an introduction to homeostasis, cells, tissues, nutrition, acid-base balance, and electrolytes. Upon completion, students should be able to demonstrate a basic understanding of the fundamental principles of anatomy and physiology and their interrelationships. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

BIO 168	Anatomy and Physiology I	3 3 4
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Prerequisites: RED 090

Corequisites: None

Available: Fall, Spring, Summer

This course provides a comprehensive study of the anatomy and physiology of the human body. Topics include body organization, homeostasis, cytology, histology, and the integumentary, skeletal, muscular, and nervous systems, and special senses. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and their interrelationships. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/ or elective course requirement.

Anatomy and Physiology II **BIO 169**

Prerequisites: BIO 168

Corequisites: None

Available: Fall, Spring, Summer

This course provides a continuation of the comprehensive study of the anatomy and physiology of the human body. Topics include the endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems as well as metabolism, nutrition, acid-base balance, and fluid and electrolyte balance. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and their interrelationships. This course has been approved to satisfy the Comprehensive Articulation Agreement transferability as a premajor and/or elective course requirement.

BIO 175 General Microbiology

Prerequisites: Select One: BIO 110, BIO 111, BIO 163, BIO 165, BIO 168 Corequisites: None

Available: Fall, Spring, Summer

This course covers principles of microbiology with emphasis on microorganisms and human disease. Topics include an overview of microbiology and aspects of medical microbiology, identification and control of pathogens, disease transmission, host resistance, and immunity. Upon completion, students should be able to demonstrate knowledge of microorganisms and the disease process as well as aseptic and sterile techniques. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

BIO 223 **Field Botany**

Prerequisites: BIO 112 Corequisites: None

Available: Spring

This course provides a field and laboratory study of local flora. Emphasis is placed on local flora classification, identification, and ecology by the use of keys and field studies. Upon completion, students should be able to use keys for the classification and identification of local flora and to

demonstrate an understanding of plant ecology. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

BIO 224 **Local Flora Spring** 1 2 2

Prerequisites: None Corequisites: None

Available: Spring

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> native plants. Emphasis is placed on spring wild flowers. Upon completion, students should be able to identify a variety of spring wild flowers and native plants. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

BIO 225 1 2 2

Prerequisites: None

Corequisites: None

Available: Summer, As Needed

This course provides an introduction to the identification of native plants. Emphasis is placed on summer wild flowers. Upon completion, students should be able to identify a variety of summer wild flowers and native plants. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

BIO 226	Local Flora Fall	1	2	2
Prerequisites:	None			

Corequisites: None

Available: Fall

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This course provides an introduction to the identification of native plants. Emphasis is placed on fall wild flowers. Upon completion, students should be able to identify a variety of fall wild flowers and native plants. This course has been approved to satisfy the Comprehensive Articulation Agreement premajor and/or elective course requirement.

BIO 250 Genetics

Prerequisites: BIO 112 Corequisites: None Available: Fall

This course covers principles of prokaryotic and eukaryotic cell genetics. Emphasis is placed on the molecular basis of heredity, chromosome structure, patterns of Mendelian and non-Mendelian inheritance, evolution, and biotechnological applications. Upon completion, students should be able to recognize and describe genetic phenomena and demonstrate knowledge of important genetic principles.

BIO 271 Pathophysiology

Prerequisites: Select One: BIO 163, BIO 166, BIO 169

Corequisites: None

Available: Fall, Spring

This course provides an in-depth study of human pathological processes and their effects on homeostasis. Emphasis is placed on interrelationships among organ systems in deviations from homeostasis. Upon completion, students should be able to demonstrate a detailed knowledge of pathophysiology. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability pre-major and/or elective course requirement.

This course provides an introduction to the identification of

Local Flora Summer

142

BIO 275 Microbiology

Prerequisites: Select One: BIO 110, BIO 111, BIO 163, BIO 165, BIO 168 Corequisites: None

Available: Fall, Spring, Summer

This course covers principles of microbiology and the impact these organisms have on man and the environment. Topics include the various groups of microorganisms, their structure, physiology, genetics, microbial pathogenicity, infectious diseases, immunology, and selected practical applications. Upon completion, students should be able to demonstrate knowledge and skills including microscopy, aseptic technique, staining, culture methods, and identification of microorganisms. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

Baking and Pastry Arts

*BPA 120 **Petit Fours & Pastries**

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Prerequisites: CUL 110 and CUL 160 Corequisites: None

Available: Spring

This course introduces the basic principles of the preparation and plating of a variety of petit fours and individual dessert pastries. Emphasis is placed on traditional and contemporary petit fours and pastries, utilizing updated production methods. Upon completion, students should be able to produce individual pastries and petit fours for buffet and special event settings.

*BPA 130 **European Cakes and Tortes** 1 43

Prerequisites: CUL 110 and CUL 160

Corequisites: None

Available: Spring

This course introduces the production of a wide variety of classical and modern cakes suitable for restaurants, retail shops and large-scale production. Emphasis is placed on classic cakes using the methods of mixing, filling, glazing and icing. Upon completion, students should be able to prepare, assemble and decorate gelatin-based and layered torts and cakes such as Bavarian, Dobos and Sacher.

*BPA 150 Artisan & Specialty Bread

Prerequisites: CUL 110, CUL 142 and CUL 160 Corequisites: None

Available: Spring

This course provides an advanced study in the art and craft of bread making. Topics include pertinent formulas and techniques associated with naturally leavened loaves, hearth breads, focaccia, flat breads, and other breads utilizing a variety of grains. Upon completion, students should be able to prepare artisan and specialty breads that meet or exceed the expectations of restaurant and retail publics.

*BPA 210 **Cake Design & Decorating** 1

Prerequisites: CUL 110 and CUL 160

Corequisites: None

Available: Fall

This course covers advanced concepts in the design and decoration of wedding cakes and other specialty cakes. Topics include baking, filling and assembling cakes; cake design; finishing techniques utilizing gum paste, fondant, and royal icing; and advanced piping skills. Upon completion, students should be able to design, create, finish and evaluate the quality of wedding and specialty cakes.

*BPA 220 **Confection Artistry**

Prerequisites: BPA 240, CUL 110 and CUL 160 Corequisites: None Available: Spring

This course introduces the principles and techniques of decorative sugar work and confectionary candy. Topics include nougat, marzipan modeling, pastillage and cocoa painting, confection candy and a variety of sugar techniques including blown, spun, poured and pulled. Upon completion, students should be able to prepare edible centerpieces and confections to enhance dessert buffets and plate presentations.

*BPA 230 **Chocolate Artistry**

Prerequisites: BPA 240, CUL 110 and CUL 160 Corequisites: None Available: Spring

This course provides a study in the art and craft of chocolate. Topics include chocolate tempering, piping, and molding; decorative work associated with cakes and centerpieces; and the candy production techniques of filling, enrobing and dipping. Upon completion, students should be able to properly evaluate tempered chocolate, and produce a variety of chocolate candies and decorative elements for garnishing desserts.

*BPA 240 Plated Desserts

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Prerequisites: BPA 120, BPA 130, CUL 110, CUL 160, and COE 112 Corequisites: None

Available: Fall

This course provides a study in the elements and principles of design as they relate to plated desserts. Topics include plate composition, portioning, flavor pairings, textures, temperatures, eye appeal, balance, color harmony and plate decorating/painting techniques such as stenciling and chocolate striping. Upon completion, students should be able to demonstrate competence in combining a variety of dessert components enhanced with plate decorating techniques.

*BPA 250 **Dessert/Bread Production** 8 1

Prerequisites: BPA 150, BPA 210, COE 112, CUL 110 and CUL 160 Corequisites: None

Available: Fall

This course is designed to merge artistry and innovation with the practical baking and pastry techniques utilized in a production setting. Emphasis is placed on quantity bread and roll-in dough production, plated and platter presentations, seasonal/theme product utilization and cost effectiveness. Upon completion, students should be able to plan, prepare and evaluate breads and desserts within a commercial environment and determine production costs and selling prices.

*BPA 260 Pastry & Baking Marketing 2 2 3

Prerequisites: BPA 150, BPA 210, BPA 240, BPA 250, and COE 112 Corequisites: BPA 220, BPA 230, and BPA 250

Available: Spring

This course is designed to cover the marketing concepts and merchandising trends utilized in bakery and pastry operations. Emphasis is placed on menu planning, pricing products and strategies, resale and wholesale distribution methods, legal implications, and advertising techniques. Upon completion, students should be able to create a marketing plan that will serve as a basis for a capstone experience.

Course Descriptions

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Catalog 2011-2012

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Course Descriptions

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Blueprint Reading

BPR 111 Blueprint Reading

Prerequisites: None Corequisites: None

Available: Fall, Spring

This course introduces the basic principles of blueprint reading. Topics include line types, orthographic projections, dimensioning methods, and notes. Upon completion, students should be able to interpret basic blueprints and visualize the features of a part.

BPR 121 Blueprint Reading: Mechanical

Prerequisites: BPR 111 or MAC 131

Corequisites: None

Available: Spring

This course covers the interpretation of intermediate blueprints. Topics include tolerancing, auxiliary views, sectional views, and assembly drawings. Upon completion, students should be able to read and interpret a mechanical working drawing.

BPR 130Blueprint Reading/Construction122

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course covers the interpretation of blueprints and specifications that are associated with the construction trades. Emphasis is placed on interpretation of details for foundations, floor plans, elevations, and schedules. Upon completion, students should be able to read and interpret a set of construction blueprints.

BPR 135Schematics and Diagrams202

Prerequisites: None

Corequisites: None

Available: Summer

This course introduces schematics and diagrams used in a variety of occupations. Topics include interpretation of wiring diagrams, assembly drawings, exploded views, sectional drawings, and service manuals, specifications, and charts. Upon completion, students should be able to research and locate components and assemblies denoting factory specifications and requirements from service and repair manuals.

Biotechnology

BTC 181 Basic Lab Techniques

Prerequisites: Enrollment in the Biotechnology Program or Dept. Approval Corequisites: None

Available: Summer

This course introduces the basic skills and knowledge necessary in a biological or chemical laboratory. Emphasis is placed on good manufacturing practices, safety, solution preparation, and equipment operation and maintenance following standard operating procedures. Upon completion, students should be able to prepare and perform basic laboratory procedures using labware, solutions, and equipment according to prescribed protocols.

BTC 250 Principles of Genetics 3 0 3

Prerequisites: BIO 111

Corequisites: None

Available: Fall

This course covers the basic principles of molecular genetics. Topics will include Mendelian inheritance, DNA replication, RNA transcription, translation of proteins, chromosome structure, and evolution. Upon completion, students should be able to demonstrate knowledge of molecular genetics and principles of heredity.

BTC 270 Recombinant DNA Tech

Prerequisites:(BTC 250 or BIO 250) and BTC 181

Corequisites: None Available: Spring

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This course covers basic methods in biotechnology for the manipulation of nucleic acids. Emphasis is placed on topics concerning techniques used in recombinant DNA technology, including PCR, restriction digests, mapping, cloning, and forensics. Upon completion, students should have an understanding of the theory, practice, and application of recombinant DNA techniques.

BTC 282	Biotech Fermentation I	2	6	4
Prereguisites: BTC 181				

Corequisites: None

Available: Fall

This course provides an introduction to fermentor classification and configuration for small-scale laboratory processes utilizing prokaryotic organisms to demonstrate techniques used in fermentation procedures. Topics include Batch Process Records, fermentor design, fermentation theory, and medium formulation as well as techniques used for cell harvesting, cell disruption and fractionation methods. Upon completion, students should be able to set up a fermentor; grow prokaryotic cells; and isolate and collect various fractions derived from fermentation.

BTC 283 Biotech Fermentation II 2 6 4

Prerequisites: BTC 282 Corequisites: None Available: Spring

This course introduces techniques for recovery of fermentation products to include removal of insolubles, product isolation, high resolution techniques and product polishing using eukaryotic cells. Topics include filter design, separation processes such as flocculation, coagulation, distillation, liquidliquid extraction, different types of chromatography and emerging technologies for product recovery. Upon completion, students should be able to perform eukaryotic cell cultivation and various separation techniques used in small-scale fermentation with an understanding of scale-up procedures.

BTC 285 Cell Culture

Prerequisites: BIO 175 or BIO 275

Corequisites: None Available: Fall

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This course introduces the theory and practices required to successfully initiate and maintain plant and animal cell cultures. Topics include aseptic techniques, the growth environment, routine maintenance of cell cultures, specialized culture techniques, and various applications. Upon completion, students should be able to demonstrate the knowledge and skills required to grow, maintain, and manipulate cells in culture.

BTC 286 Immunological Techniques 3 3 4

Prerequisites: BTC 285 or Department Approval

Corequisites: None

Available: Spring

This course covers the principles and practices of modern immunology, including the interactions between the various cellular and chemical components of the immune response. Topics include antigens, humoral immunity, cellular immunity, complement, immunological assays, and hybridoma use and production. Upon completion, students should be able to discuss the immune response, perform immunological assays, and make monoclonal antibody-producing hybridomas.
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BTC 288 Biotech Lab Experience

Prerequisites: BIO 250 or BTC 270, and BTC 281, BTC 285, or BTC 286 Corequisites: None

Available: Summer

This course provides an opportunity to pursue an individual laboratory project in biotechnology. Emphasis is placed on developing, performing, and maintaining records of a project in a specific area of interest. Upon completion, students should be able to complete the project with accurate records and demonstrate an understanding of the process.

Business Administration

3 **BUS 110** Introduction to Business 0

Prerequisites: None

Corequisites: None

Available: Fall, Summer

This course provides a survey of the business world. Topics include the basic principles and practices of contemporary business. Upon completion, students should be able to demonstrate an understanding of business concepts as a foundation for studying other business subjects. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

DIIC 115	Rusiness Low I	2 0
R02 112	Business Law I	<u> </u>

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course introduces the ethics and legal framework of business. Emphasis is placed on contracts, negotiable instruments, Uniform Commercial Code, and the working of the court systems. Upon completion, students should be able to apply ethical issues and laws covered to selected business decision-making situations. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

0 **BUS 116 Business Law II** 3

Prerequisites: BUS 115

Corequisites: None

Available: Fall, Spring

This course continues the study of ethics and business law. Emphasis is placed on bailments, sales, risk-bearing, forms of business ownership, and copyrights. Upon completion, students should be able to apply ethical issues and laws covered to selected business decision-making situations.

Principles of Supervision 0 3 **BUS 135** 3

Prerequisites: None Corequisites: None Available: Fall

This course introduces the basic responsibilities and duties of the supervisor and his/her relationship to higher-level supervisors, subordinates, and associates. Emphasis is placed on effective utilization of the work force and understanding the role of the supervisor. Upon completion, students should be able to apply supervisory principles in the workplace.

Principles of Management *BUS 137

Prerequisites: None Corequisites: None Available: Spring, Summer

This course is designed to be an overview of the major functions of management. Emphasis is placed on planning, organizing, controlling, directing, and communicating. Upon completion, students should be able to work as contributing members of a team utilizing these functions of management. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

BUS 147 Business Insurance

Prerequisites: None Corequisites: None Available: Spring

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> This course surveys the basic concepts of risk management. Topics include principles and applications of health, property, life, and casualty insurance. Upon completion, students should be able to evaluate different insurance needs and assist an organization in acquiring adequate insurance coverage.

BUS 151 People Skills

Prerequisites: None Corequisites: None

Available: As Needed

This course introduces the basic concepts of identity and communication in the business setting. Topics include selfconcept, values, communication styles, feelings and emotions, roles versus relationships, and basic assertiveness, listening, and conflict resolution. Upon completion, students should be able to distinguish between unhealthy, self-destructive, communication patterns and healthy, non-destructive, positive communication patterns.

BUS 153 Human Resources Management 0 3 3 Prerequisites: None

Corequisites: None

Available: Spring

This course introduces the functions of personnel/human resource management within an organization. Topics include equal opportunity and the legal environment, recruitment and selection, performance appraisal, employee development, compensation planning, and employee relations. Upon completion, students should be able to anticipate and resolve human resource concerns.

BUS 175 Contract Negotiations 0 3 3

Prerequisites: None Corequisites: None

Available: As Needed

This course covers theory, strategies, techniques and tactics for negotiating contracts, and principles and practices of negotiations for government, corporate or institutional procurements. Topics include preparation and conduct of negotiations and methods of dealing with situations under different types of negotiations. Upon completion, students should be able to effectively negotiate contracts.

BUS 217 Employment Law and Regulations 0 3 3 Prerequisites: None

Corequisites: None

Available: Spring

This course introduces the principle laws and regulations affecting public and private organizations and their employees or prospective employees. Topics include fair employment practices, EEO, affirmative action, and employee rights and protections. Upon completion, students should be able to evaluate organization policy for compliance and assure that decisions are not contrary to law.

BUS 225 Business Finance

Prerequisites: ACC 120

Corequisites: None Available: As Needed

This course provides an overview of business financial management. Emphasis is placed on financial statement analysis, time value of money, management of cash flow, risk and return, and sources of financing. Upon completion, students should be able to interpret and apply the principles of financial management.

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BUS 234 Training and Development

Prerequisites: None Corequisites: None Available: Fall

This course covers developing, conducting, and evaluating employee training with attention to adult learning principles. Emphasis is placed on conducting a needs assessment, using various instructional approaches, designing the learning environment, and locating learning resources. Upon completion, students should be able to design, conduct, and evaluate a training program.

*BUS 239 Business Applications Seminar 1

Prerequisites: ACC 120, BUS 115, BUS 137, MKT 120 and either ECO 151, ECO 251 or ECO 252

Corequisites: None

Available: Spring

This course is designed as a capstone course for Business Administration majors. Emphasis is placed on decision making in the areas of management, marketing, production, purchasing, and finance. Upon completion, students should be able to apply the techniques, processes, and vital professional skills needed in the workplace.

BUS 240 Business Ethics 3 0 3

Prerequisites: None

Corequisites: None

Available: Spring, Summer

This course introduces contemporary and controversial ethical issues that face the business community. Topics include moral reasoning, moral dilemmas, law and morality, equity, justice and fairness, ethical standards, and moral development. Upon completion, students should be able to demonstrate an understanding of their moral responsibilities and obligations as members of the work force and society.

BUS 255 Org Behavior in Business 3 0 3

Prerequisites: None

Corequisites: None

Available: Spring

This course covers the impact of different management practices and leadership styles on worker satisfaction and morale, organizational effectiveness, productivity, and profitability. Topics include a discussion of formal and informal organizations, group dynamics, motivation, and managing conflict and change. Upon completion, students should be able to analyze different types of interpersonal situations and determine an appropriate course of action.

BUS 256 Recruit Select and Per Plan

Prerequisites: None

- Corequisites: None
- Available: Fall

This course introduces the basic principles involved in managing the employment process. Topics include personnel planning, recruiting, interviewing and screening techniques, maintaining employees records; and voluntary and involuntary separations. Upon completion, students should be able to acquire and retain employees who match position requirements and fulfill organizational objectives. The course is a unique concentration requirement of the Human Resources Management concentration in the Business Administration program.

3 BUS 258 Compensation and Benefits 3 0

Prerequisites: None Corequisites: None Available: Fall

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This course is designed to study the basic concepts of pay and its role in rewarding performance. Topics include wage and salary surveys, job analysis, job evaluation techniques, benefits, and pay-for-performance programs. Upon completion, students should be able to develop and manage a basic compensation system to attract, motivate, and retain employees. This course is a unique concentration requirement of the Human Resources Management concentration in the Business Administration program.

BUS 259 HRM Applications 3 0 3

Prerequisites: BUS 217, BUS 234, BUS 256, and BUS 258

Corequisites: None Available: Spring

This course provides students in the Human Resources Management concentration the opportunity to reinforce their learning experiences from preceding HRM courses. Emphasis is placed on application of day-to-day HRM functions by completing in-basket exercises and through simulations. Upon completion, students should be able to determine the appropriate actions called for by typical events that affect the status of people at work. This course is a unique concentration requirement of the Human Resources Management concentration in the Business Administration program.

BUS 260 Business Communication 3 0 3

Prerequisites: CIS 110 and ENG 111

Corequisites: None

Available: As Needed

This course is designed to develop skills in writing business communications. Emphasis is placed on business reports, correspondence, and professional presentations. Upon completion, students should be able to communicate effectively in the workplace.

BUS 270 Professional Development 3 0 3

Prerequisites: None

Corequisites: None

Available: As Needed

This course provides basic knowledge of self-improvement techniques as related to success in the professional world. Topics include positive human relations, job-seeking skills, and projecting positive self-image. Upon completion, students should be able to demonstrate competent personal and professional skills necessary to get and keep a job.

BUS 280 REAL Small Business 4 0 4 Prerequisites: None

Corequisites: None

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Available: Spring

This course introduces hands-on techniques and procedures for planning and opening a small business, including the personal qualities needed for entrepreneurship. Emphasis is placed on market research, finance, time management, and dayto-day activities of owning/operating a small business. Upon completion, students should be able to write and implement a viable business plan and seek funding.

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Cabinetmaking

CAB 111	Cabinetmaking I	4	9	7
Prerequisites:	None			

Corequisites: CAR 110 or CMT 212 Available: Fall, Spring

This course introduces wood technology, materials, purchasing, estimating, design considerations, and cabinet

construction. Topics include wood identification and use, hand tools, safe machine operation, glue and clamping, abrasives, wood joinery, kitchen and bath layout, laminates, and finishing techniques. Upon completion, students should be able to select and process materials; make sound production decisions; and design, lay-out, construct, and install cabinets. This is a diploma-level course.

CAB 119Cabinetry/Millworking497Prerequisites: None

Corequisites: CAR 110 or CMT 212

Available: Spring

This course introduces wood technology, cabinet construction, and mill-working. Topics include safety, hand/power tools, wood identification and use, wood joinery, abrasives, cabinet layout, laminates, finishing techniques, and other related topics. Upon completion, students should be able to select and process materials using accurate drawings and cut lists and install finished products.

Carpentry

CAR 110Introduction to Carpentry202Prerequisites: NoneCorequisites: None

Available: Fall, Summer

This course introduces the student to the carpentry trade. Topics include duties of a carpenter, hand and power tools, building materials, construction methods, and safety. Upon completion, students should be able to identify hand and power tools, common building materials, and basic construction methods.

CAR 111 Carpentry I

Prerequisites: None Corequisites: CAR 110 or CMT 212

Available: Fall

This course introduces the theory and construction methods associated with the building industry, including framing, materials, tools, and equipment. Topics include safety, hand/ power tool use, site preparation, measurement and layout, footings and foundations, construction framing, and other related topics. Upon completion, students should be able to safely lay out and perform basic framing skills with supervision. This is a diploma-level course.

CAR 112 Carpentry II

Prerequisites: CAR 111 Corequisites: None Available: Fall

This course covers the advanced theory and construction methods associated with the building industry including framing and exterior finishes. Topics include safety, hand/ power tool use, measurement and layout, construction framing, exterior trim and finish, and other related topics. Upon completion, students should be able to safely frame and apply exterior finishes to a residential building with supervision. This is a diploma-level course.

CAR 113 Carpentry III

Prerequisites: CAR 111

Corequisites: None Available: Summer

This course covers interior trim and finishes. Topics include safety, hand/power tool use, measurement and layout, specialty framing, interior trim and finishes, cabinetry, and other related topics. Upon completion, students should be able to safely install various interior trim and finishes in a residential building with supervision. This is a diploma-level course.

CAR 114Residential Building Codes303Prerequisites: NoneCorequisites: NoneAvailable: SpringThis course covers building codes and the requirements of stateand local construction regulations. Emphasis is placed on theminimum requirements of the North Carolina building codesrelated to residential structures. Upon completion, students

CAR 115 Residential Planning/Estimating 3 0 3

should be able to determine if a structure is in compliance with

Prerequisites: BPR 130 Corequisites: None

North Carolina building codes.

Available: Fall

This course covers project planning, management, and estimating for residential or light commercial buildings. Topics include planning and scheduling, interpretation of working drawings and specifications, estimating practices, and other related topics. Upon completion, students should be able to perform quantity take-offs and cost estimates.

Cyber Crime

CCT 110	Introduction to Cyber Crime	3	0	3
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Prerequisites: None

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Corequisites: None

Available: As Needed This course introduces and explains the various types of

offenses that qualify as cyber crime activity. Emphasis is placed on identifying cyber crime activity and the response to these problems from both the private and public domains. Upon completion, students should be able to accurately describe and define cyber crime activities and select an appropriate response to deal with the problem.

CCT 121Computer Crime Investigation324Prerequisites: None

Corequisites: None

Available: As Needed

This course introduces the fundamental principles of computer crime investigation processes. Topics include crime scene/ incident processing, information gathering techniques, data retrieval, collection and preservation of evidence, preparation of reports and court presentations. Upon completion, students should be able to identify cyber crime activity and demonstrate proper investigative techniques to process the scene and assist in case prosecution.

CCT 231Technology Crimes and Law303Prerequisites: NoneCorequisites: None

Available: As Needed

This course covers the applicable technological laws dealing with the regulation of cyber security and criminal activity. Topics include an examination of state, federal and international laws regarding cyber crime with an emphasis on both general and North Carolina statutes. Upon completion, students should be able to identify the elements of cyber crime activity and discuss the trends of evolving laws.

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Computer Engineering Technology

CET 111 Computer Upgrade/Repair I

Prerequisites: MAT 060, RED 080

Corequisites: None

Available: As Needed

This course covers repairing, servicing, and upgrading computers and peripherals in preparation for industry certification. Topics include CPU/memory/bus identification, disk subsystems, hardware/software installation/configuration, common device drivers, data recovery, system maintenance, and other related topics. Upon completion, students should be able to safely repair and/or upgrade computer systems to perform within specifications.

CET 125 Voice and Data Cabling

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course provides an understanding of the industry and its worldwide standards, types of media and cabling, physical and logical networks, including signal transmission. Topics include network design documentation, part list setup, pulling and mounting cable, cable management, wiring closets, patch panel installation and termination including cable testing. Upon completion, students should be able to understand documentation, design, installation and safety issues associated with voice and data cabling.

CET 161 Procedural Programming

Prerequisites: None

Corequisites: None

Available: Fall, Summer

This course introduces procedural programming for engineering applications. Emphasis is placed on event-driven programming methods, including creating and manipulating data, sequencing, iteration, and blocking of code. Upon completion, students should be able to design, code, test and debug at a beginning level.

CFT 211	Computer Ungrade/Renair II	2	3	3
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Prerequisites: CET 111

Corequisites: None

Available: As Needed

This course covers concepts of repair service, and upgrade of computers and peripherals in preparation for industry certification. Topics may include resolving resource conflicts and system bus specifications, configuration and troubleshooting peripherals, operating system configuration and optimization, and other related topics. Upon completion, students should be able to identify and resolve system conflicts and optimize system performance.

CET 212 Integrated Manufacturing Systems

Prerequisites: ELN 237 and (CET 161 or CSC 143)

Corequisites: None

Available: Spring, Summer

This course covers computer topics related to integrated manufacturing systems common to current manufacturing facilities. Topics include robot programming, automated control systems, PLCs, data communication, and networking in an integrated manufacturing environment, and other related topics. Upon completion, students should be able to program robots using teaching pendants and troubleshoot and maintain network installations related to integrated manufacturing systems.

Chemistry

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CHM 092 Fundamentals of Chemistry

Prerequisites: None Corequisites: None

Available: Fall, Spring, Summer

This course covers fundamentals of chemistry with laboratory applications. Topics include measurements, matter, energy, atomic theory, bonding, molecular structure, nomenclature, balancing equations, stoichiometry, solutions, acids and bases, gases, and basic organic chemistry. Upon completion, students should be able to understand and apply basic chemical concepts and demonstrate basic laboratory skills necessary for success in college-level science courses.

CHM 121 Foundations of Chemistry 3 0 3

Prerequisites: None

Corequisites: CHM 121A Available: As Needed

Available: As Needed This course is designed for those who have no previous high school chemistry or a grade of C or less in high school

high school chemistry or a grade of C or less in high school chemistry. Topics include matter, structure of the atom, nomenclature, chemical equations, bonding and reactions; mathematical topics include measurements, scientific notation, and stoichiometry. Upon completion, students should be able to demonstrate an understanding of chemical concepts and an ability to solve related problems in subsequent chemistry courses.

CHM 121A Foundations of Chemistry Laboratory 0 2 1

Prerequisites: None Corequisites: CHM 121 Available: As Needed

This course is a laboratory for CHM 121. Emphasis is placed

on laboratory experiences that enhance materials presented in CHM 121. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical principles presented in CHM 121.

CHM 130 General, Organic, and Biochemistry 3 0 3

Prerequisites: High school chemistry or CHM 092 Corequisites: CHM 130A

Available: Fall, Spring

This course provides a survey of basic facts and principles of general, organic, and biochemistry. Topics include measurement, molecular structure, nuclear chemistry, solutions, acid-base chemistry, gas laws, and the structure, properties, and reactions of major organic and biological groups. Upon completion, students should be able to demonstrate an understanding of fundamental chemical concepts. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

CHM 130A General, Organic, and Biochemistry Lab 0 2 1

Prerequisites: None

Corequisites: CHM 130

Available: Fall, Spring

This course is a laboratory for CHM 130. Emphasis is placed on laboratory experiences that enhance materials presented in CHM 130. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical principles presented in CHM 130. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

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CHM 152 General Chemistry II 3 3 4 Prorequisites: CHM 151
Corequisites: None Available: Fall, Spring, Summer This course provides a continuation of the study of the fundamental principles and laws of chemistry. Topics include kinetics, equilibrium, ionic and redox equations, acid-base theory, electrochemistry, thermodynamics, introduction to nuclear and organic chemistry, and complex ions. Upon completion, students should be able to demonstrate an understanding of chemical concepts as needed to pursue further study in chemistry and related professional fields. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.
CHM 251Organic Chemistry I334Prerequisites: CHM 152Corequisites: NoneAvailable: FallThis course provides a systematic study of the theories, principles, and techniques of organic chemistry. Topics include nomenclature, structure, properties, reactions, and mechanisms of hydrocarbons, alkyl halides, alcohols, and ethers; further topics include isomerization, stereochemistry, and spectroscopy. Upon completion, students should be able to demonstrate an understanding of the fundamental concepts of covered organic topics as needed in CHM 252. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.
CHM 252 Organic Chemistry II 3 3 4 Prerequisites: CHM 251 Corequisites: None Available: Spring This course provides continuation of the systematic study of the theories, principles, and techniques of organic chemistry. Topics include nomenclature, structure, properties, reactions, and mechanisms of aromatics, aldehydes, ketones, carboxylic acids and derivatives, amines and heterocyclics; multi-step synthesis will be emphasized. Upon completion, students should be able to demonstrate an understanding of organic concepts as needed to pursue further study in chemistry and related professional fields. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

General Chemistry I CHM 151

Prerequisites: High school chemistry or CHM 092 Corequisites: MAT 161

Available: Fall, Spring, Summer

This course covers fundamental principles and laws of chemistry. Topics include measurement, atomic and molecular structure, periodicity, chemical reactions, chemical bonding, stoichiometry, thermochemistry, gas laws, and solutions. Upon completion, students should be able to demonstrate an understanding of fundamental chemical laws and concepts as needed in CHM 152. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

CHM 265 **Instrumental Analysis** 2 6 4

Prerequisites: CHM 251

3 3 4

> Corequisites: None Available: As Needed

This course introduces modern instrumental and chromatographic methods. Topics include methods of chromatographic, spectral, and electrochemical analysis which will provide theory of instrumentation, interpretation, and statistical evaluation of analytical data with practical applications. Upon completion, students should be able to perform quantitative analytical procedures using modern instrumentation. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

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CHM 271 Biochemical Principles

Prerequisites: CHM 252 Corequisites: None Available: As Needed

The course covers fundamental principles of biochemistry. Topics include structures, properties, reactions, and mechanisms of biomacromolecules including amino acids, peptides, proteins, carbohydrates and nucleic acids, enzymatic metabolic pathways, and biochemical genetics. Upon completion, students should be able to demonstrate an understanding of fundamental biochemical processes. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirements.

Information Systems

CIS 110 Introduction to Computers

Prerequisites: Basic computer literacy is necessary (if you do not have basic skills, CTS 060 will give you the foundation for this course)

Corequisites: None

Available: Fall, Spring, Summer

This course introduces computer concepts, including fundamental functions and operations of the computer. Topics include identification of hardware components, basic computer operations, security issues, and use of software applications. Upon completion, students should be able to demonstrate an understanding of the role and function of computers and use the computer to solve problems. Microsoft Office will be used in this course; this includes Word, Excel, Access and PowerPoint. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics (Quantitative Option).

CIS 111 Basic PC Literacy

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Prerequisites: Basic computer literacy is necessary (if you do not have basic skills, CTS 060 will give you the foundation for this course)

Corequisites: None

Available: As Needed

This course provides an overview of computer concepts. Emphasis is placed on the use of personal computers and software applications for personal and fundamental workplace use. Upon completion, students should be able to demonstrate basic personal computer skills.

CIS 113 Computer Basics

Prerequisites: None

Corequisites: None Available: As Needed

This course introduces basic computer usage for non-

computers majors. Emphasis is placed on developing basic personal computer skills. Upon completion, students should be able to demonstrate basic computer applications.

CIS 115 Intro to Programming and Logic 2 3

Prerequisites: Select One: MAT 070, MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, MAT 175

Corequisites: None

Available: Fall, Spring

This course introduces computer programming and problem solving in a structured program logic environment. Topics include language syntax, data types, program organization, problem solving methods, algorithm design, and logic control structures. Upon completion, students should be able to manage files with operating system commands, use top-down algorithm design, and implement algorithmic solutions in a programming language. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics (Quantitative Option).

3 CIS 165 Desktop Publishing I

Prerequisites: CIS 110 Corequisites: None Available: Spring

This course provides an introduction to desktop publishing software capabilities. Emphasis is placed on efficient use of a page layout software package to create, design, and print publications; hardware/software compatibility; and integration of specialized peripherals. Upon completion, students should be able to prepare publications given design specifications.

Civil Engineering

CIV 110Statics/Strength of Materials26Prerequisites: MAT 121, MAT 161, MAT 171, or MAT 175

Corequisites: None Available: Fall, Spring

This course includes vector analysis, equilibrium of force systems, friction, sectional properties, stress/strain, and deformation. Topics include resultants and components of forces, moments and couples, free-body diagrams, shear and moment diagrams, trusses, frames, beams, columns, connections, and combined stresses. Upon completion, students should be able to analyze simple structures.

CIV 111 Soils and Foundations 2 3 3

Prerequisites: CIV 110 or MEC 250

Corequisites: None

Available: Fall, Spring

This course presents an overview of soil as a construction material using both analysis and testing procedures. Topics include index properties, classification, stress analysis, compressibility, compaction, dewatering, excavation, stabilization, settlement, and foundations. Upon completion, students should be able to perform basic soil tests and analyze engineering properties of soil.

CIV 125 Civil/Surveying CAD 1 6 3

Prerequisites: DFT 119, DFT 151, or EGR 125

Corequisites: None

Available: Spring

This course introduces civil/surveying computer-aided drafting (CAD) software. Topics include drawing, editing, and dimensioning commands; plotting; and other related civil/ surveying topics. Upon completion, students should be able to produce civil/surveying drawings using CAD software.

CIV 210 Engineering Materials 1 3 2

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course covers the behavior and properties of Portland cement and asphaltic concretes and laboratory and field testing. Topics include cementing agents and aggregates; water and admixtures; proportioning, production, placing, consolidation, and curing; and inspection methods. Upon completion, students should be able to proportion concrete mixes to attain predetermined strengths and other properties and perform standard control tests.

CIV 211 Hydraulics and Hydrology

Prerequisites: CIV 110 or MEC 250

Corequisites: None

Available: Spring, Summer

This course introduces the basic engineering principles and characteristics of hydraulics and hydrology. Topics include precipitation and runoff, fluid statics and dynamics, flow measurement, and pipe and open channel flow. Upon completion, students should be able to analyze and size drainage structures.

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CIV 212 Environmental Planning	
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Prerequisites: CIV 211 Corequisites: None Available: Spring

This course covers water and wastewater technology, erosion and sedimentation control, and other related topics. Topics include collection, treatment, and distribution of water and wastewater and erosion and sedimentation control law. Upon completion, students should be able to demonstrate knowledge of water and wastewater systems and prepare erosion and sedimentation control plans.

CIV 215 Highway Technology 1 3 2

Prerequisites: SRV 111 Corequisites: CIV 211 Available: Fall

This course introduces the essential elements of roadway components and design. Topics include subgrade and pavement construction, roadway drawings and details, drainage, superelevation, and N.C. Department of Transportation Standards. Upon completion, students should be able to use roadway drawings and specifications to develop superelevation, drainage, and general highway construction details.

CIV 220	Basic Structural Concepts	1	3
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Prerequisites: CIV 110 or MEC 250

Corequisites: None

Available: Fall, Summer

This course covers the historical perspective of structures as well as types, materials, common elements, and mechanical principles of structures. Topics include basic structure shapes, advantages and disadvantages of standard building materials, application of structural concepts, and other related topics. Upon completion, students should be able to demonstrate an understanding of basic structural concepts.

CIV 221 Steel and Timber Design 2 3

Prerequisites: CIV 110 or MEC 250

Corequisites: None

Available: Fall, Spring

This course introduces the basic elements of steel and timber structures. Topics include the analysis and design of steel and timber beams, columns, and connections and the use of appropriate manuals and codes. Upon completion, students should be able to analyze, design, and draw simple steel and timber structures. Successful completion of CIV 220 is recommended before attempting this course.

CIV 222 Reinforced Concrete 2 3 3

Prerequisites: CIV 110 or MEC 250 Corequisites: None

Available: Fall, Spring

This course introduces the basic elements of reinforced concrete and masonry structures. Topics include analysis and design of reinforced concrete beams, slabs, columns, footings, and retaining walls; load-bearing masonry walls; and ACI manuals and codes. Upon completion, students should be able to analyze and design components of a structure using reinforced concrete and masonry elements and utilize appropriate ACI publications. Successful completion of CIV 220 is recommended before attempting this course.

CIV 230 Construction Estimating

Prerequisites: ARC 111, CIS 110, CIS 111, or EGR 115

Corequisites: None Available: Fall, Spring

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This course covers quantity take-offs of labor, materials, and equipment and calculation of direct and overhead costs for a construction project. Topics include the interpretation of working drawings and specifications, types of contracts and estimates, building codes, bidding techniques and procedures, and estimating software. Upon completion, students should be able to prepare a detailed cost estimate and bid documents for a construction project.

CIV 240 Project Management 2 3 3

Prerequisites: ARC 111 or EGR 115 Corequisites: None

Available: Fall, Spring

This course introduces construction planning and scheduling techniques and project management software. Topics include construction safety, operation analysis, construction scheduling, construction control systems, claims and dispute resolutions, project records, and documentation. Upon completion, students should be able to demonstrate an understanding of the roles of construction project participants, maintain construction records, and prepare construction schedules.

CIV 250 Civil Engineering Technology Project 1 3 2

Prerequisites: Department Chair Approval

Corequisites: None

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Available: Fall, Spring

This course includes an integrated team approach to civil engineering technology projects. Emphasis is placed on project proposal, site selection, analysis/design of structures, construction material selection, time and cost estimating, planning, and management of a project. Upon completion, students should be able to apply team concepts, prepare estimates, submit bid proposals, and manage projects.

Criminal Justice

CJC 100Basic Law Enforcement Training93019Prerequisites: RED 080Corequisites: NoneAvailable: Fall, SpringThis course covers the skills and knowledge needed for
entry-level employment as a law enforcement officer in North
Carolina. Emphasis is placed on topics and areas as defined
by the North Carolina Administrative Code. Upon completion,
students should be able to demonstrate competence in
the topics and areas required for the state comprehensive

examination. This is a certificate-level course. CJC 111 Introduction to Criminal Justice 3 0 3 Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course introduces the components and processes of the criminal justice system. Topics include history, structure, functions, and philosophy of the criminal justice system and their relationship to life in our society. Upon completion, students should be able to define and describe the major system components and their interrelationships and evaluate career options. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

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CJC 112 Criminology

Prerequisites: None Corequisites: None Available: Spring

This course introduces deviant behavior as it relates to criminal activity. Topics include theories of crime causation; statistical analysis of criminal behavior; past, present, and future social control initiatives; and other related topics. Upon completion, students should be able to explain and discuss various theories of crime causation and societal response.

CJC 113 Juvenile Justice 3 0 3

Prerequisites: None Corequisites: None Available: Fall

This course covers the juvenile justice system and related juvenile issues. Topics include an overview of the juvenile justice system, treatment and prevention programs, special areas and laws unique to juveniles, and other related topics. Upon completion, students should be able to identify/discuss juvenile court structure/procedures, function and jurisdiction of juvenile agencies, processing/detention of juveniles, and

CJC 114 Investigative Photography 1 2 2

Prerequisites: None

case disposition.

Corequisites: None

Available: As Needed

This course covers the operation of various photographic equipment and its application to criminal justice. Topics include using various cameras, proper exposure of film, developing film/prints, and preparing photographic evidence. Upon completion, students should be able to demonstrate and explain the role of photography and proper film exposure and development techniques.

CJC 120 Interviews/Interrogations

Prerequisites: None

Corequisites: None

Available: As Needed

This course covers basic and special techniques employed in criminal justice interviews and interrogations. Emphasis is placed on the interview/interrogation process, including interpretation of verbal and physical behavior and legal perspectives. Upon completion, students should be able to conduct interviews/interrogations in a legal, efficient, and professional manner and obtain the truth from suspects, witnesses, and victims.

CJC 121 Law Enforcement Operations

Prerequisites: None

Corequisites: None

Available: As Needed

This course introduces fundamental law enforcement operations. Topics include the contemporary evolution of law enforcement operations and related issues. Upon completion, students should be able to explain theories, practices, and issues related to law enforcement operations. There will be an emphasis on practical skills. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

3 CJC 122 Community Policing

Prerequisites: None Corequisites: None

Available: As Needed

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This course covers the historical, philosophical, and practical dimensions of community policing. Emphasis is placed on the empowerment of police and the community to find solutions to problems by forming partnerships. Upon completion, students should be able to define community policing, describe how community policing strategies solve problems, and compare community policing to traditional policing.

CJC 131 Criminal Law

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Prerequisites: None Corequisites: None

Available: Spring

This course covers the history/evolution/principles and contemporary applications of criminal law. Topics include sources of substantive law, classification of crimes, parties to crime, elements of crimes, matters of criminal responsibility, and other related topics. Upon completion, students should be able to discuss the sources of law and identify, interpret, and apply the appropriate statutes/elements. There will be an emphasis on North Carolina law.

CJC 132	Court Procedure and Evidence	3	0	3
Prerequisites	s: None			
Corequisites	: None			

Available: As Needed

This course covers judicial structure/process, procedure from incident to disposition, kinds and degrees of evidence, and the rules governing admissibility of evidence in court. Topics include consideration of state and federal courts, arrest, search and seizure laws, exclusionary and statutory rules of evidence, and other related issues. Upon completion, students should be able to identify and discuss procedures necessary to establish a lawful arrest/search, proper judicial procedures, and the admissibility of evidence.

CJC 160 Terrorism: Underlying Issues 3 0 3

Prerequisites: None

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Corequisites: None

Available: As Needed

This course identifies the fundamental reasons why America is a target for terrorists, covering various domestic/international terrorist groups and ideologies from a historical aspect. Emphasis is placed upon recognition of terrorist crime scenes; weapons of mass destruction; chemical, biological, and nuclear terrorism; and planning consideration involving threat assessments. Upon completion, the student should be able to identify and discuss the methods used in terrorists' activities and complete a threat assessment for terrorists' incidents.

CJC 170 Critical Incident Management for Public Safety3 0 3

Prerequisites: None

Corequisites: None

Available: As Needed

This course prepares the student to specialize in the direct response, operations, and management of critical incidents. Emphasis is placed upon the theoretical and applied models to understand and manage disasters, terrorism, and school/work place violence. Upon completion, the student should be able to identify and discuss managerial techniques, legal issues, and response procedures to critical incidents.

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CJC 212	Ethics and Community Relations	3	0	3	CJC 222	Criminalistics	3	0	3
Prerequisites	s: None				Prerequisites	s: None			
Corequisites	: None				Corequisites	: None			

Available: Spring

This course covers ethical considerations and accepted standards applicable to criminal justice organizations and professionals. Topics include ethical systems; social change, values, and norms; cultural diversity; citizen involvement in criminal justice issues; and other related topics. Upon completion, students should be able to demonstrate the ability to apply ethical considerations to the decision-making process in identifiable criminal justice situations.

CJC 213	Substance Abuse	3	0	3

Prerequisites: None

Corequisites: None

Available: As Needed

This course is a study of substance abuse in our society. Topics include the history and classifications of drug abuse and the social, physical, and psychological impact of drug abuse. Upon completion, students should be able to identify various types of drugs, their effects on human behavior and society, and treatment modalities. Drug enforcement programs and techniques will be discussed.

CJC 214	Victimology	3	0	3
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Prerequisites: None

Corequisites: None

Available: As Needed

This course introduces the study of victims. Emphasis is placed on roles/characteristics of victims, victim interaction with the criminal justice system and society, current victim assistance programs, and other related topics. Upon completion, students should be able to discuss and identify victims, the uniqueness of victims' roles, and current victim assistance programs.

Organization and Administration CJC 215

Prerequisites: None

Corequisites: None

Available: As Needed

This course introduces the components and functions of organization and administration as it applies to the agencies of the criminal justice system. Topics include operations/ functions of organizations; recruiting, training, and retention of personnel; funding and budgeting; communications; span of control and discretion; and other related topics. Upon completion, students should be able to identify and discuss the basic components and functions of a criminal justice organization and its administrative operations.

CJC 221 **Investigative Principles** 2 4 3

Prerequisites: None Corequisites: None

Available: Fall

This course introduces the theories and fundamentals of the investigative process. Topics include crime scene/incident processing, information gathering techniques, collection/ preservation of evidence, preparation of appropriate reports, court presentations, and other related topics. Upon completion, students should be able to identify, explain, and demonstrate the techniques of the investigative process, report preparation, and courtroom presentation.

Available: As Needed

This course covers the functions of the forensic laboratory and its relationship to successful criminal investigations and prosecutions. Topics include advanced crime scene processing, investigative techniques, current forensic technologies, and other related topics. Upon completion, students should be able to identify and collect relevant evidence at simulated crime scenes and request appropriate laboratory analysis of submitted evidence. An emphasis will be placed on current technology for collection and classification of fingerprint evidence.

CJC 223	Organized Crime	3 0) 3
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Prerequisites: None

Corequisites: None Available: As Needed

This course introduces the evolution of traditional and nontraditional organized crime and its effect on society and the criminal justice system. Topics include identifying individuals and groups involved in organized crime, areas of criminal activity, legal and political responses to organized crime, and other related topics. Upon completion, students should be able to identify the groups and activities involved in organized crime and the responses of the criminal justice system.

CJC 225	Crisis Intervention	3	0	3
Prerequisites	: None			
Corequisites:	None			
Available: As	Needed			
This cours	se introduces critical incident interve	entior	1 8	and
manageme	nt techniques as they apply to operation	al cr	imi	inal

justice practitioners. Emphasis is placed on the victim/offender situation as well as job-related high stress, dangerous, or problem-solving citizen contacts. Upon completion, students should be able to provide insightful analysis of emotional, violent, drug-induced, and other critical and/or stressful incidents that require field analysis and/or resolution.

CJC 231 **Constitutional Law** 3 Ω 3

Prerequisites: None

Corequisites: None

Available: Fall

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The course covers the impact of the Constitution of the United States and its amendments on the criminal justice system. Topics include the structure of the Constitution and its amendments, court decisions pertinent to contemporary criminal justice issues, and other related topics. Upon completion, students should be able to identify/discuss the basic structure of the United States Constitution and the rights/ procedures as interpreted by the courts.

Civil Liability CJC 232

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Prerequisites: None

Corequisites: None

Available: As Needed

This course covers liability issues for the criminal justice professional. Topics include civil rights violations, tort liability, employment issues, and other related topics. Upon completion, students should be able to explain civil trial procedures and discuss contemporary liability issues.

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CJC 255 Issue in Criminal Justice App

Prerequisites: CJC 111, CJC 221, and CJC 231 Corequisites: None

Available: As Needed

This course provides an opportunity to exhibit interpersonal and technical skills required for application of criminal justice concepts in contemporary practical situations. Emphasis is placed on critical thinking and integration of theory and practical skills components. Upon completion, students should be able to demonstrate the knowledge required of any entrylevel law enforcement officer.

CJC 261 High-Risk Situations

Prerequisites: None

Corequisites: None

Available: As Needed

This course prepares students to employ proper response methods, including a risk and attack analysis, when faced with high-risk situations. Emphasis will be placed on cover and evacuation techniques when faced with an active, barricaded shooter, improvised explosive device recognition, and hazardous material impact assessment. Upon completion, students would be able to demonstrate an ability to analyze a high-risk situation and use the proper decision-making process to respond. This course is restricted to the Criminal Justice Technology curriculum.

Construction Management

*CMT 210 Professional Construction Supervision 3 0

Prerequisites: None

Corequisites: None

Available: Fall

This course introduces the student to the fundamentals of effective supervision emphasizing professionalism through knowledge and applied skills. Topics include safety, planning and scheduling, contract, problem-solving, communications, conflict resolution, recruitment, employment laws and regulations, leadership, motivation, teamwork, discipline, setting objectives, and training. Upon completion, the student should be able to demonstrate the basic skills necessary to be successful as a supervisor in the construction industry.

*CMT 212 Total Safety Performance 3

Prerequisites: None Corequisites: CMT 210

Available: Fall

This course covers the importance of managing safety and productivity equally by encouraging people to take individual responsibility for safety and health in the workplace. Topics include safety management, controlling construction hazards, communicating and enforcing policies, OSHA compliance, personal responsibility and accountability, safety planning, training, and personal protective equipment. Upon completion, students should be able to supervise safety at a construction job site and qualify for the OSHA Training Certification.

*CMT 214 Planning and Scheduling

Prerequisites: CMT 210 and BPR 130 Corequisites: None

Available: Fall

This course covers the need for the process of planning construction projects, as well as the mechanics and vocabulary of project scheduling. Topics include project preplanning, scheduling format, planning for production, short interval planning, schedule updating and revising, and computer-based planning and scheduling. Upon completion, the student should be able to understand the need for planning and scheduling, the language and logic of scheduling, and use of planning skills.

3 *CMT 216 Costs and Productivity

Prerequisites: CMT 210 Corequisites: None Available: Spring

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This course covers the relationships between time, work completed, work-hours spent, schedule duration, equipment hours, and materials used. Topics include production rates, productivity unit rates, work method improvements, and overall total project cost control. Upon completion, the student should be able to demonstrate an understanding of how costs may be controlled and productivity improved on a construction project.

*CMT 218 Human Relations Issues 3 0 3

Prerequisites: CMT 210 Corequisites: None Available: Spring

This course provides instruction on human relations issues as they relate to construction project supervision. Topics include relationships, human behavior, project staffing issues, teamwork, effective communication networks, laws and regulations, and identifying and responding to conflict, crisis, and discipline. Upon completion, the student will demonstrate an understanding of the importance of human relations in the success of a construction project.

Cooperative Education

COE 111Co-op Work Experience I00101Prerequisites: See Department Chair for prerequisites:
Corequisites: NoneNone00101

Available: See Department Chair for availability

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 112 Co-op Work Experience I 0 0 20 2

Prerequisites: See Department Chair for prerequisites Corequisites: None

Available: See Department Chair for availability

This course provides work experience with a college approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 113 Co-op Work Experience I

Prerequisites: See Department Chair for prerequisites Corequisites: None

Available: See Department Chair for availability

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 115 Work Experience Seminar I 1 0 0 1

Prerequisites: See Department Chair for prerequisites Corequisites: Select one: COE 111, COE 112, COE 113, COE 114

Available: See Department Chair for availability

This course description may be written by the individual colleges.

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COE 121 Co-op Work Experience II

Prerequisites: See Department Chair for prerequisites Corequisites: None

Available: See Department Chair for availability

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

Co-op Work Experience II COE 122

Prerequisites: See Department Chair for prerequisites Corequisites: None

Available: See Department Chair for availability

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 123 Co-op Work Experience II 0 0 30 3

Prerequisites: See Department Chair for prerequisites Corequisites: None

Available: See Department Chair for availability

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

Work Experience Seminar II **COE 125**

Prerequisites: See Department Chair for prerequisites

Corequisites: Select one: COE 121, COE 122, COE 123, COE 124

Available: See Department Chair for availability

This course description may be written by the individual college.

COE 131 Co-op Work Experience III 0 10 1 0

Prerequisites: See Department Chair for prerequisites Corequisites: None

Available: See Department Chair for availability

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

*COE 135 Work Experience Seminar III 10 0 1

Prerequisites: See Department Chair for prerequisites

Corequisites: Select one: COE 131, COE 132, COE 133, COE 134

Available: See Department Chair for availability

This course description my be written by the individual colleges.

COE 212 Work Experience IV

Prerequisites: See Department Chair for prerequisites

Corequisites: None

Available: See Department Chair for availability

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 213 Co-op Work Experience IV

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Prerequisites: See Department Chair for prerequisites Corequisites: None

Available: See Department Chair for availability

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 215 Work Experience Seminar IV

Prerequisites: See Department Chair for prerequisites Corequisites: Select one: COE 211, COE 212, COE 213, COE 214 Available: See Department Chair for availability

This course description may be written by the individual colleges.

Communications

COM 120	Intro to Interpersonal Communication	3	0	3
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Prerequisites: None

Corequisites: None

Available: Fall, Spring, Summer

This course introduces the practices and principles of interpersonal communication in both dyadic and group settings. Emphasis is placed on the communication process, perception, listening, self-disclosure, speech apprehension, ethics, nonverbal communication, conflict, power, and dysfunctional communication relationships. Upon completion, students should be able to demonstrate interpersonal communication skills, apply basic principles of group discussion, and manage conflict in interpersonal communication situations. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/ fine arts (substitute).

COM 140 Intro to Intercultural Communication 0 3 3

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course introduces techniques of cultural research, definitions, functions, characteristics, and impacts of cultural differences in public address. Emphasis is placed on how diverse backgrounds influence the communication act and how cultural perceptions and experiences determine how one sends and receives messages. Upon completion, students should be able to demonstrate an understanding of the principles and skills needed to become effective in communicating outside one's primary culture. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/ fine arts (substitute).

COM 150 Intro to Mass Communication 0 3 3

Prerequisites: ENG 111

Corequisites: None Available: Spring

This course introduces print and electronic media and the new information technologies in terms of communication theory and as economic, political, and social institutions. Topics include the nature, history, functions, and responsibilities of mass communication industries in a global environment and their role and impact in American society. Upon completion, students should be able to demonstrate awareness of the pervasive nature of mass media and how media operate in an advanced post-industrial society. COM 150 has been approved for transfer under the Comprehensive Articulation Agreement as a premajor and/or elective course requirement.

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COM 231 Public Speaking

Prerequisites: RED 090 Corequisites: None

Available: Fall, Spring, Summer

This course provides instruction and experience in preparation and delivery of speeches within a public setting and group discussion. Emphasis is placed on research, preparation, delivery, and evaluation of informative, persuasive, and special occasion public speaking. Upon completion, students should be able to prepare and deliver well-organized speeches and participate in group discussion with appropriate audiovisual support. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts (substitute).

COM 250 Public Communication

Prerequisites: ENG 113 or ENG 114, and COM 120 or COM 231

Corequisites: None

Available: As Needed

This course provides a comprehensive theoretical background for the practice of speaking in public utilizing rhetoric principles applied in a series of speaking experiences. Emphasis is on informative and persuasive advanced speaking skills; speaking using the teleprompter, and on-camera presentations of news, weather and commercials. Upon completion of a portfolio of course assignments, students should be able to construct, present, and critique public communications messages that are complex, dynamic and purposeful for broadcast (radio and television), web delivery, and professional forums. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

Cosmetology

COS 111	Cosmetology Concepts I	4	0	4
Prerequisites:	None			

Corequisites: COS 112

Available: Fall

This course introduces basic cosmetology concepts. Topics include safety, first aid, sanitation, bacteriology, anatomy, diseases and disorders, hygiene, product knowledge, chemistry, ethics, manicures, and other related topics. Upon completion, students should be able to safely and competently apply cosmetology concepts in the salon setting.

COS 112 Salon I Prerequisites: None

Corequisites: COS 111

Available: Fall

This course introduces basic salon services. Topics include scalp treatments, shampooing, rinsing, hair color, design, haircutting, permanent waving, pressing, relaxing, wigs, and other related topics. Upon completion, students should be able to safely and competently demonstrate salon services.

COS 113 Cosmetology Concepts II

Prerequisites: COS 111 Corequisites: COS 114

Available: Spring, Summer

This course covers more comprehensive cosmetology concepts. Topics include safety, product knowledge, chemistry, manicuring, chemical restructuring, and hair coloring. Upon completion, students should be able to safely and competently apply these cosmetology concepts in the salon setting.

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Prerequisites: COS 112 Corequisites: COS 113 Available: Spring, Summer

This course provides experience in a simulated salon setting. Topics include basic skin care, manicuring, nail application, scalp treatments, shampooing, rinsing, hair color, design, haircutting, chemical restructuring, pressing, wigs, and other related topics. Upon completion, students should be able to safely and competently demonstrate these salon services.

COS 115Cosmetology Concepts III404Prerequisites: COS 113

Corequisites: COS 116 Available: Spring, Summer

This course covers more comprehensive cosmetology concepts. Topics include safety, product knowledge, salon management, salesmanship, skin care, electricity/light therapy, wigs, thermal hair styling, lash and brow tinting, superfluous hair removal, and other related topics. Upon completion, students should be able to safely and competently apply these cosmetology concepts in the salon setting.

COS 116 Salon III

Prerequisites: COS 114

Corequisites: COS 115

Available: Spring, Summer

This course provides comprehensive experience in a simulated salon setting. Emphasis is placed on intermediate-level of skin care, manicuring, scalp treatments, shampooing, hair color, design, haircutting, chemical restructuring, pressing, and other related topics. Upon completion, students should be able to safely and competently demonstrate these salon services.

COS 117	Cosmetology Concepts IV	2	0	2
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Prerequisites: COS 115 Corequisites: COS 118 Available: Fall, Summer

This course covers advanced cosmetology concepts. Topics include chemistry and hair structure, advanced cutting and design, and an overview of all cosmetology concepts in preparation for the licensing examination. Upon completion, students should be able to demonstrate an understanding of these cosmetology concepts and meet program completion requirements.

COS 118Salon IVPrerequisites: COS 116Corequisites: COS 117Available: Fall, Summer

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This course provides advanced experience in a simulated salon setting. Emphasis is placed on efficient and competent delivery of all salon services in preparation for the licensing examination and employment. Upon completion, students should be able to demonstrate competence in program requirements and the areas covered on the Cosmetology Licensing Examination and meet entry-level employment requirements.

Prerequisites: RED 080 or placement Corequisites: COS 120

Available: Fall

This course covers the concepts of esthetics. Topics include orientation, anatomy, physiology, hygiene, sterilization, first aid, chemistry, basic dermatology, and professional ethics. Upon completion, students should be able to demonstrate an understanding of the concepts of esthetics and meet course requirements.

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COS 120 Esthetics Salon I

Prerequisites: RED 080 or placement Corequisites: COS 119 Available: Fall

This course covers the techniques of esthetics in a comprehensive experience in a simulated salon setting. Topics include client consultation, facials, body treatments, hair removal, make-up applications, and color analysis. Upon completion, students should be able to safely and competently demonstrate esthetic services on clients in a salon setting.

COS 121 Manicure/Nail Technology I 4 6 6

Prerequisites: RED 080 or placement

Corequisites: None

Available: Fall, Spring

This course covers techniques of nail technology, hand and arm massage, and recognition of nail diseases and disorders. Topics include OSHA/safety, sanitation, bacteriology, product knowledge, salesmanship, manicures, artificial applications, pedicures, massage, and other related topics. Upon completion, students should be able to safely and competently perform nail care, including manicures, pedicures, massage, decorating, and artificial applications in a salon setting.

COS 125	Esthetics Concepts II	2	0	2
Prerequisites	: COS 119			
Corequisites:	COS 126			
Available: Sp	ring			
This cours	e covers more comprehensive esthetics	s co	nce	ots
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Topics include nutrition, business management, make-up and color analysis. Upon completion students should be able to demonstrate an understanding of the advanced esthetics concepts and meet course requirements.

COS 126	Esthetics Sa	lon II			0	18	6
Prerequisites	: COS 120						
Corequisites	: COS 125						
Available: Sp	pring						
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This course provides experience in a simulated esthetics setting. Topics include machine facials, aroma therapy, massage therapy, electricity, and apparatus. Upon completion, students should be able to demonstrate competence in program requirements and the areas covered on the Cosmetology licensing examination for Estheticians.

COS 222 Manicure/Nail Technology II 4 6 6

Prerequisites: COS 121 Corequisites: None Available: Fall, Spring

This course covers advanced techniques of nail technology and hand and arm massage. Topics include OSHA/safety, product knowledge, customer service, salesmanship, artificial applications, nail art, and other related topics. Upon completion, students should be able to demonstrate competence necessary for the licensing examination, including advanced nail care, artificial enhancements, and decorations.

COS 240 Contemporary Design

Prerequisites: COS 111, COS 112

Corequisites: None Available: As Needed

This course covers methods and techniques for contemporary

designs. Emphasis is placed on contemporary designs and other related topics. Upon completion, students should be able to demonstrate and apply techniques associated with contemporary design.

0 18 6 COS 260 Design Applications

Prerequisites: COS 115, COS 116 Corequisites: None Available: Spring

This course provides an overview of the design concepts used in cosmetology. Topics include the application of art principles and elements to artistically design hair, nails, and make-up and other related topics. Upon completion, students should be able to demonstrate knowledge and techniques associated with design concepts.

COS 271Instructor Concepts I505Prerequisites: None
Corequisites: COS 272
Available: Fall505

This course introduces the basic cosmetology instructional concepts. Topics include orientation, theories of education, unit planning, daily lesson planning, laboratory management, student assessment, record keeping, and other related topics. Upon completion, students should be able to identify theories of education, develop lesson plans, demonstrate supervisory techniques, and assess student performance in a classroom setting.

COS 272	Instructor Practicum I	0 21 7
Prerequisite	es: None	
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Corequisites: COS 271

Available: Fall

This course covers supervisory and instructional skills for teaching entry-level cosmetology students in a laboratory setting. Topics include demonstrations of services, supervision, and entry-level student assessment. Upon completion, students should be able to demonstrate salon services and instruct and objectively assess the entry-level student.

COS 273 Instructor Concepts II 5 0 5

Prerequisites: COS 271, COS 272 Corequisites: COS 274

Available: Spring

This course covers advanced cosmetology instructional concepts. Topics include practical demonstrations, lesson planning, lecture techniques, development and administration of assessment tools, record keeping, and other related topics. Upon completion, students should be able to develop lesson plans, demonstrate supervision techniques, assess student performance in a classroom setting, and keep accurate records.

COS 274 Instructor Practicum II 0 21 7

Prerequisites: COS 271, COS 272

Corequisites: COS 273

Available: Spring

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This course is designed to develop supervisory and instructional skills for teaching advanced cosmetology students in a laboratory setting. Topics include practical demonstrations, supervision, and advanced student assessment. Upon completion, students should be able to demonstrate competence in the areas covered by the Instructor Licensing Examination and meet program completion requirements.

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Computer Programming

CSC 134 C++ Programming

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Prerequisites: CIS 115 Corequisites: None

Available: As Needed

This course introduces computer programming using the C++ programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test and debug at a beginning level. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

CSC 139 Visual BASIC Programming

Prerequisites: CIS 115

Corequisites: None

Available: As Needed

This course introduces computer programming using the Visual BASIC programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test and debug at a beginning level. This course is also available through the Virtual Learning Community (VLC). This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

JAVA Programming 2 3 3 **CSC 151**

Prerequisites: CIS 115

Corequisites: None

Available: Fall, Spring

This course introduces computer programming using the JAVA programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/ or elective course requirement.

Construction

CST 211 **Construction Surveying**

2 Prerequisites: Select one: MAT 115, MAT 120, MAT 121, MAT 161, MAT

171. MAT 175

Corequisites: None

Available: Summer

This course covers field-surveying applications for residential and commercial construction. Topics include building layout and leveling, linear measurement and turning angles, plumbing vertical members, and topographic and utilities surveys. Upon completion, students should be able to properly and accurately use surveying equipment to lay out residential and commercial buildings.

Computer Information Technology

CTS 060 **Essential Computer Usage** Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course covers the basic functions and operations of the computer. Topics include identification of components, overview of operating systems and other basic computer operations. Upon completion, students should be able to perform basic computer commands, access files, print documents and complete fundamental application operations.

CTS 115 Info Sys Business Concept

Prerequisites: CIS115, DBA110, WEB115 Corequisites: None Available: Fall, Spring

The course introduces the role of IT in managing business processes and the need for business process and IT alignment. Emphasis is placed on industry need for understanding business challenges and developing/managing information systems to contribute to the decision making process based on these challenges. Upon completion, students should be able to demonstrate knowledge of the 'hybrid business manager' and the potential offered by new technology and systems. Students will acquire the skills to prepare themselves and their work for a career in the information technology field.

This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

CTS 120 Hardware/Software Support

Prerequisites: CIS 110 or CIS 111, and NOS 110

Corequisites: None

Available: Fall

This course covers the basic hardware of a personal computer, including installation, operations and interactions with software. Topics include component identification, memorysystem, peripheral installation and configuration, preventive maintenance, hardware diagnostics/repair, installation and optimization of system software, commercial programs, system configuration, and device-drivers. Upon completion, students should be able to select appropriate computer equipment and software, upgrade/maintain existing equipment and software, and troubleshoot/repair non-functioning personal computers.

CTS 130 Spreadsheet

Prerequisites: CIS 110 or CIS 111 or OST 137, and MAT 070

Corequisites: None

Available: Fall, Spring

This course introduces basic spreadsheet design and development. Topics include writing formulas, using functions, enhancing spreadsheets, creating charts, and printing. Upon completion, students should be able to design and print basic spreadsheets and charts. This course covers advanced functions, charting, macros, databases, and linking.

CTS 135 Integrated Software Intro

Prerequisites: CIS 110 or CIS 111

Corequisites: None

Available: Fall, Spring

This course instructs students in the Windows or Linux based program suites for word processing, spreadsheet, database, personal information manager, and presentation software. This course prepares students for introductory level skills in database, spreadsheet, personal information manager, word processing, and presentation applications to utilize data sharing. Upon completion, students should be able to design and integrate data at an introductory level to produce documents using multiple technologies.

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*CTS 217	Computer T	raining/Support
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Prerequisites: CIS 110 and DBA 110 Corequisites: None

Available: Fall

This course introduces computer training and support techniques. Topics include methods of adult learning, training design, delivery, and evaluation, creating documentation, and user support methods. Upon completion, students should be able to design and implement training and provide continued support for computer users.

CTS 220 Advanced Hard/Software Support 2 3 3

Prerequisites: CTS 120

Corequisites: None

Available: Spring

This course provides advanced knowledge and competencies in hardware and operating system technologies for computer technicians to support personal computers. Emphasis is placed on configuring and upgrading; diagnosis and troubleshooting; as well as preventative maintenance of hardware and system software. Upon completion, students should be able to install, configure, diagnose, perform preventative maintenance, and maintain basic networking on personal computers.

*CTS 285 Systems Analysis and Design 3 0

Prerequisites: CIS 115, DBA 110 and Department Chair Approval

Corequisites: None

Available: Fall

This course introduces established and evolving methodologies for the analysis, design, and development of an information system. Emphasis is placed on system characteristics, managing projects, prototyping, CASE/OOM tools, and systems development life cycle phases. Upon completion, students should be able to analyze a problem and design an appropriate solution using a combination of tools and techniques.

CTS 287 Emerging Technologies

Prerequisites: CIS 115, DBA 110, WEB 115 Corequisites: None

Available: Spring, Summer

This course introduces emerging information technologies. Emphasis is placed on evolving technologies and trends in business and industry. Upon completion, students should be able to articulate an understanding of the current trends and issues in emerging technologies for information systems.

*CTS 289 System Support Project 1 4 3

Prerequisites: CTS 285 Corequisites: None Available: Spring

This course provides an opportunity to complete a significant support project with minimal instructor assistance. Emphasis is placed on written and oral communication skills, project definition, documentation, installation, testing, presentation, and user training. Upon completion, students should be able to complete a project from the definition phase through implementation.

Culinary Arts

CUL 110 Sanitation & Safety

Prerequisites: None Corequisites: None

Available: Fall, Spring, Summer

This course introduces the basic principles of sanitation and safety relative to the hospitality industry. Topics include personal hygiene, sanitation and safety regulations, use and care of equipment, the principles of food-borne illness, and other related topics. Upon completion, students should be able to demonstrate an understanding of the content necessary for successful completion of a nationally recognized food/safety/sanitation exam.

*CUL 110A Sanitation & Safety Lab

Prerequisites: None Corequisites: CUL 110 Available: Fall, Spring, Summer

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This course provides a laboratory experience for enhancing student skills In the basic principles of sanitation and safety. Emphasis is placed on personal hygiene, sanitation and safety regulations, use and care of equipment, the principles of foodborne Illness, and other related topics. Upon completion, students should be able to demonstrate practical applications of sanitation and safety procedures in the hospitality industry.

CUL 111 Success in Hospitality Studies 1 0 1

Prerequisites: None

Corequisites: None

Available: Fall

This course provides an orientation to the resources available and academic skills necessary to achieve success in a hospitality program. Emphasis is placed on technical and interpersonal skills, study skills, ethics, professionalism and time management as they relate to a hospitality field. Upon completion, students should be able to manage their learning experiences to successfully meet their educational goals.

CUL 112 Nutrition for Foodservice 3 0 3

Prerequisites: None Corequisites: None

Available: Spring

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This course covers the principles of nutrition and its relationship to the foodservice industry. Topics include personal nutrition fundamentals, weight management, exercise, nutritional adaptation/analysis of recipes/menus, healthy cooking techniques and marketing nutrition in a foodservice operation. Upon completion, students should be able to apply basic nutritional concepts to food preparation and selection.

*CUL 130 Menu Design

Prerequisites: CUL 140 or CUL 142, and HRM 220 Corequisites: None

Available: Fall

This course introduces menu design and its relationship to foodservice operations. Topics include layout, marketing, concept development, dietary concerns, product utilization, target consumers and trends. Upon completion, students should be able to design, create and produce menus for a variety of foodservice settings.

*CUL 135 Food & Beverage Service

Prerequisites: Select one: CUL 180, CUL 275, HRM 124

Corequisites: None

Available: Spring

This course is designed to cover the practical skills and knowledge necessary for effective food and beverage service in a variety of settings. Topics include greeting/service of guests, dining room set-up, profitability, menu sales and merchandising, service styles and reservations. Upon completion, students should be able to demonstrate competence in human relations and the skills required in the service of foods and beverages.

*CUL 135A Food & Beverage Serv Lab

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Prerequisites: Select one: CUL 180, CUL 275, HRM 124 Corequisites: CUL 135 Available: Spring

This course provides a laboratory experience for enhancing student skills in effective food and beverage service. Emphasis is placed on practical experiences including greeting/service of guests, dining room set-up, profitability, menu sales and merchandising, service styles and reservations. Upon completion, students should be able to demonstrate practical applications of human relations and the skills required in the service of foods and beverages.

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Culinary Skills I Prerequisites: None Corequisites: CUL 110, CUL 110A Available: Fall

*CUL 140

This course introduces the fundamental concepts, skills, and techniques in basic cookery and moist, dry and combination heat. Emphasis is placed on recipe conversion, measurements, terminology, classical knife cuts, safe food/equipment handling, flavorings/seasonings, stocks/sauces/soups, and related topics. Upon completion, students should be able to exhibit the basic cooking skills used in the food service industry. Weekly participation in Global Cuisine buffets, banquets, and a la carte production enhances students' culinary and service skills.

*CUL 142 26 5 **Fundamentals of Food**

Prerequisites: None

Corequisites: CUL 110, CUL 110A, and CUL 150 or HRM 124 Available: Fall

This course introduces the student to the basic principles of cooking, baking, and kitchen operations. Topics include preparation methods for protein, starch, vegetable/fruit identification, selection, storage; breakfast cookery, breads, sweet doughs/pastries; basic fabrication, knife skills, and mise en place. Upon completion, students should be able to execute efficiently a broad range of basic cooking/baking skills as they apply to different stations in foodservice operations. Weekly participation in Global Cuisine buffets, banquets, and a la carte production enhances student service skills.

*CUL 150 **Food Science** 1

Prerequisites: None Corequisites: None

Available: Fall, Spring, Summer

This course covers the chemical and physical changes in foods that occur with cooking, handling, and processing. Emphasis is placed on practical application of heat transfer and its effect on color/flavor/texture; emulsification, protein coagulation, leavening agents, viscosity, and gel formation. Upon completion, students should be able to demonstrate an understanding of these principles covered as they apply to food preparation in an experimental setting.

CUL 150A **Food Science Lab**

Prerequisites: None

Corequisites: CUL 150

Available: Fall, Spring, Summer

This course provides a laboratory experience for enhancing student skills with chemical and physical changes that occur in food when cooking, handling and processing. Emphasis is placed on practical application of heat transfer and its effect on color/flavor/texture, emulsification, protein coagulation, leavening agents, viscosity and gel formation. Upon completion, students should be able to demonstrate an understanding of these principles as they apply to food preparation in an experimental setting.

*CUL 160 **Baking** I

Prerequisites: None

Corequisites: CUL 110

Available: Fall, Spring, Summer

This course covers basic ingredients, techniques, weights and measures, baking terminology, and formula calculations. Topics include yeast/chemically leavened products, laminated doughs, pastry dough batter, pies/tarts, meringue, custard, cakes and cookies, icings, glazes and basic sauces. Upon completion, students should be able to demonstrate proper scaling and measurement techniques, and prepare and evaluate a variety of bakery products.

*CUL 170 5 Garde Manger I

Prerequisites: CUL 110, CUL 110A Corequisites: None Available: Spring

This course introduces basic cold food preparation techniques and pantry production. Topics include salads, sandwiches, appetizers, dressings, basic garnishes, cheeses, cold sauces, and related food items. Upon completion, students should be able to present a cold food display and exhibit an understanding of the cold kitchen and its related terminology.

*CUL 180 **Internat & Amer Reg Cuisine**

Prerequisites: COE 112, CUL 140, CUL 240, CUL 240A Corequisites: None

Available: Fall

This course provides practical experience in the planning, preparation, and service of representative foods from different countries and regions of America. Emphasis is placed on eating habits, indigenous foods and customs, nutritional concerns, and traditional equipment. Upon completion, students should be able to research and execute international and domestic menus.

*CUL 214 Wine Appreciation

Prerequisites: CUL 180 or CUL 275 or Department Chair Approval Corequisites: None

Available: Spring

This course provides an introduction to information about wine from all the major wine producing regions. Emphasis is placed on the history of wine, production, characteristics, wine list development, laws, purchasing and storing requirements. Upon completion, students should be able evaluate varietal wines and basic food pairings.

*CUL 230 **Global Cuisines**

Prerequisites: CUL 110 COE 112, CUL 140, CUL 240, CUL 240A Corequisites: None

Available: Fall

This course provides practical experience in the planning, preparation, and presentation of representative foods from a variety of world cuisines. Emphasis is placed on indigenous ingredients and customs, nutritional concerns, and cooking techniques, Upon completion, students should be able to research and execute a variety of international and domestic menus. Weekly participation in buffets, banquets, and a la carte production enhances students' supervisory and technical skills.

*CUL 240 **Culinary Skills II**

Prerequisites: CUL 110, CUL 140

Corequisites: CUL 240A

Available: Spring

This course is designed to further students' knowledge of the fundamental concepts, skills, and techniques involved in basic cookery. Emphasis is placed on meat identification/fabrication, butchery and cooking techniques/methods; appropriate vegetable/starch accompaniments; compound sauces; plate presentation; breakfast cookery; and quantity food preparation. Upon completion, students should be able to plan, execute, and successfully serve entrees with complementary side items. Weekly participation in a la carte production enhances students' culinary and service skills.



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*CUL 240A Culinary Skills II Lab

Prerequisites: CUL 110, CUL 140 Corequisites: CUL 240 Available: Spring

This course provides a laboratory experience for furthering students' knowledge of the fundamental concepts, skills, and techniques involved in basic cookery. Emphasis is placed on practical applications of meat identification/fabrication; butchery and cooking techniques/methods; appropriate vegetable/starch accompaniments; compound sauces; plate presentation; breakfast cookery; and food preparation. Upon completion, students should be able to demonstrate a basic proficiency in the preparation of entrées and accompaniments.

*CUL 250 **Classical Cuisine**

Prerequisites: CIS 110, CUL 110, CUL 130, CUL 140, CUL 160, CUL 180 or CUL 275, CUL 240, CUL 270, and HRM 245

Corequisites: CUL 135, CUL 135A and CUL 214

Available: Spring

This course is designed to reinforce the classical culinary kitchen. Topics include the working Grand Brigade of the kitchen, signature dishes, and classical banquets. Upon completion, students should be able to demonstrate competence in food preparation in a classical/upscale restaurant or banquet setting. This course includes weekly a la carte service encompassing contemporary and classical preparation and a capstone final exam.

*CUL 260 Baking II

Prerequisites: CUL 110 and CUL 160 Corequisites: None Available: Fall

This course is designed to further students' knowledge in ingredients, weights and measures, baking terminology and formula calculation. Topics include classical desserts, frozen desserts, cake and torte production, decorating and icings/ glazes, dessert plating and presentation. Upon completion, students should be able to demonstrate pastry preparation and plating, and dessert buffet production skills.

*CUL 270 **Garde Manger II**

Prerequisites: CUL 110, CUL 140, CUL 170 and CUL 240 Corequisites: None

Available: Fall

This course isis designed to further students' knowledge in basic cold food preparation techniques and pantry production. Topics include pates, terrines, galantines, decorative garnishing skills, carving, charcuterie, smoking, canapés, hors d'oeuvres, and related food items. Upon completion, students should be able to design, set up, and evaluate a catering/event display to include a cold buffet with appropriate show pieces.

CUL 273 Career Development 1 0	1
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Prerequisites: None

Corequisites: None

Available: As Needed

This course introduces students to career planning/ management practices that serve as a foundation for success in the hospitality industry. Emphasis is placed on self assessment, goal/career pathway development and employment strategies such as resume preparation, interviewing techniques, and developing/utilizing the portfolio as a credential. Upon completion, students should be able to develop a career path leading to an effective job search.

1 CUL 275 **Catering Cuisine**

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Prerequisites: COE 112, CUL 110, CUL 140, CUL 240, CUL 240A Corequisites: None Available: Fall

This course covers the sequential steps to successful catering that includes sales, client needs, menu planning, purchasing, costing, event pricing, staffing and sanitation concerns. Emphasis is placed on new culinary competencies and skills specific to catering preparation, presentation, and customer service. Upon completion, students should be able to demonstrate proficiency in the successful design and execution of various types of catering events.

CUL 283 Farm to Table 2 6 5

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Prerequisites: CUL 110, CUL 140

Corequisites: None

Available: As Needed

This course introduces students to the cooperation between sustainable farmers and foodservice operations. Emphasis is placed on environmental relationships, including how foods are grown, processed, distributed, as well as related implications on quality and sustainability. Upon completion, students should be able to demonstrate an understanding of environment stewardship and its impact on cuisine.

CUL283A Farm-to-Table Lab 2 1

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Prerequisites: CUL 110, CUL 140 Corequisites: CUL 283

Available: As Needed

This course provides a laboratory experience for enhancing students' agricultural skills and understanding the development of cooperation between sustainable farmers and foodservice operations. Emphasis is placed on practical experiences such as practicing agricultural methods, observation of the farm and related field trips. Upon completion, students should be able to demonstrate an understanding of environmental stewardship and its impact on cuisine and sustainability.

*CUL 285 **Competition Fundamentals** 4 3 1

Prerequisites: CUL 110, CUL 110A, and CUL 140 or CUL 160

Corequisites: None

Available: As Needed

This course provides practical expertise in the planning, techniques, and procedures required for culinary competitions and exhibitions. Emphasis is placed on competition strategies including menu planning, teamwork, plate design, flavor profiles, recipe development, nutrition, advanced knife/ culinary skills, professionalism and portfolio development. Upon completion, students should be able to apply exhibition/ competition skills and standards in the competition arena and professional kitchen.

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Prerequisites: CUL 110, CUL 140, CUL 240

Cultural Experience

Corequisites: None

Available: As Needed

CUL287

This course is designed to provide the background cultural Information necessary for students to maximize a cultural experience. Emphasis is placed on language skills, culture, culinary traditions and cuisines, and an appreciation of the local history. Upon completion, students should exhibit an understanding of the unique character of the studied culture, specifically those relating to culinary arts.

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CUL 287A **Cultural Experience Lab**

Prerequisites: CUL 110, CUL 140, CUL 240 Corequisites: CUL 287

Available: As Needed

This course provides a laboratory experience for enhancing student knowledge of cultural information necessary for students to maximize a cultural experience. Emphasis is placed on language skills, culture, culinary traditions and cuisines, and an appreciation of the local history. Upon completion, students should be able to demonstrate an understanding of the many elements of the studied culture, specifically those relating to culinary arts.

Database Management Technology

DBA 110 Database Concepts

Prerequisites: CIS 110, CIS 111 or CIS 115

Corequisites: None

Available: Fall, Spring

This course introduces database design and creation using a DBMS product. Emphasis is placed on data dictionaries, normalization, data integrity, data modeling, and creation of simple tables, queries, reports, and forms. Upon completion, students should be able to design and implement normalized database structures by creating simple database tables, queries, reports and forms.

DBA 120	Database Programming I	2	2	3
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Prerequisites: CIS 110

Corequisites: None

Available: Spring

This course is designed to develop SQL programming proficiency. Emphasis is placed on data definition, data manipulation, and data control statements as well as on report generation. Upon completion, students should be able to write programs which create, update and produce reports.

DBA 210 Database Administration 2 3 3

Prerequisites: DBA 120

Corequisites: None

Available: Spring

This course covers database administration issues and distributed database concepts. Topics include database administrator (DBA) goals and functions, backup and recovery, standards and procedures, training, and database security and performance evaluations. Upon completion, students should be able to produce functional DBA documentation and administer a database.

Developmental Disabilities

DDT 110	Developmental Disabilities	3	0	0	3	
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Prerequisites: None Corequisites: None

Available: Spring

This course identifies the characteristics and causes of various disabilities. Topics include history of service provision, human rights, legislation and litigation, advocacy, and accessing support services. Upon completion, students should be able to demonstrate an understanding of current and historical developmental disability definitions and support systems used throughout the life span. This course has been approved by the North Carolina Substance Abuse Professional Practice Board (NCSAPPB) for training/education credit for substance abuse certification/recertification.

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DEN 100 Basic Orofacial Anatomy

Prerequisites: None Corequisites: None

This course provides a basic introduction to the structures of the head, neck, and oral cavity. Topics include tooth morphology, head and neck anatomy, histology, and embryology. Upon completion, students should be able to demonstrate knowledge of normal structures and development and how they relate to the practice of dental assisting.

DEN 101 Preclinical Procedures 2002

Prerequisites: None Corequisites: None

Available: Spring

This course provides a basic introduction to the structures of the head, neck, and oral cavity. Topics include tooth morphology, head and neck anatomy, histology, and embryology. Upon completion, students should be able to demonstrate knowledge of normal structures and development and how they relate to the practice of dental assisting.

*DEN 102 Dental Materials

Prerequisites: DEN 101 Corequisites: None

Available: Spring

This course provides instruction in identification, properties, evaluation of quality, principles, and procedures related to manipulation and storage of operative and specialty dental materials. Emphasis is placed on the understanding and safe application of materials used in the dental office and laboratory. Upon completion, students should be able to demonstrate proficiency in the laboratory and clinical application of routinely used dental materials. This is a diploma-level course.

DEN 103 Dental Sciences 2002

Prerequisites: None

Corequisites: None Available: Fall

This course is a study of oral pathology, pharmacology, and dental office emergencies. Topics include oral pathological conditions, dental therapeutics, and management of emergency situations. Upon completion, students should be able to recognize abnormal oral conditions, identify classifications, describe actions and effects of commonly prescribed drugs, and respond to medical emergencies. This is a diploma-level course.

*DEN 104 Dental Health Education

Prerequisites: DEN 101 Corequisites: None

Available: Spring This course covers the study of preventative dentistry to prepare dental assisting students for the role of dental health educator. Topics include etiology of dental diseases, preventative procedures, and patient education theory and practice. Upon completion, students should be able to demonstrate proficiency in patient counseling and oral health instruction in private practice or public health settings. This is a diploma-level course.



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*DEN 1	05	Practice	Management
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Prerequisites: None Corequisites: None

Available: Spring

This course provides a study of principles and procedures related to management of the dental practice. Emphasis is placed on maintaining clinical and financial records, patient scheduling, and supply and inventory control. Upon completion, students should be able to demonstrate fundamental skills in dental practice management. This is a diploma-level course.

*DEN 106 Clinical Practice I

Prerequisites: DEN 101, DEN 103, DEN 111, DEN 112 Corequisites: None

Available: Spring

This course is designed to provide experience assisting in a clinical setting. Emphasis is placed on the application of principles and procedures of four-handed dentistry and laboratory and clinical support functions. Upon completion, students should be able to utilize classroom theory, laboratory, and clinical skills in a dental setting. This is a diploma-level course.

*DEN 107 Clinical Practice II

Prerequisites: DEN 102, DEN 105, DEN 106

Corequisites: None

Available: Summer

This course is designed to increase the level of proficiency in assisting in a clinical setting. Emphasis is placed on the application of principles and procedures of four-handed dentistry and laboratory and clinical support functions. Upon completion, students should be able to combine theoretical and ethical principles necessary to perform entry-level skills including functions delegable to a DA II. This is a diploma-level course.

DEN 110 Orofacial Anatomy 2 2 0 3

Prerequisites: None Corequisites: None Available: Fall

This course introduces the structures of the head, neck, and oral cavity. Topics include tooth morphology, head and neck anatomy, histology, and embryology. Upon completion, students should be able to relate the identification of normal structures and development to the practice of dental assisting and dental hygiene.

DEN 111 Infection/Hazard Control 2 0 0 2

Prerequisites: MAT 060 Corequisites: DEN 101 or DEN 121

Available: Fall

This course introduces the infection and hazard control procedures necessary for the safe practice of dentistry. Topics include microbiology, practical infection control, sterilization and monitoring, chemical disinfectants, aseptic technique, infectious diseases, OSHA standards, and applicable North Carolina laws. Upon completion, students should be able to understand infectious diseases, disease transmission, infection control procedures, biohazard management, OSHA standards, and applicable North Carolina laws. Upon successful completion, students will also meet the requirements of 10ANC Administrative Code 41A.0206 for SPICE training.

2 0 0 2 DEN 112 Dental Radiography

Prerequisites: None

Corequisites: DEN 100 or DEN 110 and DEN 101 and DEN 121 Available: Fall

This course provides a comprehensive view of the principles and procedures of radiology as they apply to dentistry. Topics include techniques in exposing, processing, and evaluating radiographs, as well as radiation safety, quality assurance, and legal issues. Upon completion, students should be able to demonstrate proficiency in the production of diagnostically acceptable radiographs using appropriate safety precautions.

DEN 120 Dental Hygiene Preclinic Lecture 2 0 0 2

Prerequisites: None

Corequisites: DEN 121

Available: Fall

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This course introduces preoperative and clinical dental hygiene concepts. Emphasis is placed on the assessment phase of patient care as well as the theory of basic dental hygiene instrumentation. Upon completion, students should be able to collect and evaluate patient data at a basic level and demonstrate knowledge of dental hygiene instrumentation.

***DEN 121 Dental Hygiene Preclinic Lab 0 6 0 2** Prerequisites: None

Corequisites: DEN 111 and DEN 120

Available: Fall

This course provides the opportunity to perform clinical dental hygiene procedures discussed in DEN 120. Emphasis is placed on clinical skills in patient assessment and instrumentation techniques. Upon completion, students should be able to demonstrate the ability to perform specific preclinical procedures. Also, students should be able to demonstrate aseptic technique used in a dental environment.

DEN 123 Nutrition/Dental Health 2 0 0 2

Prerequisites: None Corequisites: None

Available: Fall

This course introduces basic principles of nutrition with emphasis on nutritional requirements and their application to individual patient needs. Topics include the study of the food pyramid, nutrient functions, Recommended Daily Allowances, and related psychological principles. Upon completion, students should be able to recommend and counsel individuals on their food intake as related to their dental health.

DEN 124 Periodontology

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Prerequisites: DEN 110

Corequisites: None

Available: Spring

This course provides an in-depth study of the periodontium, periodontal pathology, periodontal monitoring, and the principles of periodontal therapy. Topics include periodontal anatomy and a study of the etiology, classification, and treatment modalities of periodontal diseases. Upon completion, students should be able to describe, compare, and contrast techniques involved in periodontal/maintenance therapy, as well as patient care management.

*DEN 125 Dental Office Emergencies 0 2 0 1

Prerequisites: None

Corequisites: None

Available: Spring

This course provides a study of the management of dental office emergencies. Topics include methods of prevention, necessary equipment/drugs, medicolegal considerations, recognition and effective initial management of a variety of emergencies. Upon completion, students should be able to recognize, assess, and manage various dental office emergencies and activate advanced medical support when indicated.

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*DEN 130 Dental Hygiene Theory I

Prerequisites: DEN 120 Corequisites: DEN 131 Available: Spring

This course is a continuation of the didactic dental hygiene concepts necessary for providing an oral prophylaxis. Topics include deposits/removal, instrument sharpening, patient education, fluorides, planning for dental hygiene treatment, charting, and clinical records and procedures. Upon completion, students should be able to demonstrate knowledge needed to complete a thorough oral prophylaxis.

*DEN 131 Dental Hygiene Clinic I

Prerequisites: DEN 121 and DEN 112 Corequisites: DEN 130

Available: Spring

This course continues skill development in providing an oral prophylaxis. Emphasis is placed on treatment of the recall patients with gingivitis or light deposits. Upon completion, students should be able to assess these patients' needs and complete the necessary dental hygiene treatment.

*DEN 140 Dental Hygiene Theory II

Prerequisites: DEN 130 Corequisites: DEN 141

Available: Summer

This course provides a continuation of the development, theory, and practice of patient care. Topics include modification of treatment for special needs patients, advanced radiographic interpretation, and ergonomics. Upon completion, students should be able to differentiate necessary treatment modifications, effective ergonomic principles, and radiographic abnormalities.

*DEN 141 Dental Hygiene Clinic II 0 0 6 2 Prerequisites: DEN 124, DEN 131 Corequisites: DEN 140 Available: Summer

This course continues skill development in providing an oral prophylaxis. Emphasis is placed on treatment of patients with early periodontal disease and subgingival deposits. Upon completion, students should be able to assess these patients' needs and complete the necessary dental hygiene treatment.

*DEN 220 Dental Hygiene Theory III

Prerequisites: DEN 140 Corequisites: DEN 221 Available: Fall

This course provides a continuation in developing the theories and practices of patient care. Topics include periodontal debridement, pain control, subgingival irrigation, air polishing, and case presentations. Upon completion, students should be able to demonstrate knowledge of methods of treatment and management of periodontally compromised patients.

*DEN 221 Dental Hygiene Clinic III

Prerequisites: DEN 141 Corequisites: DEN 220

Available: Fall

This course continues skill development in providing an oral prophylaxis. Emphasis is placed on treatment of patients with moderate to advanced periodontal involvement and moderate deposits. Upon completion, students should be able to assess these patients' needs and complete the necessary dental hygiene treatment.

2 0 0 2 DEN 222 General and Oral Pathology

Prerequisites: BIO 163 or BIO 165 or BIO 168 and DEN 110 Corequisites: None Available: Summer

This course provides a general knowledge of oral pathological manifestations associated with selected systemic and oral diseases. Topics include developmental and degenerative diseases, selected microbial diseases, specific and nonspecific immune and inflammatory responses with emphasis on recognizing abnormalities. Upon completion, students should be able to differentiate between normal and abnormal tissues and refer unusual findings to the dentist for diagnosis.

DEN 223 Dental Pharmacology 2 0 0 2

Prerequisites: DEN 110

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Corequisites: Select one: BIO 163, BIO 165 or BIO 168

Available: Spring This course provides basic drug terminology, general principles of drug actions, dosages, routes of administration, adverse reactions, and basic principles of anesthesiology. Emphasis is placed on knowledge of drugs in overall understanding of patient histories and health status. Upon completion, students should be able to recognize that each patient's general health or drug usage may require modification of the treatment procedures.

*DEN 224 Materials and Procedures

Prerequisites: DEN 111 and DEN 121

Corequisites: None

Available: Fall

This course introduces the physical properties of materials and related procedures used in dentistry. Topics include restorative and preventative materials, fabrication of casts and appliances, and chair-side functions of the dental hygienist. Upon completion, students should be able to demonstrate proficiency in the laboratory and/or clinical application of routinely used dental materials and chair-side functions.

*DEN 230 Dental Hygiene Theory IV 1 0 0 1

Prerequisites: DEN 220 Corequisites: DEN 231

Available: Spring

This course provides an opportunity to increase knowledge of the profession. Emphasis is placed on dental specialties and completion of a case presentation. Upon completion, students should be able to demonstrate knowledge of various disciplines of dentistry and principles of case presentations.

*DEN 231 Dental Hygiene Clinic IV 0 0 12 4

Prerequisites: DEN 221 Corequisites: DEN 230

Available: Spring

This course continues skill development in providing an oral prophylaxis. Emphasis is placed on periodontal maintenance and on treating patients with moderate to advanced/refractory periodontal disease. Upon completion, students should be able to assess these patients' needs and complete the necessary dental hygiene treatment.

*DEN 232 Community Dental Health

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Prerequisites: None Corequisites: COM 231 and SOC 240

Available: Fall, Spring

This course provides a study of the principles and methods used in assessing, planning, implementing, and evaluating community dental health programs. Topics include epidemiology, research methodology, biostatistics, preventative dental care, dental health education, program planning, and financing and utilization of dental services. Upon completion, students should be able to assess, plan, implement, and evaluate a community dental health program.

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*DEN 233	Professional Development	
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Prerequisites: None Corequisites: None

Available: Spring

This course includes professional development, ethics, and jurisprudence with applications to practice management. Topics include conflict management, state laws, resumes, interviews, and legal liabilities as health care professionals. Upon completion, students should be able to demonstrate the ability to practice dental hygiene within established ethical standards and state laws.

DEN 235 Dental Hygiene Concepts

Prerequisites: None

Corequisites: None

Available: Spring

This course provides an opportunity to exhibit interpersonal and job-related skills for effective dental hygiene practice. Emphasis is placed on critical thinking and integration of didactic and clinical components into the workplace. Upon completion, students should be able to demonstrate the knowledge required of any entry-level dental hygienist.

Drafting

DFT 11	1	Technical Drafting I 1	

Prerequisites: None Corequisites: None

Available: As Needed

This course introduces basic drafting skills, equipment, and applications. Topics include sketching, measurements, lettering, dimensioning, geometric construction, orthographic projections and pictorial drawings, sections, and auxiliary views. Upon completion, students should be able to understand and apply basic drawing principles and practices.

DFT 151 CAD I 2 3 3

Prerequisites: None Corequisites: None

Available: Fall, Spring

This course introduces CAD software as a drawing tool. Topics include drawing, editing, file management, and plotting. Upon completion, students should be able to produce and plot a CAD drawing.

DFT 152 CAD II 2 3 3

Prerequisites: DFT 151 Corequisites: None Available: Spring

This course is a continuation of DFT 151. Topics include

advanced two-dimensional, three-dimensional, and solid modeling and extended CAD applications. Upon completion, students should be able to generate and manage CAD drawings and models to produce engineering documents.

DFT 153 CAD III

Prerequisites: DFT 151 Corequisites: None

Available: Summer

This course covers basic principles of three-dimensional CAD wireframe and surface models. Topics include user coordinate systems, three-dimensional viewpoints, three-dimensional wireframes, and surface components and viewpoints. Upon completion, students should be able to create and manipulate three-dimensional wireframe and surface models.

2 0 0 2 DFT 154 Intro Solid Modeling

Prerequisites: DFT 151 Corequisites: None Available: Spring

This course in an introduction to basic three-dimensional solid modeling and design software. Topics include basic design, creation, editing, rendering and analysis of solid models and creation of multiview drawings. Upon completion, students should be able to use design techniques to create, edit, render and generate a multiview drawing.

DFT 161 Pattern Design & Layout 1 2 2 Prerequisites: WLD 115

Corequisites: None Available: Summer

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This course covers the layout of sheet metal and pipe fittings. Topics include the development of patterns and templates for metalworking industries. Upon completion, students should be able to develop, sketch, produce, and angle layouts.

DFT 170 Engineering Graphics 2 2 3 Prerequisites: None

Corequisites: None

This course introduces basic engineering graphics skills and applications. Topics include sketching, selection and use of current methods and tools, and the use of engineering graphics applications. Upon completion, students should be able to demonstrate an understanding of basic engineering graphics principles and practices. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

DFT 189 Emerging Technologies in CAD 1 2 2 Prerequisites: None

Corequisites: None Available: As Needed

This course provides an opportunity to explore new and emerging technologies related to Computer-Aided Drafting. Emphasis is placed on introducing a selected CAD technology or topic, identified as being "new" or "emerging", from a variety of drafting disciplines. Upon completion, students should be able to demonstrate an understanding of and practical skill in the use of the CAD technology studied.

*DFT 253 CAD Data Management 2 2 3

Prerequisites: DFT 151 and DFT 251 Corequisites: None

Available: Spring

This course covers engineering document management techniques. Topics include efficient control of engineering documents, manipulation of CAD drawing data, generation of bill of materials, and linking to spreadsheets or databases. Upon completion, students should be able to utilize systems for managing CAD drawings, extract data from drawings, and link data to spreadsheets or database applications.

*DFT 259 CAD Project

Prerequisites: ARC 112, ARC 113, and DFT 251

Corequisites: None

Available: Spring

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This course is a capstone course experience for programs with a focus in computer-aided design. Emphasis is placed on the use of design principles and computer technology in planning, managing, and completing a design project. Upon completion, students should be able to plan and produce engineering documents of a design project, including solid models, working drawings, bom's, annotations, and spreadsheets.

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Digital Media Technology

DME 110 Intro to Digital Media 2 2 3

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course introduces students to key concepts, technologies, and issues related to digital media. Topics include emerging standards, key technologies and related design issues, terminology, media formats, career paths, and ethical issues. Upon completion, students should be able to demonstrate the various media formats that are used in digital media technology.

Divie 115 Graphic Design 1001s Z Z	: 3
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Prerequisites: None

Corequisites: None

Available: Fall

This course provides students with an introduction to creative expression and art/design techniques in a digital environment. Emphasis is placed on designing, creating, editing, and integrating, visual components consisting of bit-mapped and vector-based images, drawings, banners, text, simple animations, and multiple layers. Upon completion, students should be able to design and produce a range of visual products using digital processing techniques.

DME 120 Intro to Multimedia Applications 2 2 3

Prerequisites: DME 110 and DME 130

Corequisites: None

Available: Spring, Summer

This course introduces storyboarding and multimedia application design. Topics include vector and bit-mapped graphics, interactive multimedia interfaces, layering techniques, image and animation libraries, and scripting. Upon completion, students should be able to produce basic highquality interactive multimedia applications.

DME 130 Digital Animation I

Prerequisites: DME 110

Corequisites: None

Available: Spring

This course introduces concepts for planning and developing animation sequences. Emphasis will be placed on review of digital animation concepts and exploration of various animation software packages. Upon completion, students should be able to produce simple animations.

DME 140 Intro Audio/Video Media 2 2 3

Prerequisites: DME 110

Corequisites: None

Available: Fall, Summer

This course is designed to teach students how to manipulate digital and audio content for multimedia applications. Topics include format conversion and a review of current technologies and digital formats. Upon completion, students should be able to modify existing audio and video content to meet a range of production requirements associated with digital media applications.

DME 210 User Interface Design

Prerequisites: DME 110, DME 130 and WEB 115

Corequisites: None

Available: Fall

This course covers current design approaches and emerging standards related to the design and development of user interfaces. Emphasis is placed on conducting research, and analyzing and reviewing current practices in effective interface design. Upon completion, students should be able to intelligently discuss and evaluate new and existing digital media products in terms of the user interface.

DME 215 - Graphic Design Tools II

Prerequisites: DME 115

Corequisites: None Available: Spring

This course provides students with advanced design techniques in a digital environment. Emphasis is placed on understanding principles of design and typography, and applying them effectively in projects. Upon completion, students should be able to design and produce a range of visual products using digital design techniques and principles.

DME 220	Interact Multi-Media Programming	2	2	3
Prerequisites	: DME 120			

Corequisites: None

Available: Spring

This course is designed to build on concepts developed in DME 120 and teaches students to apply custom programming to develop advanced applications and components. Emphasis is placed on scripting language functionalities associated with a variety of software packages. Upon completion, students should be able to produce advanced, high-quality interactive multimedia applications.

DME 230 Digital Animation II 2 2 3 Prerequisites: DME 130 Corequisites: None

Available: Fall, Summer

This course introduces state-of-the-art 3D animation techniques and concepts. Emphasis is placed on utilizing the features of current animation software. Upon completion, students should be able to produce 3D animations as components of a multimedia application.

DME 240 Media Compression 2 2 3

Prerequisites: DME 110 and DME 140

Corequisites: None

Available: Fall

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This course will introduce software and usage of digital audio and video compression and streaming media technologies. Topics include compression techniques, file formats and codecs, streaming media, streaming media services, and current and emerging trends. Upon completion, students should be able to utilize compressed media in a variety of video, web and multimedia applications.

*DME 260 Emerg Tech Digital Media

Prerequisites: DME 120, DME 130, and DME 210

Corequisites: None

Available: Fall, Spring

This course provides students with the latest technologies and strategies in the field of digital media. Emphasis is placed on the evaluation of emerging digital media technologies and presenting those findings to the class. Upon completion, students should be able to critically analyze emerging digital media technologies and establish informed opinions.

*DME 270 Prof Prac Digital Media

Prerequisites: DME 120, DME 130, and DME 210

Corequisites: None

Available: Spring

This course introduces students to business skills needed to succeed in the digital media workplace. Topics include portfolio development, resume design, and preparation of media contacts. Upon completion, students should be able to prepare themselves and their work for a career in the digital media workplace.

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*DME 285 Systems Projects

Prerequisites: DME 120, DME 130 and DME 210 Corequisites: None

Available: Spring

This course provides an opportunity to complete a significant digital media project from the design phase through implementation with minimal instructor support. Emphasis is placed on project definition, testing, presentation, and implementation. Upon completion, students should be able to complete, maintain and implement a digital media project.

Drama

DRA 111	Theatre Appreciation	3	0	3
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Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course provides a study of the art, craft, and business of the theatre. Emphasis is placed on the audience's appreciation of the work of the playwright, director, actor, designer, producer, and critic. Upon completion, students should be able to demonstrate a vocabulary of theatre terms and to recognize the contributions of various theatre artists. Attendance at one play performance and in-depth reading of two plays are required. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

DRA 112 Literature of the Theatre	3	0	3
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Prerequisites: None

Corequisites: None

Available: As Needed

This course provides a survey of dramatic works from the classical Greek through the present. Emphasis is placed on the language of drama, critical theory, and background as well as on play reading and analysis. Upon completion, students should be able to articulate, orally and in writing, their appreciation and understanding of dramatic works. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

DRA 120 Voice for Performance	3	0	3
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Prerequisites: None

Corequisites: None

Available: As Needed

This course provides guided practice in the proper production of speech for the theatre. Emphasis is placed on improving speech, including breathing, articulation, pronunciation, and other vocal variables. Upon completion, students should be able to demonstrate effective theatrical speech. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

Prerequisites: None

Corequisites: None

Available: As Needed

This course introduces the dramatic study of literature through performance. Emphasis is placed on analysis and performance of poetry, drama, and prose fiction. Upon completion, students should be able to embody and discuss critically the speakers inherent in literature. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

DRA 124 Readers Theatre

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Prerequisites: None Corequisites: None Available: Fall, Spring

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> This course provides a theoretical and applied introduction to the medium of readers theatre. Emphasis is placed on the group performance considerations posed by various genres of literature. Upon completion, students should be able to adapt and present a literary script following the conventions of readers theatre. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

DRA 126 Storytelling Prerequisites: None Corequisites: None Available: Fall, Spring

This course introduces the art of storytelling and the oral traditions of folk literature. Topics include the history of storytelling, its value and purpose, techniques of the storyteller, and methods of collecting verbal art. Upon completion, students should be able to present and discuss critically stories from the world's repertory of traditional lore. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

DRA 130 Acting I

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Prerequisites: None Corequisites: None Available: Fall

This course provides an applied study of the actor's craft. Topics include role analysis, training the voice, and body concentration, discipline, and self-evaluation. Upon completion, students should be able to explore their creativity in an acting ensemble. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

DRA 131 Acting II

Prerequisites: DRA 130

Corequisites: None Available: Spring

This course provides additional hands-on practice in the actor's craft. Emphasis is placed on further analysis, characterization, growth, and training for acting competence. Upon completion, students should be able to explore their creativity in an acting ensemble. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

DRA 135 Acting for the Camera I 4 3 1

Prerequisites: None Corequisites: None

3 0 3 Available: As Needed

This course provides an applied study of the camera actor's craft. Topics include commercial, dramatic, and print performance styles. Upon completion, students should be able to explore their creativity in on-camera performance. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

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DRA 140 Stagecraft I

Prerequisites: None Corequisites: None Available: Fall

This course introduces the theory and basic construction of stage scenery and properties. Topics include stage carpentry, scene painting, stage electrics, properties, and backstage organization. Upon completion, students should be able to pursue vocational and avocational roles in technical theatre. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

0 6 3 DRA 141 Stagecraft II

Prerequisites: DRA 140 Corequisites: None

Available: Spring

This course provides additional hands-on practice in the elements of stagecraft. Emphasis is placed on the design and implementation of the arts and crafts of technical theatre. Upon completion, students should be able to pursue vocational or avocational roles in technical theatre. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

DRA 145 Stage Make-up 1 2 2

Prerequisites: None Corequisites: None

Available: As Needed

This course covers the research, design, selection of materials, and application of stage make-up, prosthetics, wigs, and hairpieces. Emphasis is placed on the development of techniques, style, and presentation of the finished makeup. Upon completion, students should be able to create and apply make-up prosthetics, and hairpieces. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

DRA 170 Play Production I

Prerequisites: None Corequisites: None

Available: Fall

This course provides an applied laboratory study of the processes involved in the production of a play. Topics include fundamental practices, principles, and techniques associated with producing plays of various periods and styles. Upon completion, students should be able to participate in an assigned position with a college theatre production. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/ or elective course requirement.

Play Production II 0 DRA 171

Prerequisites: DRA 170 Corequisites: None

Available: Spring

This course provides an applied laboratory study of the processes involved in the production of a play. Topics include fundamental practices, principles, and techniques associated with producing plays of various periods and styles. Upon completion, students should be able to participate in an assigned position with a college theatre production. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/ or elective course requirement.

3 DRA 211 **Theatre History I**

Prerequisites: None Corequisites: None Available: Fall

This course covers the development of theatre from its origin to the closing of the British theatre in 1642. Topics include the history, aesthetics, and representative dramatic literature of the period. Upon completion, students should be able to trace the evolution of theatre and recognize the styles and types of world drama. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

DRA 240 Lighting for the Theatre 2 2 3 Prereguisites: None Corequisites: None

Available: As Needed

This course is an applied study of theatre lighting and is designed to train theatre technicians. Emphasis is placed on lighting technology including the mechanics of lighting and light control equipment by practical work with lighting equipment. Upon completion, students should be able to demonstrate competence with lighting equipment. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

DRA 250 **Theatre Management** 1 3 2 Prerequisites: None Corequisites: None Available: As Needed

This course introduces the organization and operation of a theatre. Emphasis is placed on organization, communication, networking with other organizations, and grant writing. Upon completion, students should be able to demonstrate an understanding of the structure and operation of a theatre organization. This course has been approved to satisfy the Comprehensive Articulation Agreement general education elective requirement in humanities/fine arts.

Economics

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ECO 151 **Survey of Economics**

Prerequisites: None Corequisites: None

Available: As Needed

This course introduces basic concepts of micro- and macroeconomics. Topics include supply and demand, optimizing economic behavior, prices and wages, money, interest rates, banking system, unemployment, inflation, taxes, government spending, and international trade. Upon completion, students should be able to explain alternative solutions for economic problems faced by private and government sectors. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

ECO 251 Principles of Microeconomics Ω 3 3

Prerequisites: None

Corequisites: None Available: Fall, Summer

This course introduces economic analysis of individual, business, and industry choices in the market economy. Topics include the price mechanism, supply and demand, optimizing economic behavior, costs and revenue, market structures, factor markets, income distribution, market failure, and government intervention. Upon completion, students should be able to identify and evaluate consumer and business alternatives in order to efficiently achieve economic objectives. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

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ECO 252	Principles of Macroeconomics	
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Prerequisites: ECO 151 or ECO 251

Corequisites: None

Available: Fall, Spring

This course introduces economic analysis of aggregate employment, income, and prices. Topics include major schools of economic thought; aggregate supply and demand; economic measures, fluctuations, and growth; money and banking; stabilization techniques; and international trade. Upon completion, students should be able to evaluate national economic components, conditions, and alternatives for achieving socioeconomic goals. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

Education

EDU 114 Intro to Family Childcare

Prerequisites: Take one set Set 1: ENG 080, RED 080, MAT 060

Set 2: ENG 085, MAT 060 Corequisites: None

Available: Spring

This course introduces the student to family child care home environments with emphasis on standards and developmentally effective approaches for supporting diverse children and families. Topics include standards for quality, curriculum for multiple age groups, authentic assessment methods, business practices, building positive family and community partnerships, and professionalism. Upon completion, students should be able to design a family child care handbook that reflects a healthy, respectful, supportive, and stimulating learning environment.

EDU 118 P	rinc & Prac	of Inst Ass	t		3	0	3
Prerequisites: T	ake one set						
Set 1: ENG	080, RED 080						
Set 2: ENG	085						
Corequisites: N	one						
Available: Sprir	ng						
This course co	overs the instr	uctional as	sistant's i	ole in the	e educ	atio	nal
system. Top	ics include	history	of edu	cation,	profe	essio	nal
responsibilitie	es and ethics,	cultural di	versity, c	ommuni	cation	1 ski	ills,
and identifica	ation of the	optimal	learning	environ	ment.	U	pon

system. Topics include history of education, professional responsibilities and ethics, cultural diversity, communication skills, and identification of the optimal learning environment. Upon completion, students should be able to describe the supporting role of the instructional assistant, demonstrate positive communication skills, and discuss educational philosophy.

EDU 119 Intro to Early Child Educ 4 0

Prerequisites: None Corequisites: None Available: Spring

This course covers the foundations of the education profession, the diverse educational settings for young children, professionalism and planning developmentally appropriate programs for all children. Topics include historical foundations, program types, career options, professionalism and creating inclusive environments and curriculum responsive to the needs of all children and families. Upon completion, students should be able to design career plans and develop schedules, environments and activity plans appropriate for all children.

3 EDU 131 Child, Family, & Commun

Prerequisites: Take one set Set 1: ENG 080, RED 080 Set 2: ENG 085 Corequisites: None

Available: Spring

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This course covers the development of partnerships between culturally and linguistically diverse families, children, schools and communities. Emphasis is placed on developing skills and identifying benefits for establishing, supporting, and maintaining respectful, collaborative relationships between diverse families, programs/schools, and community agencies/ resources. Upon completion, students should be able to explain appropriate relationships between families, educators, and professionals that enhance development and educational experiences of all children.

EDU 144 Child Development I

Prerequisites: Take one set Set 1: ENG 080, RED 080 Set 2: ENG 085 Corequisites: None

Available: Fall

This course includes the theories of child development, needs, milestones, and factors that influence development, from conception through approximately 36 months. Emphasis is placed on developmental sequences in physical/motor, emotional/social, cognitive, and language domains and the impact of multiple influences on development and learning. Upon completion, students should be able to compare/ contrast typical/atypical developmental characteristics, explain environmental factors that impact development, and identify strategies for enhancing development. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

EDU 145 Child Development II

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Prerequisites: Take one set

Set 1: ENG 080, RED 080

Set 2: ENG 085

Corequisites: None

Available: Spring

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This course includes the theories of child development, needs, milestones, and factors that influence development, from preschool through middle childhood. Emphasis is placed on developmental sequences in physical/motor, emotional/social, cognitive, and language domains and the impact of multiple influences on development and learning. Upon completion, students should be able to compare/contrast typical/atypical developmental characteristics, explain environmental factors that impact development, and identify strategies for enhancing development. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

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EDU 146 Child Guidance

Prerequisites: Take one set Set 1: ENG 080, RED 080 Set 2: ENG 085 Corequisites: None

Available: Spring

This course introduces principles and practical techniques including the design of learning environments for providing developmentally appropriate guidance for all children, including those at risk. Emphasis is placed on observation skills, cultural influences, underlying causes of behavior, appropriate expectations, development of self control and the role of communication and guidance. Upon completion, students should be able to demonstrate direct/indirect strategies for preventing problem behaviors, teaching appropriate/acceptable behaviors, negotiation, setting limits and recognizing at risk behaviors. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

EDU 151 Creative Activities

Prerequisites: Take one set Set 1: ENG 080, RED 080 Set 2: ENG 085 Corequisites: None

Available: Spring

This course covers planning, creation and adaptation of developmentally supportive learning environments with attention to curriculum, interactions, teaching practices and learning materials. Emphasis is placed on creating and adapting integrated, meaningful, challenging and engaging developmentally supportive learning experiences in art, music, movement and dramatics for all children. Upon completion, students should be able to create, adapt, implement and evaluate developmentally supportive learning materials, experiences and environments.

EDU 151A Creative Activities Lab

Prerequisites: Take one set

Set 1: ENG 080, RED 080 Set 2: ENG 085

Corequisites: EDU 151

Available: Spring

This course provides a laboratory component to complement EDU 151. Emphasis is placed on practical experiences that enhance concepts introduced in the classroom. Upon completion, students should be able to demonstrate a practical understanding of the development and implementation of appropriate creative activities.

EDU 153 Health, Safety & Nutrit 0

Prerequisites: Take one set Set 1: ENG 080, RED 080 Set 2: ENG 085

Corequisites: None Available: Spring

This course covers promoting and maintaining the health and well-being of all children. Topics include health and nutritional

guidelines, common childhood illnesses, maintaining safe and healthy learning environments, recognition and reporting of abuse and neglect and state regulations. Upon completion, students should be able to demonstrate knowledge of health, safety, and nutritional needs, safe learning environments, and adhere to state regulations.

0 3 EDU 153A Health, Safety, & Nut Lab

Prerequisites: Take one set Set 1: ENG 080, RED 080 Set 2: ENG 085 Corequisites: EDU 153 Available: Spring

This course provides a laboratory component to complement EDU 153. Emphasis is placed on practical experiences that enhance concepts introduced in the classroom. Upon completion, students should be able to demonstrate a practical understanding of the development and implementation of safe indoor/outdoor environments and nutrition education programs.

EDU 154 Social/Emotion/Behav Dev 3

Prerequisites: Take one set

Set 1: ENG 080, RED 080, EDU 144, EDU 145 Set 2: ENG 080, RED 080, PSY 244, PSY 245 Set 3: ENG 085, EDU 144, EDU 145

Set 4: ENG 085, PSY 244, PSY 245

Corequisites: None

Available: Fall

This course covers the emotional/social development of children and the causes, expressions, prevention and management of challenging behaviors in all children. Emphasis is placed on caregiver/family/child relationships, positive emotional/social environments, developmental concerns, risk factors, and intervention strategies. Upon completion, students should be able to identify factors influencing emotional/social development, utilizing screening measures, and designing positive behavioral supports.

DU 163	Classroom Mgt & Instruct	3	0	3
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Prerequisites: Take one set

Set 1: ENG 080, RED 080 Set 2: ENG 085 Corequisites: None

Available: Fall

This course covers management and instructional techniques with school-age populations. Topics include classroom management and organization, teaching strategies, individual student differences and learning styles, and developmentally appropriate classroom guidance techniques. Upon completion, students should be able to utilize developmentally appropriate behavior management and instructional strategies that enhance the teaching/learning process and promote students' academic success.

EDU 184 Early Child Intro Pract

Prerequisites: Take one set

Set 1: ENG 080, RED 080, EDU 119 Set 2: ENG 085, EDU 119

Corequisites: None

This course introduces students to early childhood settings and applying skills in a three star (minimum) or NAEYC accredited or equivalent, quality early childhood environment. Emphasis is placed on observing children and assisting in the implementation of developmentally appropriate activities/ environments for all children; and modeling reflective/ professional practices. Upon completion, students should be able to demonstrate developmentally appropriate interactions with children and ethical/professional behaviors as indicated by assignments and onsite faculty visits.

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EDU 214 Early Child Intern Pract

Prerequisites: Take one set Set 1: ENG 090, RED 090, EDU 119, EDU 144, EDU 146 Set 2: ENG 090, RED 090, PSY 244, EDU 119, EDU 146 Set 3: ENG 095, EDU 119, EDU 144, EDU 146 Set 4: ENG 095, EDU 119, PSY 244, EDU 146

Corequisites: None

Available: Fall

This course is designed to allow students to apply skills in a three star (minimum) or NAEYC accredited or equivalent, quality early childhood environment. Emphasis is placed on observing children and assisting with the implementation of developmentally appropriate activities and environments for all children; modeling reflective and professional practices. Upon completion, students should be able to demonstrate developmentally appropriate plans/assessments, appropriate guidance techniques and ethical/professional behaviors as indicated by assignments and onsite faculty visits.

EDU 216 Foundations of Education 4 0 (EDU 216 replaced EDU 116)

Prerequisites: Take one set

Set 1: ENG 090, RED 090 Set 2: ENG 095 Corequisites: None Available: As Needed

This course introduces the American educational system and the teaching profession. Topics include historical and philosophical foundations of education, contemporary educational, structural, legal, and financial issues, and experiences in public school classrooms. Upon completion, students should be able to relate classroom observations to the roles of teachers and schools and the process of teacher education. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement at select institutions only.

EDU 221 Children with Exceptionalities

Prerequisites: Take one set

Set 1: ENG 090, RED 090, EDU 144 EDU 145 Set 2: ENG 090, RED 090, PSY 244 PSY 245 Set 3: ENG 095, EDU 144 EDU 145 Set 4: ENG 095, PSY 244 PSY 245

Corequisites: None Available: Fall

This course introduces children with exceptionalities, their families, support services, inclusive/diverse settings, and educational/family plans based on the foundations of child development. Emphasis is placed on the characteristics of exceptionalities, observation and assessment of children, strategies for adapting the learning environment, and identification of community resources. Upon completion, students should be able to recognize diverse abilities, describe the referral process, and depict collaboration with families/ professionals to plan/implement, and promote best practice. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement at select institutions only.

4 EDU 234 Infants, Toddlers, & Twos Prerequisites: Take one set

Set 1: ENG 090, RED 090, EDU 119 Set 2: ENG 095, EDU 119 Corequisites: None

Available: Spring

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This course covers the unique needs and rapid changes that occur in the first three years of life and the inter-related factors that influence development. Emphasis is placed on recognizing and supporting developmental milestones through purposeful strategies, responsive care routines and identifying elements of quality, inclusive early care and education. Upon completion, students should be able to demonstrate respectful relationships that provide a foundation for healthy infant/ toddler/twos development, plan/select activities/materials, and partner with diverse families.

EDU 243 Learning Theory

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Prerequisites: Take one set Set 1: ENG 090, RED 090 Set 2: ENG 095 Corequisites: None Available: As Needed

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This course provides lateral entry teachers an introduction to learning theory, various styles of learning, and motivational factors involved in the learning process. Emphasis is placed on the development of cognitive skills using the eight types of intelligence and applying these to practical classroom situations. Upon completion, students should be able to describe theories and styles of learning and discuss the relationship between different types of intelligence to learning motivation.

EDU 248 Developmental Delays

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Prerequisites: Take one set Set 1: ENG 090, RED 090, EDU 144, EDU 145 Set 2: ENG 090, RED 090, PSY 244, PSY 245 Set 3: ENG 095, EDU 144, EDU 145

Set 4: ENG 095, PSY 244, PSY 245

Corequisites: None

Available: Spring

This course covers the causes and assessment of developmental delays and individualized instruction and curriculum for children with developmental delays. Emphasis is placed on definition, characteristics, assessment, educational strategies, inclusion, family involvement, and services for children with developmental delays. Upon completion, students should be able to identify, assess, and plan educational intervention strategies for children with developmental delays and their families.

EDU 251 Exploration Activities

Prerequisites: Take one set

Set 1: ENG 090, RED 090

Set 2: ENG 095

Corequisites: EDU 251A

Available: Spring

This course covers discovery experiences in science, math, and social studies. Emphasis is placed on developing concepts for each area and encouraging young children to explore, discover, and construct concepts. Upon completion, students should be able to discuss the discovery approach to teaching, explain major concepts in each area, and plan appropriate experiences for children.

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EDU 251A Exploration Act Lab

Prerequisites: Take one set Set 1: ENG 090, RED 090 Set 2: ENG 095 Corequisites: EDU 251

Available: Spring

This course provides a laboratory component to complement EDU 251. Emphasis is placed on practical experiences that enhance concepts introduced in the classroom. Upon completion, students should be able to demonstrate a practical understanding of the development and implementation of appropriate science, math, and social studies activities for children.

EDU 261 Early Childhood Admin I

Prerequisites: Take one set Set 1: ENG 090, RED 090 Set 2: ENG 095

Corequisites: EDU 119

Available: Spring

This course introduces principles of basic programming and staffing, budgeting/financial management and marketing, and rules and regulations of diverse early childhood programs. Topics include program structure and philosophy, standards of NC child care programs, finance, funding resources, and staff and organizational management. Upon completion, students should be able to develop components of program/personnel handbooks, a program budget, and demonstrate knowledge of fundamental marketing strategies and NC standards.

EDU 262 Early Childhood Admin II

Prerequisites: Take one set

Set 1: ENG 090, RED 090, EDU 261 Set 2: ENG 095, EDU 261 Corequisites: EDU 119

Available: Fall

This course focuses on advocacy/leadership, public relations/ community outreach and program quality/evaluation for diverse early childhood programs. Topics include program evaluation/accreditation, involvement in early childhood professional organizations, leadership/mentoring, family, volunteer and community involvement and early childhood advocacy. Upon completion, students should be able to define and evaluate all components of early childhood programs, develop strategies for advocacy and integrate community into programs.

EDU 271 Educational Technology

Prerequisites: Take one set

Set 1: ENG 090, RED 090 Set 2: ENG 095 Corequisites: None

Available: Fall

This course introduces the use of technology to enhance teaching and learning in all educational settings. Topics include technology concepts, instructional strategies, materials and adaptive technology for children with exceptionalities, facilitation of assessment/evaluation, and ethical issues surrounding the use of technology.

Upon completion, students should be able to apply technology enhanced instructional strategies, use a variety of technology resources and demonstrate appropriate technology skills in educational environments.

0 2 1 EDU 280 Language & Literacy Exp

Prerequisites: Take one set Set 1: ENG 090, RED 090 Set 2: ENG 095 Corequisites: None Available: Fall

This course is designed to expand students' understanding of children's language and literacy development and provides strategies for enhancing language/literacy experiences in an enriched environment. Topics include selection of diverse literature and interactive media, the integration of literacy concepts throughout the curriculum, appropriate observations/assessments and inclusive practices. Upon completion, students should be able to select, plan, implement and evaluate developmentally appropriate and diverse language/literacy experiences.

EDU 281 Instruc Strat/Read & Writ 2 2 3 (EDU 281 replaced EDU 186)

Prerequisites: Take one set

Set 1: ENG 090, RED 090

Set 2: ENG 095

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Corequisites: None

Available: Spring

This course covers concepts, resources, and methods for teaching reading and writing to elementary through middlegrade children. Topics include the importance of literacy, learning styles, skills assessment, various reading and writing approaches and instructional strategies. Upon completion, students should be able to assess, plan, implement and evaluate school-age literacy experiences as related to the North Carolina Standard Course of Study.

EDU 284 Early Child Capstone Prac

Prerequisites: Take one set

Set 1: ENG 090, RED 090, EDU 119, EDU 144, EDU 145, EDU 146, EDU 151

Set 2: ENG 090, RED 090, EDU 119, PSY 244, PSY 245, EDU 146, EDU 151

Set 3: ENG 090, RED 090, EDU 119, PSY 245, EDU 144, EDU 146, EDU 151

Set 4: ENG 090, RED 090, EDU 119, PSY 244, EDU 145, EDU 146, EDU 151

Set 5: ENG 095, EDU 119, EDU 144, EDU 145, EDU 146, EDU 151 Set 6: ENG 095, EDU 119, PSY 244, PSY 245, EDU 146, EDU 151 Set 7: ENG 095, EDU 119, EDU 144, PSY 245, EDU 146, EDU 151 Set 8: ENG 095, EDU 119, EDU 145, PSY 244, EDU 146, EDU 151

Corequisites: None

Available: Spring

This course is designed to allow students to apply skills in a three star (minimum) or NAEYC accredited or equivalent, quality early childhood environment. Emphasis is placed on designing, implementing and evaluating developmentally appropriate activities and environments for all children; supporting/involving families; and modeling reflective and professional practices. Upon completion, students should be able to demonstrate developmentally appropriate plans/ assessments, appropriate guidance techniques and ethical/ professional behaviors as indicated by assignments and onsite faculty visits.

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EDU 285 1 9 4 Internship Exp-School Age

Prerequisites: Take one set Set 1: ENG 090, RED 090, EDU 144, EDU 145, EDU 118, EDU 163 Set 2: ENG 090, RED 090, PSY 244, PSY 245, EDU 118, EDU 163 Set 3: ENG 090, RED 090, PSY 244, EDU 145, EDU 118, EDU 163 Set 4: ENG 090, RED 090, EDU 144, PSY 245, EDU 118, EDU 163 Set 5: ENG 090, RED 090, PSY 244, PSY 245, EDU 216, EDU 163 Set 6: ENG 090, RED 090, EDU 144, EDU 145, EDU 216, EDU 163 Set 7: ENG 090, RED 090, EDU 144, PSY 245, EDU 216, EDU 163 Set 8: ENG 090, RED 090, PSY 244, EDU 216, EDU 163 Set 9: ENG 095, PSY 244, PSY 245, EDU 118, EDU 163 Set 10: ENG 095, EDU 144, EDU 145, EDU 118, EDU 163 Set 11: ENG 095, EDU 144, PSY 245, EDU 118, EDU 163 Set 12: ENG 095, PSY 244, EDU 145, EDU 118, EDU 163 Set 13: ENG 095, PSY 244, PSY 245, EDU 216, EDU 163 Set 14: ENG 095, EDU 144, EDU 145, EDU 216, EDU 163 Set 15: ENG 095, EDU 144, PSY 245, EDU 216, EDU 163 Set 16: ENG 095, PSY 244, EDU 145, EDU 216, EDU 163

Corequisites: None

Available: Spring

This course is designed to allow students to apply skills in a quality public or private school environment. Emphasis is placed on designing, implementing and evaluating developmentally appropriate activities and environments for all children; supporting/involving families; and modeling reflective and professional practices. Upon completion, students should be able to demonstrate developmentally appropriate lesson plans/assessments, appropriate guidance techniques, ethical/professional behaviors as indicated by assignments and onsite faculty visits.

EDU 289 Adv Issues/School Age 2 0 2 Prerequisites: Take one set Set 1: ENG 090, RED 090 Set 2: ENG 095

Corequisites: None Available: Fall

This course covers advanced topics and issues that relate to school-age programs. Emphasis is placed on current advocacy issues, emerging technology, professional growth, ethics, and organizations for providers/teachers working with school-age populations. Upon completion, students should be able to list, discuss, and explain advanced current topics and issues surrounding school-aged populations.

Engineering

*EGR 1	10	Introduction to Engineering Tech	1	2	2
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Prerequisites: None

Corequisites: None Available: Fall, Spring

This course introduces general topics relevant to engineering technology. Skills developed include goal setting and career assessment, professional ethics, critical thinking and problem solving, using college resources for study and research, and using tools for engineering computations. Upon completion, students should be able to choose a career option in engineering technology and utilize college resources to meet their educational goals.

EGR 115 Intro to Technology

Prerequisites: None Corequisites: None

Available: Fall, Spring

This course introduces the basic skills and career fields for technicians. Topics include career options, technical vocabulary, dimensional analysis, measurement systems, engineering graphics, calculator applications, professional ethics, safety practices, and other related topics. Upon completion, students should be able to demonstrate an understanding of the basic technologies, prepare drawings and sketches, and perform computations using a scientific calculator.

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*EGR 125 22 **Application Software for Technicians** 1

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course introduces personal computer software and teaches students how to customize the software for technical applications. Emphasis is placed on the use of common office applications software such as spreadsheets, word processing, graphics and Internet access. Upon completion, students should be able to demonstrate competency in using applications software to solve technical problems and communicate the end results in text and graphical formats.

*EGR 130 **Engineering Cost Control** 2 2 3

Prerequisites: MAT 121 or MAT 161 or MAT 171

Corequisites: None

Available: As Needed

This course covers the management of projects and systems through the control of costs. Topics include economic analysis of alternatives within budget constraints and utilization of the time value of money approach. Upon completion, students should be able to make choices that optimize profits on both short-term and long-term decisions.

*EGR 150 Intro to Engineering 2 2 1

Prerequisites: MAT 080 or Placement

Corequisites: None

Available: As Needed

This course is an overview of the engineering profession. Topics include goal setting and career assessment, ethics, public safety, the engineering method and design process, written and oral communication, interpersonal skills and team building, and computer applications. Upon completion, students should be able to understand the engineering process, the engineering profession, and utilize college resources to meet their educational goals. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

*EGR 220 **Engineering Statics** 0 3 3

Prerequisites: PHY 251 Corequisites: MAT 272

Available: As Needed

This course introduces the concepts of engineering based on forces in equilibrium Topics include concentrated forces, distributed forces, forces due to friction and inertia as they apply to machines, structures, and systems. Upon completion, students should be able to solve problems which require the ability to analyze systems of forces in static equilibrium. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

Catalog 2011-2012

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Course Descriptions

ELC 115 Industrial Wiring Prerequisites: ELC 113 Corequisites: None Available: Spring

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This course covers layout, planning, and installation of wiring systems in industrial facilities. Emphasis is placed on industrial wiring methods and materials. Upon completion, students should be able to install industrial systems and equipment.

ELC 117 Motors and Controls 2 6 4

Prerequisites: Select one: AHR 111, ELC 111, ELC 112, ELC 131, ELC 138 Corequisites: None

Available: Fall, Spring

This course introduces the fundamental concepts of motors and motor controls. Topics include ladder diagrams, pilot devices, contactors, motor starters, motors, and other control devices. Upon completion, students should be able to properly select, connect, and troubleshoot motors and control circuits.

2 2 **ELC 118 National Electrical Code** 1

Prerequisites: ELC 113 or Department Chair Approval

Corequisites: None

Available: Spring, Summer

This course covers the use of the current National Electrical Code. Topics include the NEC history, wiring methods, overcurrent protection, materials, and other related topics. Upon completion, students should be able to effectively use the NEC.

ELC 128 Introduction to PLC 2 3 3

Prerequisites: None

Corequisites: None

Available: As Needed

This course introduces the programmable logic controller (PLC) and its associated applications. Topics include ladder logic diagrams, input/output modules, power supplies, surge protection, selection/installation of controllers, and interfacing of controllers with equipment. Upon completion, students should be able to install PLCs and create simple programs.

ELC 132	Electrical Drawings	1	3	2
Prerequisit	es: None			
Corequisite	es: None			
Available [.] I	Fall Spring			

wailable: Fall, Spring This course introduces the technical documentation that is

typically found or used in the industrial environment. Topics include interpretation of service manuals, freehand sketching of lines, orthographic views and dimensions, and blueprint reading. Upon completion, students should be able to interpret technical documents and blueprints and use basic drafting skills to prepare usable field drawings.

ELC 133 Advanced Circuit Analysis



Corequisites: None Available: As Needed

This course covers additional concepts of DC/AC electricity, the use of test equipment, and measurement techniques for electrical/electronics majors. Topics include the application of network theorems such as delta/wye transformations, Superposition Theorem, and other advanced circuit analysis principles. Upon completion, students should be able to construct and analyze DC/AC circuits and use advanced circuit analysis theorems, circuit simulators, and test equipment

ELC 113 Basic Wiring I

Prerequisites: None

This course introduces the care/usage of tools and materials used in electrical installations and the requirements of the National Electrical Code. Topics include NEC, electrical safety, and electrical blueprint reading; planning, layout; and installation of electrical distribution equipment; lighting; overcurrent protection; conductors; branch circuits; and conduits. Upon completion, students should be able to properly install conduits, wiring, and electrical distribution equipment associated with basic electrical installations.

Corequisites: None Available: As Needed

Prerequisites: CHM 151

*EGR 230

This course provides an introduction to fundamental physical principals governing the structure and constitution of metallic and nonmetallic materials. Topics include the relationship among the fundamental physical principles and the mechanical, physical and chemical properties of engineering materials. Upon completion, students should be able to explain the fundamental physical properties important to the design and understanding of engineering materials. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

EGR 285 **Design Project**

Prerequisites: Department Chair Approval

Engineering Materials

Corequisites: None

Available: As Needed

This course provides the opportunity to design an instructorapproved project using previously acquired skills. Emphasis is placed on selection, proposal, design, testing, and documentation of the approved project. Upon completion, students should be able to present and demonstrate projects.

Electrical

ELC 111	Introduction to Electricity	2	2	3
Prerequisites:	MAT 060			
Corequisites:	None			

Available: Fall

This course introduces the fundamental concepts of electricity and test equipment to nonelectrical/electronic majors. Topics include basic DC and AC principles (voltage, resistance, current, impedance); components (resistors, inductors, and capacitors); power; and operation of test equipment. Upon completion, students should be able to construct and analyze simple DC and AC circuits using electrical test equipment.

ELC 112 DC/AC Electricity 3 6 5

Prerequisites: MAT 060

Corequisites: None

This course introduces the fundamental concepts of and computations related to DC/AC electricity. Emphasis is placed on DC/AC circuits, components, operation of test equipment; and other related topics. Upon completion, students should be able to construct, verify, troubleshoot, and repair DC/AC circuits.

Corequisites: None Available: Fall

Available: As Needed

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ELC 138 DC Circuit Analysis

Prerequisites: None Corequisites: MAT 070, RED 080 Available: Fall

This course introduces DC electricity with an emphasis on circuit analysis, measurements, and operation of test equipment. Topics include DC principles, circuit analysis laws and theorems, components, test equipment operation, circuit simulation, and other related topics. Upon completion, students should be able to interpret circuit schematics; design, construct, and analyze DC circuits; and properly use test equipment.

ELC 139	AC Circuit Analysis	2	3	3
Prerequisites:	ELC 138			
Corequisites:	None			

Available: Spring

This course introduces AC electricity with an emphasis on circuit analysis, measurements, and operation of test equipment. Topics include AC voltages, circuit analysis laws and theorems, reactive components and circuits, transformers, test equipment operation, circuit simulation, and other related topics. Upon completion, students should be able to interpret AC circuit schematics; analyze and troubleshoot AC circuits; and properly use test equipment.

ELC 213 Instrumentation

Prerequisites: Select one: AHR 111, ELC 111, ELC 112, ELC 131, ELC 138 Corequisites: None

Available: Spring, Summer

This course covers the fundamentals of instrumentation used in industry. Emphasis is placed on electric, electronic, and pneumatic instruments. Upon completion, students should be able to design, install, maintain, and calibrate instrumentation.

ELC 228 PLC Applications 2 6 4

Prerequisites: ELC 128 Corequisites: None Available: Spring

This course covers programming and applications of programmable logic controllers. Emphasis is placed on programming techniques, networking, specialty I/O modules, and system troubleshooting. Upon completion, students should be able to specify, implement, and maintain complex PLC controlled systems.

*ELC 229 Applications Project

Prerequisites: None Corequisites: None

Available: As Needed

This course provides an individual and/or integrated team approach to a practical project as approved by the instructor. Topics include project selection and planning, implementation and testing, and a final presentation. Upon completion, students should be able to plan and implement an applications-oriented project. Students must possess a working knowledge of electrical theory, circuits, and control in order to be successful in this course.

ELC 233 Energy Management

Prerequisites: Select one: AHR 111, ELC 111, ELC 112, ELC 131, ELC 138 Corequisites: None

Available: Spring

This course covers energy management principles and techniques typical of those found in industry and commercial facilities, including load control and peak demand reduction systems. Topics include load and peak demand calculations, load shedding, load balance and power factor, priority

scheduling, remote sensing and control, and supplementary/ alternative energy sources. Upon completion, students should be able to determine energy management parameters, calculate demand and energy use, propose energy management procedures, and implement alternative energy sources.

Electronics

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ELN 133 Digital Electronics

Prerequisites: Select one: ELC 111, ELC 112, ELC 131, ELC 138

Corequisites: None

Available: Fall, Spring

This course covers combinational and sequential logic circuits. Topics include number systems, Boolean algebra, logic families, MSI and LSI circuits, AC/DC converters, and other related topics. Upon completion, students should be able to construct, analyze, verify, and troubleshoot digital circuits using appropriate techniques and test equipment.

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ELN 133A Digital Electronics Lab 0 3 1

Prerequisites: None Corequisites: ELN 133

Available: Spring, Summer

This course is laboratory to accompany ELN 133. Emphasis is placed on laboratory experiences which enhance the materials presented in ELN 133 and which provide practical experience. Upon completion, students should be able to demonstrate a general understanding of digital fundamentals.

ELN 137Electronic Devices and Circuits435

Prerequisites: ELC 138

Corequisites: None

Available: Fall

This course covers diodes, transistors, linear integrated circuits, and IC voltage regulators. Topics include power supplies, switching circuits, amplifiers, oscillators, active filters, and other related topics. Upon completion, students should be able to analyze and troubleshoot circuits using schematic diagrams, appropriate test equipment, and manufacturer's data sheets

ELN 150 CAD for Electronics 1 3 2

Prerequisites: None Corequisites: None

Available: Spring

This course introduces computer-aided drafting (CAD) with an emphasis on applications in the electronics field. Topics include electronics industry standards (symbols, schematic diagrams, layouts); drawing electronic circuit diagrams; and specialized electronic drafting practices and components such as resistors, capacitors, and ICs. Upon completion, students should be able to prepare electronic drawings with CAD software.

ELN 152 Fabrication Techniques

Prerequisites: None Corequisites: None

Available: Spring

This course covers the fabrication methods required to create a prototype product from the initial circuit design. Topics include CAD, layout, sheet metal working, component selection, wire wrapping, PC board layout and construction, reverse engineering, soldering, and other related topics. Upon completion, students should be able to design and construct an electronic product with all its associated documentation.

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ELN 154 Introduction to Data Communication

Prerequisites: ELN 133 with ELN 132 or ELN 137 Corequisites: None

Available: As Needed

This course introduces the principal elements and theory (analog and digital techniques) of data communication systems and how they are integrated as a complete network. Topics include an overview of data communication, OSI model, transmission modes, serial and parallel interfaces, applications of ICs, protocols, network configurations, modems, and related applications. Upon completion, students should be able to demonstrate knowledge of the concepts associated with data communication systems and high speed networks.

33 ELN 232 Introduction to Microprocessors 4

Prerequisites: ELN 133

Corequisites: None

Available: Spring

This course introduces microprocessor architecture and microcomputer systems including memory and input/output interfacing. Topics include assembly language programming, bus architecture, bus cycle types, I/O systems, memory systems, interrupts, and other related topics. Upon completion, students should be able to interpret, analyze, verify, and troubleshoot fundamental microprocessor circuits and programs using appropriate techniques and test equipment.

ELN 234 Communication Systems 3 3 4

Prerequisites: ELN 133 with ELN 132 or ELN 137

Corequisites: None

Available: Fall, Spring

This course introduces the fundamentals of electronic communication systems. Topics include the frequency spectrum, electrical noise, modulation techniques, characteristics of transmitters and receivers, and digital communications. Upon completion, students should be able to interpret analog and digital communication circuit diagrams, analyze transmitter and receiver circuits, and use appropriate communication test equipment.

FI N 237	Local Area Networks	23
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Prerequisites: Select One: CET 111, CIS 110, CIS 111

Corequisites: None

Available: Fall, Spring

This course introduces the fundamentals of local area networks and their operation in business and computer environments. Topics include the characteristics of network topologies, system hardware (repeaters, bridges, routers, gateways), system configuration, and installation and administration of the LAN. Upon completion, students should be able to install, maintain, and manage a local area network.

ELN :	238	Advanced LANs	
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Prerequisites: ELN 237

Corequisites: None

Available: Spring, Summer

This course covers advanced concepts, tools, and techniques associated with servers, workstations, and overall local area network performance. Topics include network security and configuration, system performance and optimization, communication protocols and packet formats, troubleshooting techniques, multi-platform integration, and other related topics. Upon completion, students should be able to use advanced techniques to install, manage, and troubleshoot networks and optimize server and workstation performance.

2 3 3 **Emergency Medical Science**

EMS 110 **EMT - Basic**

Prerequisites: Enrollment in EMS program

Corequisites: None Available: Fall

This course introduces basic emergency medical care. Topics include preparatory, airway, patient assessment, medical emergencies, trauma, infants and children, and operations. Upon completion, students should be able to demonstrate the knowledge and skills necessary for the EMT-Basic certification.

EMS 111 **Prehospital Environment**

Prerequisites: Enrollment in EMS program Corequisites: None

Available: Fall

This course introduces the prehospital care environment and is required for all levels of EMT certification. Topics include roles, responsibilities, laws, ethics, communicable diseases, hazardous materials recognition, therapeutic communications, EMS systems, and defense tactics. Upon completion of EMS 110 and EMS 111, students should be able to demonstrate competencies and skills necessary to achieve EMT-Basic certification.

EMS 115 Defense Tactics for EMS

Prerequisites: Enrollment in EMS program

Corequisites: None Available: As Needed

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This course is designed to provide tactics that can be used for self-protection in dangerous and violent situations. Emphasis is placed on prediction, recognition, and response to dangerous and violent situations. Upon completion, students should be able to recognize potentially hostile situations and protect themselves during a confrontation.

EMS 120 Intermediate Interventions 2 3 0 3

Prerequisites: BIO 168 and EMS 110, EMS 111 or EMS 115, and enrollment in EMS program

Corequisites: EMS 121 or EMS 122, EMS 130, EMS 131, and BIO 169 Available: Spring

This course is designed to provide the necessary information for interventions appropriate to the EMT-Intermediate, and is required for intermediate certification. Topics include automated external defibrillation, basic cardiac electrophysiology, intravenous therapy, venipuncture, acidbase balance, and fluids and electrolytes. Upon completion, students should be able to properly establish an IV line, obtain venous blood, utilize AEDs, and correctly interpret arterial blood gases. Current N.C. EMT certification is required for students enrolling in this course.

EMS 121 EMS Clinical Practicum I

Prerequisites: BIO 168, EMS 110, EMS 111 or EMS 115, and enrollment in EMS program

Corequisites: EMS 120, EMS 130, EMS 131, and BIO 169 Available: Spring

This course is the initial hospital and field internship and is required for intermediate and paramedic certification. Emphasis is placed on intermediate-level care. Upon completion, students should be able to demonstrate competence with intermediate-level skills. Current N.C. EMT certification is required for students enrolling in this course.

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EMS 125 EMS Instructor Methodology

Prerequisites: None Corequisites: None

Available: As Needed

This course covers the information needed to develop and instruct EMS courses. Topics include instructional methods, lesson plan development, time management skills, and theories of adult learning. Upon completion, students should be able to teach EMS courses and meet the North Carolina EMS requirements for instructor methodology.

EMS 130 Pharmacology for EMS

Prerequisites: BIO 168, EMS 110, and enrollment in EMS program Corequisites: BIO 169, EMS 120, and EMS 131

Available: Spring

This course introduces the fundamental principles of pharmacology and medication administration and is required for intermediate and paramedic certification. Topics include terminology, pharmacokinetics, pharmacodynamics, weights, measures, drug calculations, legislation, and administration routes. Upon completion, students should be able to accurately calculate drug dosages, properly administer medications, and demonstrate general knowledge of pharmacology.

EMS 131 Advanced Airway Management 1 2 0 2

Prerequisites: BIO 168, EMS 110, and enrollment in EMS program

Corequisites: BIO 169, EMS 120, and EMS 130

Available: Spring

This course is designed to provide advanced airway management techniques and is required for intermediate and paramedic certification. Topics include respiratory anatomy and physiology, airway, ventilation, adjuncts, surgical intervention, and rapid sequence intubation. Upon completion, students should be able to properly utilize all airway adjuncts and pharmacology associated with airway control and maintenance.

EMS 140 Rescue Scene Management 1 3 0 2

Prerequisites: Enrollment in EMS program

Corequisites: EMS 140A

Available: Fall

This course introduces rescue scene management and is required for paramedic certification. Topics include response to hazardous material conditions, medical incident command, and extrication of patients from a variety of situations. Upon completion, students should be able to recognize and manage rescue operations based upon initial and follow-up scene assessment. Skills will include vehicle extrication, water rescue, rescue from heights, and confined space rescue.

EMS 140A Rescue Scene Skills Lab 0 3 0 1

Prerequisites: Enrollment in EMS Program Corequisites: EMS 140

Available: Fall

This course is designed to provide enhanced rescue scene skills for EMS providers. Emphasis is placed on advanced rescue scene evolutions including hazardous materials and major incident response. Upon completion, students should be able to demonstrate skills necessary to safely effect patients rescue in a variety of situations.

1 2 0 2 EMS 150 Emergency Vehicles & EMS Communication 1 3 0 2

Prerequisites: Enrollment in EMS program Corequisites: None Available: Fall

This course examines the principles governing maintenance of emergency vehicles and EMS communication equipment and is required for paramedic certification. Topics include applicable motor vehicle laws affecting emergency vehicle operation, defensive driving, collision avoidance techniques, communication systems, and information management systems. Upon completion, students should have a basic knowledge of emergency vehicles, maintenance, and communication needs.

EMS 210Advanced Patient Assessment1302Prerequisites:EMS 120, EMS 130, EMS 131, and either EMS 121 or EMS

122 Corequisites: None

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Available: Summer

This course covers advanced patient assessment techniques and is required for paramedic certification. Topics include initial assessment, medical-trauma history, field impression, complete physical exam process, on-going assessment, and documentation skills. Upon completion, students should be able to utilize basic communication skills and record and report collected patient data.

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EMS 220 Cardiology

Prerequisites: EMS 120, EMS 121, EMS 130, and EMS 131 Corequisites: EMS 210 and EMS 221

Available: Summer

This course provides an in-depth study of cardiovascular emergencies and is required for paramedic certification. Topics include anatomy and physiology, pathophysiology, rhythm interpretation, cardiac pharmacology, and patient treatment. Upon completion, students should be able to certify at the Advanced Cardiac Life Support provider level utilizing American Heart Association Guidelines. In addition, the course provides instruction in the use of various cardiac monitoring devices.

EMS 221EMS Clinical Practicum II0093

Prerequisites: EMS 121 or EMS 122 and COE 111, EMS 120, EMS 130 and EMS 131 $\,$

Corequisites: EMS 210 and EMS 220

Available: Summer

This course is a continuation of the hospital and field internship required for paramedic certification. Emphasis is placed on advanced-level care. Upon completion, students should be able to demonstrate continued progress in advanced-level patient care. Current N.C. EMT certification is required for students enrolling in this course.

EMS 230 Pharmacology II for EMS 1 3 0 2

Prerequisites: EMS 130

Corequisites: None

Available: Spring

This course explores the fundamental classification and action of common pharmacologic agents. Emphasis is placed on the action and use of compounds most commonly encountered in the treatment of chronic and acutely ill patients. Upon completion, students should be able to demonstrate general knowledge of drugs covered during the course.

Course Descriptions

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EMS 231 EMS Clinical Practicum III

Prerequisites: EMS 221 or EMS 222 and COE 121, EMS 210 and EMS 220 Corequisites: EMS 250 and EMS 260

Available: Fall

This course is a continuation of the hospital and field internship required for paramedic certification. Emphasis is placed on advanced-level care. Upon completion, students should be able to demonstrate continued progress in advanced-level patient care. Current N.C. EMT certification is required for students enrolling in this course.

EMS 240 Special Needs Patients

Prerequisites: EMS 120, EMS 121 or EMS 122, EMS 130, and EMS 131 Corequisites: EMS 241

Available: Spring

This course includes concepts of crisis intervention and techniques of dealing with special needs patients and is required for paramedic certification. Topics include behavioral emergencies, abuse, assault, challenged patients, personal well-being, home care, and psychotherapeutic pharmacology. Upon completion, students should be able to recognize and manage frequently encountered special needs patients.

EMS 241 EMS Clinical Practicum IV 0 0 9 3

Prerequisites: EMS 231 or EMS 232 and COE 131, EMS 250, and EMS 260 Corequisites: EMS 240, EMS 270, and EMS 285

Available: Spring This course is a cont

This course is a continuation of the hospital and field internship required for paramedic certification. Emphasis is placed on advanced-level care. Upon completion, students should be able to provide advanced-level patient care as an entry-level paramedic. Current N.C. EMT certification is required for students enrolling in this course.

EMS 250 Advanced Medical Emergencies 2 3 0 3

Prerequisites: EMS 120, EMS 130, EMS 131, and either EMS 121 or EMS 122, EMS 210, EMS 220, and EMS 221

Corequisites: EMS 231

Available: Fall

This course presents an in-depth study of medical conditions frequently encountered in the prehospital setting and is required for paramedic certification. Topics include pulmonology, neurology, endocrinology, anaphylaxis, gastroenterology, toxicology, and environmental emergencies integrating case presentation and emphasizing pharmacotherapeutics. Upon completion, students should be able to recognize and manage frequently encountered medical conditions based upon initial patient impression.

EMS 260 Advanced Trauma Emergencies 1 3 0 2

Prerequisites: EMS 120, EMS 130, EMS 131, and either EMS 121 or EMS 122, EMS 210, EMS 220, and EMS 221

Corequisites: EMS 231

Available: Fall

This course presents in-depth study of trauma including pharmacological interventions for conditions frequently encountered in the prehospital setting and is required for paramedic certification. Topics include hemorrhage control, shock, burns, and trauma to head, spine, soft tissue, thoracic, abdominal, and musculoskeletal areas with case presentations utilized for special problems situations. Upon completion, students should be able to recognize and manage trauma situations based upon patient impressions and should meet requirements of BTLS or PHTLS courses.

EMS 270 Life Span Emergencies

Prerequisites: EMS 120, EMS 130 and EMS 131, EMS 231, EMS 250 and EMS 260

Corequisites: EMS 241

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Available: Spring

This course, required for paramedic certification, covers medical/ethical/legal issues and the spectrum of age-specific emergencies from conception through death. Topics include gynecological, obstetrical, neonatal, pediatric, and geriatric emergencies and pharmacological therapeutics. Upon completion, students should be able to recognize and treat age-specific emergencies and certify at the Pediatric Advanced Life Support provider level.

EMS 280 EMS Bridging Course

Prerequisites: Enrollment in EMS Program

Corequisites: None

Available: Spring

This course is designed to bridge the knowledge gained in a continuing education paramedic program with the knowledge gained in an EMS curriculum program. Topics include patient assessment, documentation, twelve-lead ECG analysis, thrombolytic agents, cardiac pacing, and advanced pharmacology. Upon completion, students should be able to perform advanced patient assessment documentation using the problem-oriented medical record format and manage complicated patients.

EMS 285 EMS Capstone

Prerequisites: EMS 220, EMS 231, EMS 250, and EMS 260

Corequisites: EMS 241

Available: Spring

This course provides an opportunity to demonstrate problemsolving skills as a team leader in simulated patient scenarios and is required for paramedic certification. Emphasis is placed on critical thinking, integration of didactic and psychomotor skills, and effective performance in simulated emergency situations. Upon completion, students should be able to recognize and appropriately respond to a variety of EMS related events.

English

ENG 080 Writing Foundations

Prerequisites: ENG 070 or ENG 075 or placement

Corequisites: None

Available: Fall, Spring, Summer

This course introduces the writing process and stresses effective sentences. Emphasis is placed on applying the conventions of written English, reflecting standard usage and mechanics in structuring a variety of sentences. Upon completion, students should be able to write correct sentences and a unified, coherent paragraph. This course does not satisfy the developmental writing prerequisite for ENG 111.

ENG 090 Composition Strategies

Prerequisites: ENG 080 or ENG 085 or placement

Corequisites: ENG 090A Available: Fall, Spring, Summer

This course provides practice in the writing process and stresses effective paragraphs. Emphasis is placed on learning and applying the conventions of standard written English in developing paragraphs within the essay. Upon completion, students should be able to compose a variety of paragraphs and a unified, coherent essay. This course, with ENG 090A, satisfies the developmental writing prerequisite for ENG 111.

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ENG 090A Composition Strategies Lab

Prerequisites: ENG 080 or ENG 085

Corequisites: ENG 090

Available: Fall, Spring, Summer

This writing lab is designed to practice the skills introduced in ENG 090. Emphasis is placed on learning and applying the conventions of standard written English in developing paragraphs within the essay. Upon completion, students should be able to compose a variety of paragraphs and a unified, coherent essay.

ENG 102 Applied Communications II 3 0 3

Prerequisites: None

Corequisites: None

Available: As Needed

This course is designed to enhance writing and speaking skills for the workplace. Emphasis is placed on generating short writings such as job application documents, memoranda, and reports and developing interpersonal communication skills with employees and the public. Upon completion, students should be able to prepare effective, short, and job-related written and oral communications. This is a diploma-level course.

ENG 110 Freshman Composition

Prerequisites: ENG 090 and RED 080

Corequisites: None

Available: Fall, Spring

This course is designed to develop informative and business writing skills. Emphasis is placed on logical organization of writing, including effective introductions and conclusions, precise use of grammar, and appropriate selection and use of sources. Upon completion, students should be able to produce clear, concise, well-organized short papers. An oral component is also integrated with the course

ENG 111 Expository Writing

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Prerequisites: (ENG 090, ENG 090A and RED 090) or ENG 095, or placement test

Corequisites: None

Available: Fall, Spring, Summer

This course is the required first course in a series of two designed to develop the ability to produce clear expository prose. Emphasis is placed on the writing process including audience analysis, topic selection, thesis support and development, editing, and revision. Upon completion, students should be able to produce unified, coherent, well-developed essays using standard written English. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English Composition.

ENG 112 Argument-Based Research

Prerequisites: ENG 111

Corequisites: None

Available: Fall, Spring

This course, the second in a series of two, introduces research techniques, documentation styles, and argumentative strategies. Emphasis is placed on analyzing data and incorporating research findings into documented argumentative essays and research projects. Upon completion, students should be able to summarize, paraphrase, interpret, and synthesize information from primary and secondary sources using standard research format and style. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English Composition.

ENG 113 Literature-Based Research

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Prerequisites: ENG 111 Corequisites: None Available: Fall, Spring, Summer

This course, the second in a series of two, expands the concepts developed in ENG 111 by focusing on writing that involves literature-based research and documentation. Emphasis is placed on critical reading and thinking and the analysis and interpretation of prose, poetry, and drama: plot, characterization, theme, cultural context, etc. Upon completion, students should be able to construct mechanically-sound, documented essays and research papers that analyze and respond to literary works. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English Composition.

ENG 114 Professional Research and Reporting **3 0 3** Prerequisites: ENG 111

Corequisites: Admission to a Major Program or English Department approval

Available: Fall, Spring, Summer

This course, the second in a series of two, is designed to teach professional communication skills. Emphasis is placed on research, listening, critical reading and thinking, analysis, interpretation, and design used in oral and written presentations. Upon completion, students should be able to work individually and collaboratively to produce well-designed business and professional written and oral presentations. Students entering this course should be able to demonstrate in-depth knowledge in a technical field and should anticipate interdepartmental evaluation of course projects. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English Composition.

ENG 125 Creative Writing I 3 0 3

Prerequisites: ENG 111

Corequisites: None Available: As Needed

This course is designed to provide students with the opportunity to practice the art of creative writing. Emphasis is placed on writing fiction, poetry, and sketches. Upon completion, students should be able to craft and critique their own writing and critique the writing of others. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

ENG 126 Creative Writing II 3 0 3 Prerequisites: ENG 125

Corequisites: None

Available: As Needed

This course is designed as a workshop approach for advancing imaginative and literary skills. Emphasis is placed on the discussion of style, techniques, and challenges for first publications. Upon completion, students should be able to submit a piece of their writing for publication. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

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ENG 131 Introduction to Literature

Prerequisites: ENG 111

Corequisites: Select one: ENG 112, ENG 113, ENG 114

Available: Fall, Spring

This course introduces the principal genres of literature. Emphasis is placed on literary terminology, devices, structure, and interpretation. Upon completion, students should be able to analyze and respond to literature. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

ENG 133 Introduction to the Novel

Prerequisites: ENG 111

Corequisites: Select one: ENG 112, ENG 113, ENG 114 Available: As Needed

This course provides intensive study of the novel as a literary form, based on close reading of representative texts. Emphasis is placed on the development and analysis of the novel. Upon completion, students should be able to interpret, analyze, and discuss the distinguishing features of the novel. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

ENG 134 Introduction to Poetry 3 0

Prerequisites: ENG 111

Corequisites: Select one: ENG 112, ENG 113, ENG 114

Available: As Needed

This course provides intensive study of the poem as a literary form, based on close reading of representative texts. Emphasis is placed on the development and analysis of poetry. Upon completion, students should be able to interpret, analyze, and discuss the distinguishing features of poetry. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

ENG 135 Introduction to Short Fiction 3 0

Prerequisites: ENG 111

Corequisites: Select one: ENG 112, ENG 113, ENG 114

Available: As Needed

This course provides intensive study of short fiction as a literary form, based on close reading of representative texts. Emphasis is placed on the development and analysis of short fiction. Upon completion, students should be able to interpret, analyze, and discuss the distinguishing forms of short fiction. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/ or elective course requirement.

ENG 231 American Literature I 3

Prerequisites: Select one: ENG 112, ENG 113, ENG 114 Corequisites: None

Available: Fall

This course covers selected works in American literature from its beginnings to 1865. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. This course requires a research paper. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts

ENG 232 American Literature II

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Prerequisites: Select one: ENG 112, ENG 113, ENG 114 Corequisites: None

Available: Spring, Summer

This course covers selected works in American literature from 1865 to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. This course requires a research paper. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

3 ENG 233 Major American Writers

Prerequisites: ENG 112, ENG 113, or ENG 114 Corequisites: None

Available: As Needed

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This course provides an intensive study of the works of several major American authors. Emphasis is placed on American history, culture, and the literary merits. Upon completion, students should be able to interpret, analyze, and evaluate the works studied. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

ENG 234 Modern American Poets 3 0 3

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

Available: As Needed

This course covers the works of selected major modern American poets. Topics include each poet's theory and practice of poetry and the historical and literary traditions which influenced or were influenced by the poets. Upon completion, students should be able to read poetry with more comprehension and explicate selected poems in light of technique, theory, and poetic traditions. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

FNG 235	Survey of Film as Literature	3	0	3
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Prerequisites: ENG 113

Corequisites: None

Available: As Needed

This course provides a study of the medium of film with a focus on the historical impact and the various literary genres of movies. Emphasis is placed on an appreciation of film as a form of literature which demonstrates various elements of fiction (character, setting, theme, etc.). Upon completion, students should be able to analyze film critically in various literary contexts. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

ENG 241 British Literature I

Prerequisites: Select one: ENG 112, ENG 113, ENG 114

Corequisites: None

Available: Fall, Spring, Summer

This course covers selected works in British literature from its beginnings to the Romantic Period. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. Reading an eighteenth century novel is required. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

ENG 242 British Literature II 3

Prerequisites: Select one: ENG 112, ENG 113, ENG 114

Corequisites: None

Available: Spring

This course covers selected works in British literature from the Romantic Period to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. Reading a nineteenth century novel is required. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts

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ENG 243 Major British Writers

Prerequisites: Select one: ENG 112, ENG 113, ENG 114 Corequisites: None

Available: As Needed

This course provides an intensive study of the works of several major British authors. Emphasis is placed on British history, culture, and the literary merits. Upon completion, students should be able to interpret, analyze, and evaluate the works studied. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

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ENG 261 World Literature I

Prerequisites: Select one: ENG 112, ENG 113, ENG 114 Corequisites: None

Available: Fall

This course introduces selected works from the Pacific, Asia, Africa, Europe, and the Americas from their literary beginnings through the seventeenth century. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to selected works. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

ENG 262 World Literature II

Prerequisites: Select one: ENG 112, ENG 113, ENG 114 Corequisites: None

Available: Spring

This course introduces selected works from the Pacific, Asia, Africa, Europe, and the Americas from the eighteenth century to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to selected works. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/ fine arts.

FNG 271	Contemporary Literature	3 0	3
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Prerequisites: Select one: ENG 112, ENG 113, ENG 114

Corequisites: None

Available: As Needed

This course includes a study of contemporary literature. Emphasis is placed on literary and cultural trends of selected texts. Upon completion, students should be able to interpret, analyze, and respond to the literature. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

ENG 272 Southern Literature

Prerequisites: Select one: ENG 112, ENG 113, ENG 114 Corequisites: None

Available: As Needed

This course provides an analytical study of the works of several Southern authors. Emphasis is placed on the historical and cultural contexts, themes, aesthetic features of individual works, and biographical backgrounds of the authors. Upon completion, students should be able to interpret, analyze, and discuss selected works. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

ENG 273 African-American Literature

Prerequisites: Select one: ENG 112, ENG 113, ENG 114 Corequisites: None Available: As Needed

This course provides a survey of the development of African-American literature from its beginnings to the present. Emphasis is placed on historical and cultural context, themes, literary traditions, and backgrounds of the authors. Upon completion, students should be able to interpret, analyze, and respond to selected texts. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

ENG 274 Literature by Women 3 0 3

Prerequisites: Select one: ENG 112, ENG 113, ENG 114 Corequisites: None

Available: As Needed

This course provides an analytical study of the works of several women authors. Emphasis is placed on the historical and cultural contexts, themes and aesthetic features of individual works, and biographical backgrounds of the authors. Upon completion, students should be able to interpret, analyze, and discuss selected works. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

ENG 275 Science Fiction

Prerequisites: Select one: ENG 112, ENG 113, ENG 114

Corequisites: None

Available: Alternating Spring semesters

This course covers the relationships between science and literature through analysis of short stories and novels. Emphasis is placed on scientific discoveries that shaped Western culture and our changing view of the universe as reflected in science fiction literature. Upon completion, students should be able to trace major themes and ideas and illustrate relationships between science, worldview, and science fiction literature. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/ or elective course requirement.

Environmental Science

ENV 110 Environmental Science	3	0	3
Prerequisites: None			
Corequisites: ENV 110A			
Available: Fall			
This course covers the environmental proble	ms	fac	ing
society today. Topics include population, natural	res	ourc	es,
air and water pollution, and waste disposal proble	ems	. Up	on
completion, students should be able to demonstr	ate	insi	ght
into the role the individual plays in shaping the envi	iron	men	ıt.

ENV 110A En	0	2	1	
Prerequisites:	None			
Corequisites:	ENV 110			

Available: Fall

This course provides a laboratory component to complement ENV 110. Emphasis is placed on laboratory and field experience. Upon completion, students should be able to demonstrate a practical understanding of environmental relationships and of contemporary environmental issues.

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Entrepreneurship

ETR 210Intro to Entrepreneurship303Prerequisites: None

Corequisites: None Available: Fall

This course provides a survey of the starting and operating of an entrepreneurial venture. Topics include new venture creation, the business plan, economics of the business, determining resource needs and acquiring resources, marketing, technology, leadership skills, and business ethics. Upon completion, students should be able to demonstrate an understanding of entrepreneurship concepts and how to use the entrepreneurial mindset to succeed in their careers.

ETR 215 Law for Entrepreneurs

Prerequisites: None

Corequisites: None

Available: Fall

This course introduces students to basic legal concepts specifically relevant to a business start-up venture. Topics include bailments and documents of title, nature and form of sales, risk and property rights, obligations and performance, business organizations, and agency and employment. Upon completion, students should be able to assess the legal responsibilities of a business start-up.

ETR 220	Innovation and Creativity	3	0	3
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Prerequisites: None

Corequisites: None

Available: Spring

This course provides a study of developing and enhancing individual and organizational creativity and innovation. Topics include that innovation needs to be applied to products, services, and processes to increase competitive advantages and add value to businesses. Upon completion, students should be able to apply innovation and creativity principles in the work place.

Prerequisites: None Corequisites: None Available: Fall

This course covers the techniques to correctly research and define the target market to increase sales for start up businesses or to expand current businesses. Topics include how to target market and meet customers' needs with a limited budget in the early stages of the life of a start up business. Upon completion, students should be able to demonstrate an understanding of how to correctly target market for a start up business with limited resources.

ETR 240	Funding for Entrepreneurs	3	0	3
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Prerequisites: ACC 120 Corequisites: None

Available: Fall

This course provides a focus on the financial issues and needs confronting entrepreneurs attempting to grow their businesses by attracting startup and growth capital. Topics include sources of funding, including: angel investors, venture capital, IPOs, private placement, banks, suppliers, buyers, partners, and the government. Upon completion, students should be able to demonstrate an understanding of how to effectively finance a business venture. ETR 270 Entrepreneurship Issues 3 0

Prerequisites: None Corequisites: None

Available: Spring

This course introduces current and emerging entrepreneurship issues and opportunities. Topics include franchising, import/ export, small business taxes, legal structures, negotiations, contract management, and time management. Upon completion, students should be able to apply a variety of analytical and decision-making requirements to start a new business.

Fire Protection Technology

FIP 120 Introduction to Fire Protection

Prerequisites: None Corequisites: None

Available: Fall

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This course provides an overview of the history, development, methods, systems, and regulations as they apply to the fire protection field. Topics include history, evolution, statistics, suppression, organizations, careers, curriculum, and other related topics. Upon completion, students should be able to demonstrate a broad understanding of the fire protection field.

FIP 124	Fire Prevention & Public Education	3	0	3
Prerequisites:	None			
Corequisites:	None			

Available: Spring

This course introduces fire prevention concepts as they relate to community and industrial operations. Topics include the development and maintenance of fire prevention programs, educational programs, and inspection programs. Upon completion, students should be able to research, develop, and present a fire safety program to a citizens or industrial group.

FIP 128 Detection and Investigation 3 0 3

Prerequisites: None

Corequisites: None Available: Spring

This course covers procedures for determining the origin and cause of accidental and incendiary fires. Topics include collection and preservation of evidence, detection and determination of accelerants, courtroom procedure and testimony, and documentation of the fire scene. Upon completion, students should be able to conduct a competent fire investigation and present those findings to appropriate officials or equivalent.

FIP 132 Building Construction 3 0 3

Prerequisites: None Corequisites: None Available: Fall

This course covers the principles and practices related to various types of building construction, including residential and commercial, as impacted by fire conditions. Topics include types of construction and related elements, fire resistive aspects of construction materials, building codes, collapse, and other related topics. Upon completion, students should be able to understand and recognize various types of construction and their positive or negative aspects as related to fire conditions.

FIP 136Inspections & Codes303Prerequisites: NoneCorequisites: None

Available: Spring

This course covers the fundamentals of fire and building codes and procedures to conduct an inspection. Topics include review of fire and building codes, writing inspection reports, identifying hazards, plan reviews, site sketches, and other related topics. Upon completion, students should be able to conduct a fire code compliance inspection and produce a written report.

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FIP 140	Industrial Fire Protection	3	0	3	FIP 232	Hydraulics & Water Distribution	2	2	3
Prerequisites	None				Prerequisites:	: MAT 115, MAT 120, MAT 121, MAT 140, MAT 15	51, N	1AT	
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Corequisites: None Available: Summer

This course covers fire protection systems in industrial facilities. Topics include applicable health and safety standards, insurance carrier regulations, other regulatory agencies, hazards of local industries, fire brigade operation, and loss prevention programs. Upon completion, students should be able to prepare a procedure to plan, organize, and evaluate an industrial facility's fire protection.

FIP '	152	Fire Protection I aw	3	0	3
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Prerequisites: None

Corequisites: None

Available: Spring

This course covers fire protection law. Topics include torts, legal terms, contracts, liability, review of case histories, and other related topics. Upon completion, students should be able to discuss laws, codes, and ordinances as they relate to fire protection.

FIP 220 Fire Fighting Strategies 3 0 3

Prerequisites: None

Corequisites: None

Available: Spring

This course provides preparation for command of initial incident operations involving emergencies within both the public and private sector. Topics include incident management, fire-ground tactics and strategies, incident safety, and command/control of emergency operations. Upon completion, students should be able to describe the initial incident system as it relates to operations involving various emergencies in fire and non-fire situations.

FIP 224	Instructional Methodology	4	0	4
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Prerequisites: None Corequisites: None Available: Fall

This course covers the knowledge, skills, and abilities needed to train others in fire service operations. Topics include planning, presenting, and evaluating lesson plans, learning styles, use of media, communication, and other related topics. Upon completion, students should be able to meet all requirements of NFPA 1041 Fire Service Instructor Level Two.

FIP 228 Local Government Finance 3 0 3

Prerequisites: None Corequisites: None Available: Summer

course introduces local governmental financial This principles and practices. Topics include budget preparation and justification, revenue policies, statutory requirements, taxation, audits, and the economic climate. Upon completion, students should be able to comprehend the importance of finance as it applies to the operation of a department.

FIP 230 Chemistry of Hazardous Materials I 5 0 5

Prerequisites: None Corequisites: None Available: Fall

This course covers the evaluation of hazardous materials. Topics include use of the periodic table, hydrocarbon derivatives, placards and labels, parameters of combustion, and spill and leak mitigation. Upon completion, students should be able to demonstrate knowledge of the chemical behavior of hazardous materials.

161, MAT 171, or MAT 175

Corequisites: None Available: Summer

This course covers the flow of fluids through fire hoses, nozzles, appliances, pumps, standpipes, water mains, and other devices. Emphasis is placed on supply and delivery systems, fire flow testing, hydraulic calculations, and other related topics. Upon completion, students should be able to perform hydraulic calculations, conduct water availability tests, and demonstrate knowledge of water distribution systems.

FIP 236 Emergency Management 0 3 3 Prerequisites: None Corequisites: None

Available: Summer This course covers the four phases of emergency management: mitigation, preparedness, response, and recovery. Topics include organizing for emergency management, coordinating for community resources, public sector liability, and the roles of government agencies at all levels. Upon completion, students should be able to demonstrate an understanding of comprehensive emergency management and the integrated

FIP 240 **Fire Service Supervision** 3 0 3

Prerequisites: None

emergency management system.

Corequisites: None

Available: Fall

This course covers supervisory skills and practices in the fire protection field. Topics include the supervisor's job, supervision skills, the changing work environment, managing change, organizing for results, discipline and grievances, and loss control. Upon completion, students should be able to demonstrate an understanding of the roles and responsibilities of the effective fire service supervisor.

FIP 260 Fire Protection Planning 0 3 Prerequisites: None Corequisites: None

Available: Spring

This course covers the need for a comprehensive approach to fire protection planning. Topics include the planning process, using an advisory committee, establishing goals and objectives, and techniques used to approve and implement a plan. Upon completion, students should be able to demonstrate a working knowledge of the concepts and principles of planning as it relates to fire protection.

FIP 276 Managing Fire Services 3 0 3 Prerequisites: None Corequisites: None

Available: Spring

This course provides an overview of fire department operative services. Topics include finance, staffing, equipment, code enforcement, management information, specialized services, legal issues, planning, and other related topics. Upon completion, students should be able to understand concepts and apply fire department management and operations principles.

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French

FRE 111	Elementary French I	3	0	3
Prerequisites:	None			

Corequisites: FRE 181

Available: Fall, Spring

This course introduces the fundamental elements of the French language within a cultural context. Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written French and demonstrate cultural awareness. Lab practice is expected of students. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

FRE 112 Elementary French II 3 0 3

Prerequisites: FRE 111

Corequisites: FRE 182

Available: Fall, Spring

This course is a continuation of FRE 111 focusing on the fundamental elements of the French language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written French and demonstrate further cultural awareness. Lab practice is expected of students. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

FRE 181 French Lab 1

Prerequisites: None

Corequisites: FRE 111 Available: Fall, Spring

This course provides an opportunity to enhance acquisition of the fundamental elements of the French language. Emphasis is placed on the progressive development of basic listening, speaking, reading, and writing skills through the use of supplementary learning media and materials. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written French and demonstrate cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

FRE 182 French Lab 2

Prerequisites: FRE 181 Corequisites: FRE 112

Available: As Needed

This course provides an opportunity to enhance acquisition of the fundamental elements of the French language. Emphasis is placed on the progressive development of basic listening, speaking, reading, and writing skills through the use of supplementary learning media and materials. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written French and demonstrate cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

Prerequisites: FRE 112

Corequisites: None Available: As Needed

This course provides a review and expansion of the essential skills of the French language. Emphasis is placed on the study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate effectively, accurately, and creatively about the past, present, and future. Lab practice is expected of students. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/ fine arts.

FRE 212 Intermediate French II 3 0 3

Prerequisites: FRE 211

Corequisites: None

Available: As Needed

This course is a continuation of FRE 211. Emphasis is placed on the continuing study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication. Lab practice is expected of students. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

Film and Video Production

FVP 250Production Specialties I163

Prerequisites: None

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Corequisites: None

Available: Spring

This course provides education and training through contextual learning in the film production areas of art department, camera, sound, grip, electric, locations, script, and continuity. Emphasis is placed on successful professional level interaction with other students and industry professionals through pre-production and initial production of an actual film/video project. Upon completion, students should demonstrate an understanding of the film/video pre-production and initial production process, and the relationship among the departments in these areas. Students will complete projects from the pre-production through post-production phase.

Geology

GEL 111Introductory Geology324Prerequisites: NoneCorequisites: NoneXvailable: Fall, SpringXvailable: Fall, Spring

This course introduces basic landforms and geological processes. Topics include rocks, minerals, volcanoes, fluvial processes, geological history, plate tectonics, glaciers, and coastal dynamics. Upon completion, students should be able to describe basic geological processes that shape the earth. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.

184

GEL 113 Historical Geology

Prerequisites: GEL 111 or GEL 120 Corequisites: None Available: Fall

This course covers the geological history of the earth and its life forms. Emphasis is placed on the study of rock strata, fossil groups, and geological time. Upon completion, students should be able to identify major fossil groups and associated rock strata and approximate ages of geological formations. This course has been approved to satisfy the Comprehensive Articulation Agreement general educational core requirement in natural sciences/mathematics.

GEL 230	Environmental Geology	32	4
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Prerequisites: GEL 111, GEL 120 or PHS 130

Corequisites: None

Available: Spring

This course provides insights into geologic forces that cause environmental changes influencing man's activities. Emphasis is placed on natural hazards and disasters caused by geologic forces. Upon completion, students should be able to relate major hazards and disasters to the geologic forces responsible for their occurrence. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.

Geography

GEO 111	World Regional Geography	:	3	0	3
Prerequisites	: None				
Corequisites:	None				

Available: Fall

This course introduces the regional concept which emphasizes the spatial association of people and their environment. Emphasis is placed on the physical, cultural, and economic systems that interact to produce the distinct regions of the earth. Upon completion, students should be able to describe variations in physical and cultural features of a region and demonstrate an understanding of their functional relationships. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

*GEO 112 Cultural Geography

Prerequisites: None Corequisites: None Available: Spring

This course is designed to explore the diversity of human cultures and to describe their shared characteristics. Emphasis is placed on the characteristics, distribution, and complexity of earth's cultural patterns. Upon completion, students should be able to demonstrate an understanding of the differences and similarities in human cultural groups. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/ behavioral sciences.

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GER 111 Elementary German I Prerequisites: None

Corequisites: GER 181

Available: As Needed

This course introduces the fundamental elements of the German language within a cultural context. Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written German and demonstrate cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

GER 112 Elementary German II 3 0 3

Prerequisites: GER 111

Corequisites: GER 182

Available: As Needed

This course is a continuation of GER 111 focusing on the fundamental elements of the German language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written German and demonstrate further cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

GER 141 Culture and Civilization 3

Prerequisites: GER 111

Corequisites: None

Available: As Needed

This course, taught in English, provides an opportunity to explore issues related to the German-speaking world. Topics include historical and current events, geography, and customs. Upon completion, students should be able to identify and discuss selected topics and cultural differences related to the German-speaking world. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

GER 181 German Lab 1

Prerequisites: None

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Corequisites: GER 111

Available: As Needed

This course provides an opportunity to enhance acquisition of the fundamental elements of the German language. Emphasis is placed on the progressive development of basic listening, speaking, reading, and writing skills through the use of supplementary learning media and materials. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written German and demonstrate cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

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GER 182 German Lab 2

Prerequisites: GER 181 Corequisites: GER 112 Available: As Needed

This course provides an opportunity to enhance acquisition of the fundamental elements of the German language. Emphasis is placed on the progressive development of basic listening, speaking, reading, and writing skills through the use of supplementary learning media and materials. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written German and demonstrate cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

GER 211 Intermediate German I

Prerequisites: GER 112

Corequisites: None

Available: As Needed

This course provides a review and expansion of the essential skills of the German language. Emphasis is placed on the study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate effectively, accurately, and creatively about the past, present, and future. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

GER 212	Intermediate German II	3	0	3
Prerequisites	: GER 211			
Corequisites:	None			

Available: As Needed

This course is a continuation of GER 211. Emphasis is placed on the continuing study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

GER 221	German Conversation	3	0	3

Prerequisites: GER 212

Corequisites: None

Available: As Needed

This course provides an opportunity for intensive communication in spoken German. Emphasis is placed on vocabulary acquisition and interactive communication through the discussion of media materials and authentic texts. Upon completion, students should be able to discuss selected topics, express ideas and opinions clearly, and engage in formal and informal conversations. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

Geographic Information Systems

GIS 111	Introduction to GIS	2	2	3
Prerequisite	es: None			
Corequisite	es: None			
Available: I	-all, Spring			

This course introduces the hardware and software components of a Geographic Information System and reviews GIS applications. Topics include data structures and basic functions, methods of data capture and sources of data, and the nature and characteristics of spatial data and objects. Upon completion, students should be able to identify GIS hardware components, typical operations, products/applications, and differences between database models and between raster and vector systems. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

0 2 1 GIS 112 Introduction to GPS

Prerequisites: SRV 110 Corequisites: None Available: Fall, Spring

This course provides an overview of Global Positioning Systems (GPS). Topics include the theory, implementation, and operations of GPS, as well as alternate data source remote sensing. Upon completion, students should be able to demonstrate an understanding of the fundamentals of GPS.

GIS 120	Introduction to Geodesy	22	3
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Prerequisites: GIS 111 Corequisites: None Available: As Needed

3 0 3

This course introduces the fundamental concepts behind map projections, datums, and coordinate systems. Topics include the theory of how the earth's shape is defined and how geographic features are positioned using spherical coordinate systems. Upon completion, students should be able to demonstrate an understanding of the fundamentals of geodesy as it relates to the measurement and representation of the earth.

223

Prerequisites: GIS 111

Corequisites: None

Available: Fall, Spring

This course introduces coordinate systems, fundamentals of surveying, and cartography. Topics include the theory, acquisition, and use of locational data using both continuous and discrete georeferencing methods. Upon completion, students should be able to identify appropriate coordinate systems for a situation and translate data into correct map form.

GIS 125	C	AD for GIS				2	2	3
Prerequisi	tes: N	one						
Corequisit	es: No	one						
Available:	As Ne	eeded						
This co	urse	introduces	the	concepts	of	Computer	Aic	led
Drafting	(CAT)	6	1	:-	waad faa b		·

Drafting (CAD) as well as software that is used for building geographic data for a GIS. Emphasis is placed on the learning of basic commands used in building spatial data. Upon completion, students will be able to operate within a CAD environment.

GIS 215 GIS Data Models 2 2 3

Prerequisites: GIS 111 Corequisites: None

Available: Fall, Spring

This course covers interpreting and understanding of a variety data formats available in GIS. Topics include the similarities and differences between data models as well as how data is treated differently within each format, to include the conversion of data between different environments. Upon completion, students should be able to demonstrate an understanding of the fundamentals of GIS data storage and interoperability.

GIS 222 Internet Mapping GIS

Prerequisites: CIS 115, WEB 115 and GIS 111

Corequisites: None

Available: As Needed

This course is designed as an introduction to multimedia, interactive, animated, and Web cartography. Topics include the principles of effective cartographic communication, and stressing the new and important roles digital cartography is coming to play in cyberspace. Upon completion, students should be able to demonstrate the ability to evaluate digital cartographic information and create effective internet maps.

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GIS 232 Spatial Databases

Prerequisites: DBA 110 and GIS 215 Corequisites: None

Available: As Needed

This course covers various stages of spatial database design and implementation, including conceptual models and query languages. Topics include spatial networks, spatial data mining, indexing, and query processing. Upon completion, students should be able to demonstrate a comprehensive knowledge of spatial databases management systems.

2 2 3 GIS 240 **Air Photo Interpretation**

Prerequisites: GIS 111

Corequisites: None

Available: As Needed

This course is designed to introduce the student to remote sensing, photogrammetry and various components of land use mapping. Emphasis is placed on the art and science of aerial photo interpretation. Upon completion, students will be able to review, gather and analyze data from diverse forms of image maps.

Health

HEA 110	Personal Health/Wellness	3	0	3
Proroquisitos	None			

Prerequisites: None Corequisites: None

Available: Fall, Spring

This course provides an introduction to basic personal health and wellness. Emphasis is placed on current health issues such as nutrition, mental health, and fitness. Upon completion, students should be able to demonstrate an understanding of the factors necessary to the maintenance of health and wellness. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

HEA 112 First Aid and CPR

Prerequisites: None Corequisites: None

Available: Fall, Spring

This course introduces the basics of emergency first aid treatment. Topics include rescue breathing, CPR, first aid for choking and bleeding, and other first aid procedures. Upon completion, students should be able to demonstrate skills in providing emergency care for the sick and injured until medical help can be obtained. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

Healthcare Business Informatics

HBI 110 Issues and Trends in HBI	3	0	3
Prerequisites: None			
Corequisites: None			
Available: Fall			

This course is a survey of current and emerging technology applications and data standards in the healthcare industry. Topics include the history, implementation, use, management, and impact of information technology in healthcare settings. Upon completion, students should have an understanding of the current trends and issues in healthcare informatics.

3 **HBI 113** Survey of Med Insurance

Prerequisites: None Corequisites: None Available: Spring

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> This course is a survey of the healthcare insurance system. Emphasis is placed on the foundation necessary for understanding the healthcare delivery system, terminology and practices of healthcare insurance, and provider reimbursement. Upon completion, students should have an understanding of healthcare insurance and how outcomes are addressed through healthcare informatics.

HRI 250	Data Momt and Iltilization	2	2	3
NDI 230	Dala Wynil anu Ulinzaliun	2	~	Э

Prerequisites: DBA 110, DBA 120, or DBA 210 Corequisites: None

Available: Fall

This course covers the management and usage of data in healthcare settings according to current practices in healthcare informatics. Topics include data warehousing, data integrity, data security, data mining, and report generating in healthcare settings. Upon completion, students should be able to demonstrate an understanding of using healthcare data to support reporting and decision making in healthcare settings.

HBI 289 **HBI Project**

Prerequisites: HBI 250 Corequisites: None Available: Spring

This course provides an opportunity to complete a significant healthcare business informatics project with minimal instructor assistance. Emphasis is placed on written and oral communication skills, project definition, documentation, installation, testing, presentation, and user training. Upon completion, students should be able to complete a healthcare informatics project from the definition phase through implementation.

Heavy Equipment and Transport Technology

*HET 110 **Diesel Engines**

Prerequisites: None Corequisites: None

Available: Fall

This course introduces theory, design, terminology, and operating adjustments for diesel engines. Emphasis is placed on safety, theory of operation, inspection, measuring, and rebuilding diesel engines according to factory specifications. Upon completion, students should be able to measure, diagnose problems, and repair diesel engines.

*HET 112 **Diesel Electrical Systems** 3 6 5 Prerequisites: None Corequisites: None Available: Spring This course introduces electrical theory and applications as

they relate to diesel powered equipment. Topics include lighting, accessories, safety, starting, charging, instrumentation, and gauges. Upon completion, students should be able to follow schematics to identify, repair, and test electrical circuits and components.



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*HET 114 Power Trains

Prerequisites: None Corequisites: None Available: As Needed Available: Spring

This course introduces power transmission devices. Topics include function and operation of gears, chains, clutches, planetary gears, drive lines, differentials, and transmissions. Upon completion, students should be able to identify, research specifications, repair, and adjust power train components.

*HET 115 Electronic Engines 2 3

Prerequisites: None Corequisites: HET 112 Available: Spring

This course introduces the principles of electronically controlled diesel engines. Emphasis is placed on testing and adjusting diesel engines in accordance with manufacturers' specifications. Upon completion, students should be able to diagnose, test, and calibrate electronically controlled diesel engines.

*HET 116 Air Conditioning/Diesel Equipment 1 2 2

Prerequisites: None

Corequisites: None

Available: Summer

This course provides a study of the design, theory, and operation of heating and air conditioning systems in newer models of medium and heavy duty vehicles. Topics include component function, refrigerant recovery, and environmental regulations. Upon completion, students should be able to use proper techniques and equipment to diagnose and repair heating/air conditioning systems according to industry standards.

*HET 118 Mechanical Orientation

Prerequisites: None Corequisites: None Available: Fall

This course introduces the care and safe use of power and hand tools. Topics include micrometers, dial indicators, torque wrenches, drills, taps, dies, screw extractors, thread restorers, and fasteners. Upon completion, students should be able to select and properly use tools for various operations.

*HET 119 Mechanical Transmissions 2 2 3

Prerequisites: None Corequisites: None

Available: Spring

This course introduces the operating principles of mechanical medium and heavy duty truck transmissions. Topics include multiple counter shafts, power take-offs, sliding idler clutches, and friction clutches. Upon completion, students should be able to diagnose, inspect, and repair mechanical transmissions.

*HET 125 Preventive Maintenance 1 3 2

Prerequisites: None Corequisites: None

Available: Fall

This course introduces preventive maintenance practices used on medium and heavy duty vehicles and rolling assemblies. Topics include preventive maintenance schedules, services, DOT rules and regulations, and roadability. Upon completion, students should be able to set up and follow a preventive maintenance schedule as directed by manufacturers.

5 *HET 128 Medium/Heavy Duty Tune-Up 1

Prerequisites: None Corequisites: None Available: Fall

36

This course introduces tune-up and troubleshooting according to manufacturers' specifications. Topics include troubleshooting engine systems, tune-up procedures, and use and care of special test tools and equipment. Upon completion, students should be able to troubleshoot, diagnose, and repair engines and components using appropriate diagnostic equipment.

*HET 231 Medium/Heavy Duty Brake Systems 1 3 2

Prerequisites: None

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Corequisites: None

Available: Summer

This course covers the theory and repair of braking systems used in medium and heavy duty vehicles. Topics include air, hydraulic, and ABS system diagnosis and repair. Upon completion, students should be able to troubleshoot, adjust, and repair braking systems on medium and heavy duty vehicles.

*HET 233 Suspension and Steering

Prerequisites: None

Corequisites: None

Available: Summer

This course introduces the theory and principles of medium and heavy duty steering and suspension systems. Topics include wheel and tire problems, frame members, fifth wheel, bearings, and coupling systems. Upon completion, students should be able to troubleshoot, adjust, and repair suspension and steering components on medium and heavy duty vehicles.

History

2 0 2

HIS 111 World Civilizations I

Prerequisites: RED 090, ENG 090

Corequisites: None

Available: Fall, Spring, Summer

This course introduces world history from the dawn of civilization to the early modern era. Topics include Eurasian, African, American, and Greco-Roman civilizations and Christian, Islamic and Byzantine cultures. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in pre-modern world civilizations. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

HIS 112 World Civilizations II 3 0 3

Prerequisites: RED 090, ENG 090

Corequisites: None

Available: Fall, Spring, Summer

This course introduces world history from the early modern era to the present. Topics include the cultures of Africa, Europe, India, China, Japan, and the Americas. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in modern world civilizations. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

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HIS 115	Introduction to Global History	3 (0
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Prerequisites: None Corequisites: None

Available: As Needed

This course introduces the study of global history. Emphasis is placed on topics such as colonialism, industrialism, and nationalism. Upon completion, students should be able to analyze significant global historical issues. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/ behavioral sciences.

HIS 131 American History I

Prerequisites: RED 090, ENG 090

Corequisites: None

Available: Fall, Spring

This course is a survey of American history from pre-history through the Civil War era. Topics include the migrations to the Americas, the colonial and revolutionary periods, the development of the Republic, and the Civil War. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in early American history. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

HIS 132 **American History II**

Prerequisites: RED 090, ENG 090

Corequisites: None

Available: Fall, Spring

This course is a survey of American history from the Civil War era to the present. Topics include industrialization, immigration, the Great Depression, the major wars, the Cold War, and social conflict. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in American history since the Civil War. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

HIS 162 Wom	nen and History	3	0	3
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Prerequisites: None

Corequisites: None

Available: Fall, Spring, Summer

This course surveys the experience of women in historical perspective. Topics include the experiences and contributions of women in culture, politics, economics, science, and religion. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural contributions of women in history. This course covers American women from colonial times to the present. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

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Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course traces the cultural, political, economic, social, religious, and intellectual history of Europe during the Middle Ages. Topics include the decline of the Roman Empire, the Frankish Kingdoms, the medieval church, feudalism, the rise of national monarchies, urbanization, and the rise of universities. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in medieval Europe. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

HIS 221 African-American History Prerequisites: None

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Corequisites: None Available: Fall, Spring

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3 0 3 This course covers African-American history from the Colonial period to the present. Topics include African origins, the slave trade, the Civil War, Reconstruction, the Jim Crow era, the civil rights movement, and contributions of African Americans. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in the history of African Americans. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

HIS 226 The Civil War None Prerequisites:

Corequisites: None

Available: Fall, Spring

This course examines the social, political, economic, and ideological forces that led to the Civil War and Reconstruction. Topics include regional conflicts and sectionalism, dissolution of the Union, military campaigns, and the War's socioeconomic impact, aftermath, and consequences. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in the United States during the era of the Civil War. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

0 3 **HIS 227 Native American History** 3 Prerequisites: None

Corequisites: None

Available: As Needed

This course surveys the history and cultures of Native Americans from pre-history to the present. Topics include Native American civilizations, relations with Europeans, and the continuing evolution of Native American cultures. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments among Native Americans. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

HIS 236 North Carolina History 0 3 3

Prerequisites: None

Corequisites: None

Available: Summer

This course is a study of geographical, political, economic, and social conditions existing in North Carolina from America's discovery to the present. Topics include native and immigrant backgrounds; colonial, antebellum, and Reconstruction periods; party politics; race relations; and the transition from an agrarian to an industrial economy. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in North Carolina. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

Hospitality Management

HRM 110 Intro to Hosp and Tourism Prerequisites: None Corequisites: None Available: Fall

This course covers the growth and progress of the hospitality industry. Topics include tourism, lodging, resorts, gaming, restaurants, foodservice and clubs. Upon completion, students should be able to demonstrate an understanding of the background, context, and career opportunities that exist within the hospitality industry.

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*HRM 120 Front Office Procedures

Prerequisites: None Corequisites: HRM 120A Available: Spring

This course introduces a systematic approach to lodging front office procedures. Topics include reservations, registration, guest satisfaction, occupancy and revenue management, security, interdepartmental communications, and related guest services. Upon completion, students should be able to demonstrate a basic understanding of current front office operating systems, including efficient and courteous guest service. This course will also examine the management of bed and breakfast facilities and the housekeeping requirements for lodging, its operation and management, and its working relationship with the front office.

*HRM 120A Front Office Procedures Lab 0 2 1

Prerequisites: None

Corequisites: HRM 120 Available: Spring

This course provides a laboratory experience for enhancing student skills in lodging front office procedures. Emphasis is placed on practical computer applications of reservations, registration, guest satisfaction, occupancy and revenue management, security, interdepartmental communications, and related guest services. Upon completion, students should be able to demonstrate a basic proficiency in computer-based, front office applications. This course will also examine computer applications associated with bed and breakfast facilities.

HRM 124 Guest Service Management 2 2 3

Prerequisites: None Corequisites: CUL 142

Available: Fall

This course is designed to provide an introduction to the culture of dining room service management. Emphasis is placed on the dignity and psychology of service work, dining room organization/infrastructure, service delivery and modeling management roles in a dining room environment. Upon completion, students should be able to demonstrate an understanding of the guest/server dynamic and apply these principles in a dining room setting.

*HRM 135 Facilities Management 3 0 3

Prerequisites: None Corequisites: None

Available: Fall

This course introduces the basic elements of planning and designing hospitality facilities, including environmental impacts, maintenance and upkeep. Topics include equipment and plant preventive maintenance, engineering, interior design, space utilization, remodeling and expansion, and traffic and workflow patterns. Upon completion, students should be able to demonstrate an understanding of the planning, design, national certification and maintenance of hospitality physical plants and equipment. This course will also examine facility requirements unique to bed and breakfast and other alternative lodging experiences.

*HRM 140 Legal Issues – Hospitality

Prerequisites: None Corequisites: None Available: Spring

This course covers the rights and responsibilities that the law grants to or imposes upon the hospitality industry. Topics include federal and state regulations, historical and current practices, safety and security, risk management, loss prevention, relevant torts, and contracts. Upon completion, students should be able to demonstrate an understanding of the legal system and the concepts necessary to prevent or minimize organizational liability.

3 *HRM 210 Meetings & Event Planning

Prerequisites: None Corequisites: None Available: Spring

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This course introduces concepts related to the planning and operation of conventions, trade shows, professional meetings, and food service events. Emphasis is placed on methods of marketing, selling, organizing and producing conventions, events and trade shows that will increase financial and environmental value. Upon completion, students should be able to demonstrate an understanding of management principles for multi-function, multi-day conferences and events.

*HRM 215 Restaurant Management 3 0 3

Prerequisites: CUL 135, CUL 135A or HRM 124 Corequisites: HRM 215A Available: Fall

This course provides an overview of responsibilities and activities encountered in managing food and beverage operation. Topics include planning, organization, accounting, marketing trends, and human resources from an integrated managerial viewpoint. Upon completion, students should be able to demonstrate an understanding of the operation of a restaurant. Students will also examine menu design, layout, marketing, concept development, target consumers and trends.

*HRM 215A Restaurant Management Lab 0 2 1

Prerequisites: CUL 135, CUL 135A or HRM 124 Corequisites: HRM 215

Available: Fall

This course provides a laboratory experience for enhancing student skills in the responsibilities and activities encountered in managing a food and beverage operation. Emphasis is placed on practical applications of planning, organization, accounting, marketing, trends, and human resources from an integrated managerial viewpoint. Upon completion, students should be able to demonstrate a basic proficiency in restaurant management operations which may include overseeing and execution of production and service. Students will analyze menu mix and guest feedback as it relates to the overall success of foodservice operations.

*HRM 220	Cost Control – Food & Bev	3	0	3
Prerequisites:	None			

Corequisites: None

Available: Spring, Summer

This course introduces controls and accounting procedures as applied to costs in the hospitality industry. Topics include reports, cost control, planning and forecasting, control systems, financial statements, operational efficiencies, labor controls and scheduling. Upon completion, students should be able to demonstrate an understanding of food, beverage, and labor cost control systems for operational troubleshooting and problem solving.

HRM 225	Beverage Management	3	0	3
Prerequisites:	None			

Corequisites: None

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Available: Spring

This course introduces the management of beverages served in hospitality operations. Topics include history and trends; service, procurement, and storage; knowledge and control of wines and fermented/distilled beverages; and non-alcoholic beverages, coffees, and teas. Upon completion, students should be able to demonstrate an understanding of responsible alcohol service and the knowledge of beverages consumed in a hospitality operation.

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*HRM 240 Marketing for Hospitality

Prerequisites: None Corequisites: None Available: Fall

This course covers planning, organizing, directing, and analyzing the results of marketing programs for the hospitality industry. Emphasis is placed on target marketing, marketing mix, analysis, product and image development, use of current media, sales planning, advertising, public relations, and collateral materials. Upon completion, students should be able to apply the marketing process as it relates to the hospitality industry.

*HRM 245 Human Resource Mgmt-Hosp

Prerequisites: None

Corequisites: None

Available: Fall

This course introduces a systematic approach to human resource management in the hospitality industry. Topics include training/development, staffing, selection, hiring, recruitment, evaluation, benefit administration, employee relations, labor regulations/laws, discipline, motivation, productivity, shift management, contract employees and organizational culture. Upon completion, students should be able to apply human resource management skills for the hospitality industry.

HRM 260	Procurement for Hosp	3	0	3
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Prerequisites: None

Corequisites: None

Available: As Needed

This course provides information for management decisions regarding needs analysis and fulfillment for hospitality operations. Emphasis is placed on supply chain sourcing, environmental impacts, procurement technologies, and packaging of products such as food, beverage, supplies, furniture, and equipment. Upon completion, students should be able to demonstrate competence in planning and executing the procurement function.

HRM 275	Leadership – Hospitality	303

Prerequisites: COE 112, HRM 245

Corequisites: None

Available: As Needed

This course introduces leadership traits, styles, and the roles and responsibilities of successful hospitality leaders while developing the student's personal leadership skills. Topics include formal and informal hospitality leadership; defining effective and ineffective leadership behavior; and leadership organizational change and planning within the hospitality Industry. Upon completion, students will be able to apply appropriate leadership actions in real-world situations ranging from local to global hospitality environments.

*HRM 280 Mgmt Problems – Hospitality

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Prerequisites: ACC 120, CIS 110, COE 112, CUL 142, HRM 110, HRM 120, (HRM 135 or HRM 275), HRM 215, HRM 220, HRM 225, HRM 240, HRM 245

Corequisites: HRM 210

Available: Spring

This course is designed to introduce students to timely issues within the hospitality industry and is intended to move students into a managerial mindset. Emphasis is placed on problem-solving skills using currently available resources. Upon completion, students should be able to demonstrate knowledge of how hospitality management principles may be applied to real challenges facing industry managers.

³ Human Services

***HSE 110** Introduction to Human Services Prerequisites: None

Corequisites: None

Available: Fall

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This course introduces the human services field, including the history, agencies, roles, and careers. Topics include personal/ professional characteristics, diverse populations, community resources, disciplines in the field, systems, ethical standards, and major theoretical and treatment approaches. Upon completion, students should be able to identify the knowledge, skills, and roles of the human services worker. This course has been approved by the North Carolina Substance Abuse Professional Practice Board (NCSAPPB) for training/education credit for substance abuse certification/recertification.

*HSE 112 Group Process I

Prerequisites: None

Corequisites: None

Available: Fall

This course introduces interpersonal concepts and group dynamics. Emphasis is placed on self-awareness facilitated by experiential learning in small groups with analysis of personal experiences and the behavior of others. Upon completion, students should be able to show competence in identifying and explaining how people are influenced by their interactions in group settings. This course has been approved by the North Carolina Substance Abuse Professional Practice Board (NCSAPPB) for training/education credit for substance abuse certification/recertification.

*HSE 123 Interviewing Techniques 2 2 0 3

Prerequisites: None Corequisites: None

Available: Summer

This course covers the purpose, structure, focus, and techniques employed in effective interviewing. Emphasis is placed on observing, attending, listening, responding, recording, and summarizing of personal histories with instructor supervision. Upon completion, students should be able to perform the basic interviewing skills needed to function in the helping relationship. This course has been approved by the North Carolina Substance Abuse Professional Practice Board (NCSAPPB) for training/education credit for substance abuse certification/recertification.

*HSE 125 Counseling

Prerequisites: None

Corequisites: None

Available: Spring

This course covers the major approaches to psychotherapy and counseling, including theory, characteristics, and techniques. Emphasis is placed on facilitation of selfexploration, problem-solving, decision-making, and personal growth. Upon completion, students should be able to understand various theories of counseling and demonstrate counseling techniques. This course has been approved by the North Carolina Substance Abuse Professional Practice Board (NCSAPPB) for training/education credit for substance abuse certification/recertification.

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*HSE 210 Human Services Issues

Prerequisites: None Corequisites: None Available: Summer

This course covers current issues and trends in the field of human services. Emphasis is placed on contemporary topics with relevance to special issues in a multifaceted field. Upon completion, students should be able to integrate the knowledge, skills, and experiences gained in classroom and clinical experiences with emerging trends in the field. This course has been approved by the North Carolina Substance Abuse Professional Practice Board (NCSAPPB) for training/education credit for substance abuse certification/recertification.

*HSE 220 2 2 0 3 **Case Management**

Prerequisites: HSE 110

Corequisites: None

Available: Spring

This course covers the variety of tasks associated with professional case management. Topics include treatment planning, needs assessment, referral procedures, and follow-up and integration of services. Upon completion, students should be able to effectively manage the care of the whole person from initial contact through termination of services. This course has been approved by the North Carolina Substance Abuse Professional Practice Board (NCSAPPB) for training/education credit for substance abuse certification/recertification.

*HSE 225 **Crisis Intervention** 3003

Prerequisites: None Corequisites: None

Available: Fall

This course introduces the basic theories and principles of crisis intervention. Emphasis is placed on identifying and demonstrating appropriate and differential techniques for intervening in various crisis situations. Upon completion, students should be able to assess crisis situations and respond appropriately. This course has been approved by the North Carolina Substance Abuse Professional Practice Board (NCSAPPB) for training/education credit for substance abuse certification/recertification.

HSE 240 Issues in Client Services

Prerequisites: None

Corequisites: None

Available: Spring

This course introduces systems of professional standards, values, and issues in the helping professions. Topics include confidentiality, assessment of personal values, professional responsibilities, competencies, and ethics relative to multicultural counseling and research. Upon completion, students should be able to understand and discuss multiple ethical issues applicable to counseling and apply various decision-making models to current issues.

HSE 242 Family Systems	3003
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Prerequisites: None Corequisites: None

Available: Fall

This course introduces the concepts of family structure as a system and includes the impact of contemporary society on the family. Topics include systems theory, family structure, blended families, divorce, adoption, and the elderly. Upon completion, students should be able to demonstrate an understanding of families as a system and the impact of change on family structure.

2002 **Humanities**

HUM 110 **Technology and Society**

Prerequisites: None

Corequisites: None Available: As Needed

This course considers technological change from historical, artistic, and philosophical perspectives and its effect on human needs and concerns. Emphasis is placed on the causes and consequences of technological change. Upon completion, students should be able to critically evaluate the implications of technology. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

HUM 115 **Critical Thinking**

Prerequisites: ENG 095 or ENG 090 and RED 090

Corequisites: None Available: Fall, Spring, Summer

This course introduces the use of critical thinking skills in the context of human conflict. Emphasis is placed on evaluating information, problem solving, approaching cross-cultural perspectives, and resolving controversies and dilemmas. Upon completion, students should be able to demonstrate orally and in writing the use of critical thinking skills in the analysis of appropriate texts. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

HUM 120 **Cultural Studies** 3 0 3

Prerequisites: None Corequisites: None

Available: As Needed

This course introduces the distinctive features of a particular culture. Topics include art, history, music, literature, politics, philosophy, and religion. Upon completion, students should be able to appreciate the unique character of the study culture. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

0 3 HUM 121 The Nature of America 3

Prerequisites: None

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Corequisites: None

Available: As Needed

This course provides an interdisicplinary survey of the American cultural, social, and political experience. Emphasis is placed on the multicultural character of American society, distinctive qualities of various regions, and the American political system. Upon completion, students should be able to analyze significant cultural, social, and political aspects of American life. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

Southern Culture HUM 122

Prerequisites: None Corequisites: None

Available: Fall, Spring

This course explores the major qualities that make the South a distinct region. Topics include music, politics, literature, art, religion, race relations, and the role of social class in historical and contemporary contexts. Upon completion, students should be able to identify the characteristics that distinguish Southern culture. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

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HUM 123	Appalachian Culture
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Prerequisites: None Corequisites: None

Available: Fall, Spring

This course provides an interdisciplinary study of the unique features of Appalachian culture. Topics include historical, political, sociological, psychological, and artistic features which distinguish this region. Upon completion, students should be able to demonstrate a broad-based awareness and appreciation of Appalachian culture. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

HUM 130	Myth in Human Culture	3	0	3
Prerequisites:	None			
Corequisites:	None			

Available: Fall, Spring

This course provides an in-depth study of myths and legends. Topics include the varied sources of myths and their influence on the individual and society within diverse cultural contexts. Upon completion, students should be able to demonstrate a general familiarity with myths and a broad-based understanding of the influence of myths and legends on modern culture. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

HUM 150	American Women's Studies	3	0	3
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Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course provides an inter-disciplinary study of the history, literature, and social roles of American women from Colonial times to the present. Emphasis is placed on women's roles as reflected in American language usage, education, law, the workplace, and mainstream culture. Upon completion, students should be able to identify and analyze the roles of women as reflected in various cultural forms. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/ fine arts.

HUM 160 Introduction to Film

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course introduces the fundamental elements of film artistry and production. Topics include film styles, history, and production techniques, as well as the social values reflected in film art. Attendance at five film showings and an in-depth written analysis of one film are required. Upon completion, students should be able to critically analyze the elements covered in relation to selected films. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

HUM 211 Humanities I

Prerequisites: ENG 111 Corequisites: None Available: Fall

Avdildule. Fall

This course introduces the humanities as a record in literature, music, art, history, religion, and philosophy of humankind's answers to the fundamental questions of existence. Emphasis is placed on the interconnectedness of various aspects of cultures from ancient through early modern times. Upon completion, students should be able to identify significant figures and cultural contributions of the periods studied.

3 This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

HUM 212 Humanities II 3 0 3

Prerequisites: ENG 111 Corequisites: None

Available: Spring

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This course introduces the humanities as a record in literature, music, art, history, religion, and philosophy of humankind's answers to the fundamental questions of existence. Emphasis is placed on the interconnectedness of various aspects of cultures from early modern times to the present. Upon completion, students should be able to identify significant figures and cultural contributions of the periods studied. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

HUM 220 Human Values and Meaning 3 0 3

Prerequisites: ENG 111

Corequisites: None

Available: Fall, Spring, Summer

This course presents some major dimensions of human experience as reflected in art, music, literature, philosophy, and history. Topics include the search for identity, the quest for knowledge, the need for love, the individual and society, and the meaning of life. Upon completion, students should be able to recognize interdisciplinary connections and distinguish between open and closed questions and between narrative and scientific models of understanding. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

Hydraulics

***HYD 110** Hydraulics/Pneumatics I Prerequisites: MAT 070 or Placement Test

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Corequisites: None

Available: Spring, Summer

This course introduces the basic components and functions of hydraulic and pneumatic systems. Topics include standard symbols, pumps, control valves, control assemblies, actuators, FRL, maintenance procedures, and switching and control devices. Upon completion, students should be able to understand the operation of a fluid power system, including design, application, and troubleshooting.

HYD 112Hydraulics/Medium/Heavy Duty122Prerequisites: NoneCorequisites: None

Available: Fall

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This course introduces hydraulic theory and applications as applied to mobile equipment. Topics include component studies such as pumps, motors, valves, cylinders, filters, reservoirs, lines, and fittings. Upon completion, students should be able to identify, diagnose, test, and repair hydraulic systems using schematics and technical manuals.

Industrial Science

*ISC 121	Environmental Health and Safety 3	0	3
Prerequisite	s: None		
Corequisite	s: None		
Available: F	all		
This cour	se covers workplace environmental health and	d sa	fety
concepts.	Emphasis is placed on managing the implementa	tion	and
enforceme	nt of environmental health and safety regulation	ons	and
on preven	ting accidents, injuries, and illnesses. Upon com	plet	ion,
students	should be able to demonstrate an understan	ding	g of

basic concepts of environmental health and safety.

*ISC 132 Mfg Quality Control

Prerequisites: None Corequisites: None Available: As Needed

This course introduces quality concepts and techniques used in industry. Topics include elementary statistics and probability, process control, process capability, and quality improvement tools. Upon completion, students should be able to demonstrate an understanding of the concepts and principles of quality and apply them to the work environment. Proficiency using spreadsheet software required for success in this course.

ISC 255 Engineering Economy 2 2 3

Prerequisite: Mat 070 or Placement, and EGR 125

Corequisites: None

Available: As Needed

This course covers the process of economic evaluation of manufacturing industrial alternatives such as equipment selection, replacement studies, and cost reduction proposals. Topics include discounted cash flows, time value of money, income tax considerations, internal rates of return, and comparison of alternatives using computer programs. Upon completion, students should be able to analyze complex manufacturing alternatives based on engineering economy principles.

*ISC 278 cGMP Quality Systems 2 0

Prerequisites: None

Corequisites: None Available: As Needed

This course focuses on the development, implementation, and on-going maintenance of a quality system in a cGMP environment. Topics include the cGMP standard, components of cGMP quality systems, quality function roles and training, development of documentation such as SOPs, and system review procedures. Upon completion, the student should be able to identify the components of a quality system and develop a quality system manual utilizing the cGMP standard.

*ISC 279 Auditing for cGMP 2 2 3

Prerequisites: None

Corequisites: None

Available: As Needed

This course provides basic knowledge in internal audit planning, implementation, and reporting utilizing cGMP as the standard. Topics include auditing basics and types, phases of the audit process, regulatory requirements, auditing tools, auditor qualifications and skills, and behaviors while being audited. Upon completion, students should be able to identify the components of an audit program, develop a plan based on cGMP standards, and demonstrate reporting techniques.

*ISC 280 Validation Fundamentals

Prerequisites: None

Corequisites: None

Available: As Needed

This course covers the fundamental concepts and components of a validation program in a cGMP environment. Emphasis is placed on FDA requirements concerning validation, types of validation, documentation, procedures, and the QA role. Upon completion, students should be able to discuss the purpose of validation, identify the steps in the validation process and effectively utilize sample documentation.

² ³ ³ Landscape Architecture

LAR 210 Prin of Landscape Arch

Prerequisites: DFT 151

Corequisites: None

Available: Summer

This course introduces the overall principles of landscape design. Topics include principles of landscape design; installation, maintenance, and cost estimates; landscape plans, elevations, and sections; plant selection/lists; and other related topics. Upon completion, students should be able to prepare a simple set of landscape working drawings which are within accepted architectural standards.

LAR 230 Prin of Exterior Planting 3 3 4

Prerequisites: None

Corequisites: None

Available: Fall

This course introduces the identification, selection, and installation of landscape plants. Topics include ornamental plant selection, sun and shade plants, fertilization, pruning, pest and disease control, and other related topics. Upon completion, students should be able to select plants for different landscape situations.

LAR 242	Planning and Environment	2	2	3
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Prerequisites: None

Corequisites: None Available: Fall

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This course covers the historical development of urban and rural environmental problems and issues. Emphasis is placed on governmental response to environmental issues, built and natural environments, historical conflicts, and attempts to produce planning compatibility. Upon completion, students should be able to demonstrate an understanding of the importance of considering natural resources when making political and planning decisions; and when designing buildings and landscapes.

Machining

MAC 111 Machining Technology I 2 12 6

Prerequisites: None

Corequisites: None Available: Fall

This course introduces machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, drilling machines, saws, milling machines, bench grinders, and layout instruments. Upon completion, students should be able to safely perform the basic operations of measuring, layout, drilling, sawing, turning, and milling.

MAC 112Machining Technology II2126Prerequisites: MAC 111Corequisites: None

Available: Spring, Summer

This course provides additional instruction and practice in the use of precision measuring tools, lathes, milling machines, and grinders. Emphasis is placed on setup and operation of machine tools including the selection and use of work holding devices, speeds, feeds, cutting tools, and coolants. Upon completion, students should be able to perform basic procedures on precision grinders and advanced operations of measuring, layout, drilling, sawing, turning, and milling.

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MAC 113	Machining Technology III	2	12	6	MAC 151	Machining Calculations	1	2	2
Prerequisites:	MAC 112				Prerequisites	s: None			
Corequisites:	None				Corequisites	: None			

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Available: Spring, Summer

This course provides an introduction to advanced and special machining operations. Emphasis is placed on working to specified tolerances with special and advanced setups. Upon completion, students should be able to produce a part to specifications.

MAC 114 Intro to Metrology 20

Prerequisites: None Corequisites: None

Available: As Needed

This course introduces the care and use of precision measuring instruments. Emphasis is placed on the inspection of machine parts and use of a wide variety of measuring instruments. Upon completion, students should be able to demonstrate the correct use of measuring instruments.

32 **MAC 118 Machine Shop Basic** 1

Prerequisites: None Corequisites: None

Available: Summer

This course will introduce the fundamentals of measuring tools, tolerances, and the basic set up and operations of drill presses, lathes, and milling machines. Emphasis is placed on manufacturing standards and procedures used in welding, automotive, and engineering environments. Upon completion, students should be able to use measuring tools, perform basic machining operations, and apply manufacturing standards.

MAC 121 Introduction to CNC 2 0 2

Prerequisites: None

Corequisites: None

Available: Fall, Summer

This course introduces the concepts and capabilities of computer numerical control machine tools. Topics include setup, operation, and basic applications. Students will learn computer skills necessary for machinists. Upon completion, students should be able to explain operator safety, machine protection, data input, program preparation, and program storage.

MAC 122 **CNC** Turning

Prerequisites: BPR 111 Corequisites: None

Available: Spring

This course introduces the programming, setup, and operation of CNC turning centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC turning centers.

MAC 124 CNC Milling

Prerequisites: BPR 111 Corequisites: None

Available: Fall, Spring

This course introduces the manual programming, setup. and operation of CNC machining centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC machining centers.

Available: Fall

This course introduces basic calculations as they relate to machining occupations. Emphasis is placed on basic calculations and their applications in the machine shop. Upon completion, students should be able to perform basic shop calculations.

MAC 152 Advanced Machining Calculations 22 1

Prerequisites: None Corequisites: None

Available: Fall, Summer

This course combines mathematical functions with practical machine shop applications and problems. Emphasis is placed on gear ratios, lead screws, indexing problems, and their applications in the machine shop. Upon completion, students should be able to calculate solutions to machining problems.

MAC 222	Advanced CNC Turning	1	3	2
Prerequisites	s: MAC 122			

Corequisites: None

Available: Spring, Summer

This course covers advanced methods in setup and operation of CNC turning centers. Emphasis is placed on programming and production of complex parts. Upon completion, students should be able to demonstrate skills in programming, operations, and setup of CNC turning centers.

MAC 224	Advanced CNC Milling	1	3	2
Prerequisites:	MAC 124			

Corequisites: None

Available: Spring, Summer

This course covers advanced methods in setup and operation of CNC machining centers. Emphasis is placed on programming and production of complex parts. Upon completion, students should be able to demonstrate skills in programming, operations, and setup of CNC machining centers.

MAC 226 CNC EDM Machining 32 1

Prerequisites: None

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1 3 2 Corequisites: None

Available: Fall, Spring

This course introduces the programming, setup, and operation of CNC electrical discharge machines. Topics include programming formats, control functions, program editing, production of parts, and inspection. Upon completion, students should be able to manufacture simple parts using CNC electrical discharge machines.

MAC 228 Advanced CNC Processes 2 3 3

Prerequisites: None

Corequisites: None Available: As Needed

This course covers advanced programming, setup, and operation of CNC turning centers and CNC milling centers. Topics include advanced programming formats, control functions, program editing, and part production and inspection. Upon completion, students should be able to manufacture complex parts using CNC turning and milling centers.

Course Descriptions

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Course Descriptions

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MAC 229 CNC Programming

Prerequisites: Select one: MAC 121, MAC 122, MAC 124, MAC 226 Corequisites: None

Available: As Needed

This course provides concentrated study in advanced programming techniques for working with modern CNC machine tools. Topics include custom macros and subroutines, canned cycles, and automatic machining cycles currently employed by the machine tool industry. Upon completion, students should be able to program advanced CNC functions while conserving machine memory.

MAC 231 CAM: CNC Turning

Prerequisites: MAC 121 or MAC 122 Corequisites: None

Available: As Needed

This course introduces Computer Numerical Control graphics programming and concepts for turning center applications. Emphasis is placed on the interaction of menus to develop a shape file in a graphics CAM system and to develop tool path geometry and part geometry. Upon completion, students should be able to develop a job plan using CAM software, include machine selection, tool selection, operational sequence, speed, feed, and cutting depth.

MAC 232 CAM: CNC Milling 1

Prerequisites: None

Corequisites: None

Available: As Needed

This course introduces Computer Numerical Control graphics programming and concepts for machining center applications. Emphasis is placed on developing a shape file in a graphics CAM system and transferring coded information from CAM graphics to the CNC milling center. Upon completion, students should be able to develop a complete job plan using CAM software to create a multi-axis CNC program.

MAC 234 Adv Multi-Axis Machining 2 3 3

Prerequisites: None

Corequisites: None

Available: As Needed

This course includes multi-axis machining using machining centers with multi-axis capabilities. Emphasis is placed on generation of machining center input with a CAM system and setup of pallet changer and rotary system for multi-axis machining fixtures. Upon completion, students should be able to convert CAD to output for multi-axis machining centers, including tooling, setup, and debugging processes.

MAC 241 Jigs and Fixtures I 2 6 4

Prerequisites: MAC 112 Corequisites: None

Available: Summer

This course introduces the application and use of jigs and fixtures. Emphasis is placed on design and manufacture of simple jigs and fixtures. Upon completion, students should be able to design and build simple jigs and fixtures.

MAC 245 Mold Construction I

Prerequisites: MAC 112

Corequisites: None Available: Fall, Spring

Available. Fall, Spilliy

This course introduces the principles of mold making. Topics include types, construction, and application of molds. Upon completion, students should be able to design and build simple molds.

MAC 247 Production Tooling

Prerequisites: MAC 111 Corequisites: None Available: Fall, Summer

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This course provides advanced study in tooling currently utilized in the production of metal parts. Emphasis is placed on the proper use of tooling used on CNC and other production machine tools. Upon completion, students should be able to choose proper tool grades based on manufacturing requirements and troubleshoot carbide tooling problems.

Mathematics

MAT 060 Essential Mathematics

Prerequisites: MAT 050 or placement Corequisites: RED 080 or placement

Available: Fall, Spring, Summer

This course is a comprehensive study of mathematical skills which should provide a strong mathematical foundation to pursue further study. Topics include principles and applications of decimals, fractions, percents, ratio and proportion, order of operations, geometry, measurement, and elements of algebra and statistics. Upon completion, students should be able to perform basic computations and solve relevant, multi-step mathematical problems using technology where appropriate. The operation of a scientific calculator is an essential part of the instructional methodology, and all students are expected to have one.

MAT 070 Introductory Algebra

Prerequisites: MAT 060 or placement Corequisites: RED 080 or ENG 085 or placement

Available: Fall, Spring, Summer

This course establishes a foundation in algebraic concepts and problem solving. Topics include signed numbers, exponents, order of operations, simplifying expressions, solving linear equations and inequalities, graphing, formulas, polynomials, factoring, and elements of geometry. Upon completion, students should be able to apply the above concepts in problem solving using appropriate technology. The operation of a graphing calculator is an essential part of the instructional methodology, and all students are expected to have one.

MAT 080 Intermediate Algebra

Prerequisites: MAT 070 or placement Corequisites: RED 080 or ENG 085 or placement Available. Fall Spring, Summer

Available: Fall, Spring, Summer

This course continues the study of algebraic concepts with emphasis on applications. Topics include factoring; rational expressions; rational exponents; rational, radical, and quadratic equations; systems of equations; inequalities; graphing; functions; variations; complex numbers; and elements of geometry. Upon completion, students should be able to apply the above concepts in problem solving using appropriate technology. The operation of a graphing calculator is an essential part of the instructional methodology, and all students are expected to have one.

MAT 110 Mathematical Measurement 2 2 3

Prerequisites: MAT 070, MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, or MAT 175

Corequisites: None

Available: Spring

This course provides an activity-based approach to utilizing, interpreting, and communicating data in a variety of measurement systems. Topics include accuracy, precision, conversion, and estimation within metric, apothecary, and avoirdupois systems; ratio and proportion; measures of central tendency and dispersion; and charting of data. Upon completion, students should be able to apply proper techniques to gathering, recording, manipulating, analyzing, and communicating data.

MAT 115 Mathematical Models

Prerequisites: Select one: MAT 070, MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, MAT 175

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Corequisites: None

Available: Fall, Spring, Summer

This course develops the ability to utilize mathematical skills and technology to solve problems at a level found in non-mathematicsintensive programs. Topics include applications to percent, ratio and proportion, formulas, statistics, functional notation, linear functions, probability, sampling techniques, scatter plots, and modeling. Upon completion, students should be able to solve practical problems, reason and communicate with mathematics, and work confidently, collaboratively, and independently.

MAT 121 Algebra/Trigonometry I

Prerequisites: Select one: MAT 070, MAT 080, MAT 090, MAT 095

Corequisites: None

Available: Fall, Spring as needed

This course provides an integrated approach to technology and the skills required to manipulate, display, and interpret mathematical functions and formulas used in problem solving. Topics include simplification, evaluation, and solving of algebraic and radical functions; complex numbers; right triangle trigonometry; systems of equation; and the use of technology. Upon completion, students should be able to demonstrate an understanding of the use of mathematics and technology to solve problems and analyze and communicate results.

MAT 122 Algebra/Trigonometry II 22

Prerequisites: Select one: MAT 121, MAT 161, MAT 171, MAT 175 Corequisites: None

Available: Fall as needed, Spring

This course extends the concepts covered in MAT 121 to include additional topics in algebra, function analysis, and trigonometry. Topics include exponential and logarithmic functions, translation and scaling of functions, Sine Law, Cosine Law, vectors, and statistics. Upon completion, students should be able to demonstrate an understanding of the use of technology to solve problems and to analyze and communicate results.

MAT 140 Survey of Mathematics 3 0 3

Prerequisites: Select one: MAT 070, MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, MAT 175

Corequisites: None

Available: Summer

This course provides an introduction in a non-technical setting to selected topics in mathematics. Topics may include, but are not limited to, sets, logic, probability, statistics, matrices, mathematical systems, geometry, topology, mathematics of finance, and modeling. Upon completion, students should be able to understand a variety of mathematical applications, think logically, and be able to work collaboratively and independently. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

MAT 151 Statistics I

Prerequisites: Select one: MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, MAT 175

Corequisites: MAT 151A

Available: Fall, Spring, Summer

This course provides a project-based approach to the study of basic probability, descriptive and inferential statistics, and decision making. Emphasis is placed on measures of central tendency and dispersion, correlation, regression, discrete and continuous probability distributions, quality control, population parameter estimation, and hypothesis testing. Upon completion, students should be able to describe important characteristics of a set of data and draw inferences about a population from sample

data. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics (Quantitative option).

MAT 151A Statistics I Lab

Prerequisites: Select one: MAT 080, MAT 090, MAT 095, MAT 120, MAT 121, MAT 161, MAT 171, MAT 175

Corequisites: MAT 151

Available: Fall, Spring, Summer

This course is a laboratory for MAT 151. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

MAT 161 **College Algebra**

Prerequisites: Select one: MAT 080, MAT 090, MAT 095

Corequisites: MAT 161A

Available: Fall, Spring, Summer

This course provides an integrated technological approach to algebraic topics used in problem solving. Emphasis is placed on applications involving equations and inequalities; polynomials, rational, exponential and logarithmic functions; and graphing and data analysis/modeling. Upon completion, students should be able to choose an appropriate model to fit a data set and use the model for analysis and prediction. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics for the A.A. degree.

MAT 161A College Algebra Lab

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Prerequisites: Select one: MAT 080, MAT 090, MAT 095

Corequisites: MAT 161 Available: Fall, Spring, Summer

This course is a laboratory for MAT 161. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

MAT 167 Discrete Mathematics 0 3 3

Prerequisites: Select one: MAT 121, MAT 161, MAT 171, MAT 280 Corequisites: None

Available: As Needed

This course is a study of discrete mathematics with emphasis on applications. Topics include number systems, combinations/ permutations, mathematical logic/proofs, sets/counting, Boolean algebra, mathematical induction, trees/graphs, and algorithms. Upon completion, students should be able to demonstrate competence in the topics covered. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

MAT 171

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Precalculus Algebra Prerequisites: Select one: MAT 080, MAT 090, MAT 095, MAT 161

Corequisites: MAT 171A

Available: Fall, Spring

This is the first of two courses designed to emphasize topics which are fundamental to the study of calculus. Emphasis is placed on equations and inequalities, functions (linear, polynomial, rational), systems of equations and inequalities, and parametric equations. Upon completion, students should be able to solve practical problems and use appropriate models for analysis and predictions. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

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MAT 171A Precalculus Algebra Lab

Prerequisites: Select one: MAT 080, MAT 090, MAT 095, MAT 161 Corequisites: MAT 171

Available: Fall, Spring

This course is a laboratory for MAT 171. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

MAT 172 Precalculus Trigonometry

Prerequisites: MAT 171

Corequisites: MAT 172A

Available: Fall, Spring, Summer

This is the second of two courses designed to emphasize topics which are fundamental to the study of calculus. Emphasis is placed on properties and applications of transcendental functions and their graphs, right and oblique triangle trigonometry, conic sections, vectors, and polar coordinates. Upon completion, students should be able to solve practical problems and use appropriate models for analysis and prediction. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

MAT 172A Precalculus Trigonometry Lab

Prerequisites: MAT 171

Corequisites: MAT 172

Available: Fall, Spring, Summer

This course is a laboratory for MAT 172. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

MAT 175 Precalculus

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Prerequisites: Select one: MAT 080, MAT 090, MAT 095, MAT 121, MAT 161, MAT 171

Corequisites: None

Available: Fall, Madison Campus Huskins Class Only

This course provides an intense study of the topics which are fundamental to the study of calculus. Emphasis is placed on functions and their graphs with special attention to polynomial, rational, exponential, logarithmic and trigonometric functions, and analytic trigonometry. Upon completion, students should be able to solve practical problems and use appropriate models for analysis and prediction. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

MAT 223 Applied Calculus 2 2 3

Prerequisites: MAT 122

Corequisites: None

Available: As Needed

This course provides an introduction to the calculus concepts of differentiation and integration by way of application and is designed for engineering technology students. Topics include limits, slope, derivatives, related rates, areas, integrals, and applications. Upon completion, students should be able to demonstrate an understanding of the use of calculus and technology to solve problems and to analyze and communicate results.

2 1 MAT 271 Calculus I

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Prerequisites: MAT 172 or MAT 175 Corequisites: None Available: Fall, Spring, Summer

This course covers in depth the differential calculus portion of a three-course calculus sequence. Topics include limits, continuity, derivatives, and integrals of algebraic and transcendental functions of one variable, with applications. Upon completion, students should be able to apply differentiation and integration techniques to algebraic and transcendental functions. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

MAT 272 Calculus II Prerequisites: MAT 271 Corequisites: None

Available: Fall, Spring

This course provides a rigorous treatment of integration and is the second calculus course in a three-course sequence. Topics include applications of definite integrals, techniques of integration, indeterminate forms, improper integrals, infinite series, conic sections, parametric equations, polar coordinates, and differential equations. Upon completion, students should be able to use integration and approximation techniques to solve application problems. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

MAT 273 Calculus III

Prerequisites: MAT 272 Corequisites: None Available: Fall, Spring

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This course covers the calculus of several variables and is third calculus course in a three-course sequence. Topics include functions of several variables, partial derivatives, multiple integrals, solid analytical geometry, vector-valued functions, and line and surface integrals. Upon completion, students should be able to solve problems involving vectors and functions of several variables. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

MAT 280 Linear Algebra

Prerequisites: MAT 271 Corequisites: None

Available: Fall, Spring

This course provides a study of linear algebra topics with emphasis on the development of both abstract concepts and applications. Topics include vectors, systems of equations, matrices, determinants, vector spaces, linear transformations in two or three dimensions, eigenvectors, eigenvalues, diagonalization and orthogonality. Upon completion, students should be able to demonstrate both an understanding of the theoretical concepts and appropriate use of linear algebra models to solve application problems. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

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MAT 285 Differential Equations	5
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Prerequisites: MAT 272 Corequisites: None

Available: Summer

This course provides an introduction to ordinary differential equations with an emphasis on applications. Topics include first order, linear higher-order, and systems of differential equations; numerical methods; series solutions; eigenvalues and eigenvectors; Laplace transforms; and Fourier series. Upon completion, students should be able to use differential equations to model physical phenomena, solve the equations, and use the solutions to analyze the phenomena. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

Mechanical

MEC 110	Introduction to CAD/CAM	1	2	2
Prerequisites	: None			
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Corequisites: None

Available: Summer

This course introduces CAD/CAM. Emphasis is placed on transferring part geometry from CAD to CAM for the development of a CNC-ready program. Upon completion, students should be able to use CAD/CAM software to produce a CNC program.

*MEC	111	Machine Processes I	1	4	3
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Prerequisites: None

Corequisites: None

Available: Spring, Summer

This course introduces shop safety, hand tools, machine processes, measuring instruments, and the operation of machine shop equipment. Topics include use and care of tools, safety, measuring tools, and the basic setup and operation of common machine tools. Upon completion, students should be able to safely machine simple parts to specified tolerances.

*MEC 155	Env Benign Manufacturing	2	2	3
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Prerequisites: None

Corequisites: None Available: Spring

This course introduces environmental issues involving the generation and management of hazardous materials and wastes in manufacturing operations. Topics include the analysis of manufacturing trends, pollution minimization strategies, and the advantages of incorporating a sustainable approach to manufacturing. Upon completion, students should be able to discuss analysis and modification of industrial processes in manufacturing facilities toward a sustainable end.

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Prerequisites: None

Corequisites: None

Available: Fall

This course provides the fundamental principles of value-added processing of materials into usable forms for the customer. Topics include material properties and traditional and nontraditional manufacturing processes. Upon completion, students should be able to specify appropriate manufacturing processing for common engineering materials.

MEC 180 Engineering Materials	2	3	3
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Prerequisites: None Corequisites: None Available: Spring

This course covers the physical and mechanical properties of materials. Topics include testing, heat treating, ferrous and nonferrous metals, plastics, composites, and material selection.

Upon completion, students should be able to specify basic tests 3 and properties and select appropriate materials on the basis of specific properties.

*MEC 181 Introduction to CIM

Prerequisites: EGR 125

Corequisites: None

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Availability: Spring

This course introduces the elements of computer-integrated manufacturing (CIM). Topics include statistical process control, computer-aided design and manufacturing, numeric control, and flexible systems. Upon completion, students should be able to explain the major components of computerintegrated manufacturing.

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*MEC 231 Computer-Aided Manufacturing I 3 4

Prerequisites: None Corequisites: None

Available: Fall

This course introduces computer-aided manufacturing (CAM) applications and concepts. Emphasis is placed on developing/ defining part geometry and the processing information needed to manufacture parts. Upon completion, students should be able to demonstrate skills in defining part geometry, program development, and code generation using CAM software.

*MEC 232	Computer-Aided Manufacturing II	1	4	3
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Prerequisites: MEC 231

Corequisites: None

Available: Spring

This course provides an in-depth study of CAM applications and concepts. Emphasis is placed on the manufacturing of complex parts using computer-aided manufacturing software. Upon completion, students should be able to manufacture complex parts using CAM software.

*MEC 260 Fundamentals of Machine Design 3 2 3

Prerequisites: CIV 110

Corequisites: None

Available: Spring

This course introduces the fundamental principles of machine design. Topics include simple analysis of forces, moments, stresses, strains, friction, kinematics, and other considerations for designing machine elements. Upon completion, students should be able to analyze machine components and make component selections from manufacturers' catalogs.

Medical Assisting

MED 110 Orientation to Med Assist 1 0 0 1

Prerequisites: None

Corequisites: None Available: Fall

This course covers the history of medicine and the role of the medical assistant in the health care setting. Emphasis is placed on professionalism, communication, attitude, behaviors, and duties in the medical environment. Upon completion, students should be able to project a positive attitude and promote the profession of medical assisting.

MED 118 Medical Law and Ethics 2002

Prerequisites: None

Corequisites: None

Available: Spring

This course covers legal relationships of physicians and patients, contractual agreements, professional liability, malpractice, medical practice acts, informed, consent, and bioethical issues. Emphasis is placed on legal terms, professional attitudes, and the principles and basic concepts of ethics and laws involved in providing medical services. Upon completion, students should be able to meet the legal and ethical responsibilities of a multi-skilled health professional.

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MED 120 Survey of Medical Terminology

Prerequisites: None Corequisites: None Available: Fall

This course introduces the vocabulary, abbreviations, and symbols used in the language of medicine. Emphasis is placed on building medical terms using prefixes, suffixes, and word roots. Upon completion, students should be able to pronounce, spell, and define accepted medical terms.

MED 121 Medical Terminology I 3 0 0 3

Prerequisites: None Corequisites: None

Available: Fall

Available: Fai

This course introduces prefixes, suffixes, and word roots used in the language of medicine. Topics include medical vocabulary and the terms that relate to the anatomy, physiology, pathological conditions, and treatment of selected systems. Upon completion, students should be able to pronounce, spell, and define medical terms as related to selected body systems and their pathological disorders.

MED 122 Medical Terminology II

Prerequisites: MED 121

Corequisites: None

Available: Spring

This course is the second in a series of medical terminology courses. Topics include medical vocabulary and the terms that relate to the anatomy, physiology, pathological conditions, and treatment of selected systems. Upon completion, students should be able to pronounce, spell, and define medical terms as related to selected body systems and their pathological disorders.

MED 130 Admin Office Proc I 1 2 0 2

Prerequisites: Enrollment in Medical Assisting program.

Corequisites: None

Available: Fall

This course introduces medical office administrative procedures. Topics include appointment processing, written and oral communications, medical records, patient orientation, and safety. Upon completion, students should be able to perform basic administrative skills within the medical environment.

MED 131 Admin Office Proc II 1 2 0 2

Prerequisites: MED 130 Corequisites: None

Available: Spring

This course provides medical office procedures in both economic and management skills. Topics include physical plant maintenance, equipment and supplies, liability coverage, medical economics, and introductory insurance procedures. Upon completion, students should be able to manage the economics of the medical office and supervise personnel.

MED 138 Infection/Hazard Control

Prerequisites: None Corequisites: None

Available: Fall

This course introduces the student to infection and hazard control procedures necessary for the healthcare worker. Topics include introduction to microbiology, practical infection control, sterilization and monitoring, chemical disinfectants, aseptic technique, infectious diseases, OSH standards, and applicable North Carolina laws. Upon completion, students should be able to: understand infectious diseases, disease transmission, infection control procedures, biohazard management, OSH standards, and applicable North Carolina laws.

2 0 0 2 MED 140 Exam Room Procedures I

Prerequisites: Enrollment in the Medical Assisting program, MED 110, MED 138

Corequisites: None

Available: Spring

This course provides instruction in clinical examining room procedures. Topics include asepsis, infection control, assisting with exams and treatment, patient education, preparation and administration of medications, EKG, vital signs, and medical emergencies. Upon completion, students should be able to demonstrate competence in exam room procedures.

MED 150 Laboratory Procedures I 3 4 0 5

Prerequisites: Enrollment in the Medical Assisting program, MED 122, MED 138

Corequisites: None

Available: Fall

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This course provides instruction in basic lab techniques used by the medical assistant. Topics include lab safety, quality control, collecting and processing specimens, performing selective tests, phlebotomy, screening and follow-up of test results, and OSHA/CLIA regulations. Upon completion, students should be able to perform basic lab tests/skills based on course topics.

MED 180 CPR Certification 0 2 0 1

Prerequisites: None

Corequisites: None Available: As Needed

Available. As needed

This course provides the basic knowledge and skills necessary to perform infant, child, and adult CPR and to manage foreign body airway obstruction. Emphasis is placed on triage, assessment, and proper management of emergency care. Upon completion, students should be able to perform the infant, child, and adult CPR.

MED 182 CPR First Aid & Emergency 1 2 0 2

Prerequisites: None

Corequisites: None

Available: As Needed

This course provides the basic knowledge and skills necessary to perform basic CPR, first aid, and medical emergency care related to the clinical, home, office, and recreational setting. Emphasis is placed on triage, assessment, and proper management of emergency care. Upon completion, students should be able to demonstrate basic CPR, first aid, and medical emergency care.

MED 240Exam Room Procedures II3405

Prerequisites: MED 140

Corequisites: None

Available: Fall

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This course is designed to expand and build upon skills presented in MED 140. Emphasis is placed on advanced exam room procedures. Upon completion, students should be able to demonstrate enhanced competence in selected exam room procedures.

MED 260 MED Clinical Externship

Prerequisites: MED 150 and MED 240

Corequisites: None

Available: Spring

This course provides the opportunity to apply clinical, laboratory, and administrative skills in a medical facility. Emphasis is placed on enhancing competence in clinical and administrative skills necessary for comprehensive patient care and strengthening professional communications and interactions. Upon completion, students should be able to function as an entry-level health care professional.

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MED 262 Clinical Perspectives

Prerequisites: None Corequisites: MED 260 Available: Spring

This course is designed to explore personal and occupational responsibilities of the practicing medical assistant. Emphasis is placed on problems encountered during externships and development of problem-solving skills. Upon completion, students should be able to demonstrate courteous and diplomatic behavior when solving problems in the medical facility.

2002 **MED 264 Med Assisting Overview**

Prerequisites: None

Corequisites: None

Available: As Needed

This course provides an overview of the complete medical assisting curriculum. Emphasis is placed on all facets of medical assisting pertinent to administrative, laboratory, and clinical procedures performed in the medical environment. Upon completion, students should be able to demonstrate competence in the areas covered on the national certification examination for medical assistants.

MED 270 Symptomatology

Prerequisites: MED 131 and MED 140 Corequisites: None

Available: Summer

This course covers the study of disease symptoms and the appropriate actions taken by medical assistants in a medical facility in relation to these symptoms. Emphasis is placed on interviewing skills and appropriate triage, preparing patients for procedures, and screening test results. Upon completion, students should be able to recognize how certain symptoms relate to specific diseases, recognize emergency situations, and take appropriate actions.

MED 272 **Drug Therapy**

Prerequisites: MED 131 and MED 140 Corequisites: None

Available: Summer

This course focuses on major drug groups, including their side effects, interactions, methods of administration, and proper documentation. Emphasis is placed on the theory of drug administration. Upon completion, students should be able to identify, spell, recognize side effects of, and document the most commonly used medications in a physician's office.

MED 274 Diet Therapy/Nutrition

Prerequisites: Enrollment in the Medical Assisting program

Corequisites: None

Available: Spring

This course introduces the basic principles of nutrition as they relate to health and disease. Topics include basic nutrients, physiology, dietary deficiencies, weight management, and therapeutic nutrition in wellness and disease. Upon completion, students should be able to interpret clinical and dietary data and provide patient counseling and education.

MED 276 Patient Education

Prerequisites: MED 150 and MED 240 Corequisites: None

Available: Spring

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This course is designed to provide communication skills, basic education principles, and knowledge of available community resources and to apply this knowledge to the clinical setting. Emphasis is placed on identifying appropriate community resources, developing patient education materials, and perfecting written and oral communication skills. Upon completion, students should be able to instruct, communicate effectively, and act as a liaison between the patient and community agencies.

1001 **Mental Health**

Psychopathology MHA 238

Prerequisites: PSY 281 Corequisites: None Available: Fall

This course examines the development and use of the DSM/ICD in the mental health setting to establish a common language. Emphasis is placed on history, terminology, and assessment practices associated with the DSMIV/ICD in the treatment of psychological disorders. Upon completion, students should be able to explain the core vocabulary of treatment approaches and their applications. This course has been approved by the North Carolina Substance Abuse Professional Practice Board (NCSAPPB) for training/education credit for substance abuse certification/recertification.

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Marketing and Retailing

Principles of Marketing 0 3 **MKT 120** 3 Prerequisites: None Corequisites: None Available: Spring This course introduces principles and problems of marketing goods and services. Topics include promotion, placement, and pricing strategies for products. Upon completion, students should be able to apply marketing principles in organizational decision making. **MKT 121** Retailing 3 0 3 Prerequisites: None Corequisites: None Available: Fall This course examines the role of retailing in the economy. Topics include the development of present retail structure, functions performed, effective operations, and managerial problems resulting from current economic and social trends. Upon completion, students should be able to demonstrate an understanding of the basic principles of retailing.

MKT 122 Visual Merchandising 0 3 3

Prerequisites: None

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Corequisites: None

Available: Fall, Spring

This course introduces basic layout design and commercial display in retail and service organizations. Topics include an analysis of display as a visual merchandising medium and an examination of the principles and applications of display and design. Upon completion, students should be able to plan, build, and evaluate designs and displays. This course is a unique concentration requirement of the Marketing and Retailing concentration in the Business Administration program.

MKT 123 Fundamentals of Selling 0 3 3 Prerequisites: None Corequisites: None

Available: Fall

This course is designed to emphasize the necessity of selling skills in a modern business environment. Emphasis is placed on sales techniques involved in various types of selling situations. Upon completion, students should be able to demonstrate an understanding of the techniques covered.

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MKT 220 Advertising and Sales Promotion

Prerequisites: None Corequisites: None Available: Spring

This course covers the elements of advertising and sales promotion in the business environment. Topics include advertising and sales promotion appeals, selection of media, use of advertising and sales promotion as a marketing tool, and means of testing effectiveness. Upon completion, students should be able to demonstrate an understanding of the concepts covered through application.

MKT 221 Consumer Behavior

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course is designed to describe consumer behavior as applied to the exchange processes involved in acquiring, consuming, and disposing of goods and services. Topics include an analysis of basic and environmental determinants of consumer behavior with emphasis on the decision-making process. Upon completion, students should be able to analyze concepts related to the study of the individual consumer.

MKT 224 International Marketing 3 0 3

Prerequisites: None Corequisites: None

Available: Fall

This course covers the basic concepts of international marketing activity and theory. Topics include product promotion, placement, and pricing strategies in the international marketing environment. Upon completion, students should be able to demonstrate a basic understanding of the concepts covered.

MKT 225 30 3 **Marketing Research**

Prerequisites: MKT 120 Corequisites: None Available: Spring

This course provides information for decision making by providing guidance in developing, analyzing, and using data. Emphasis is placed on marketing research as a tool in decision making. Upon completion, students should be able to design and conduct a marketing research project and interpret the results. This course is a unique concentration requirement of the Marketing and Retailing concentration in the Business Administration program.

MKT 227 Marketing Applications 3 0 3

Prerequisites: MKT 120 and MKT 123

Corequisites: None

Available: Spring

This course extends the study of diverse marketing strategies. Emphasis is placed on case studies and small group projects involving research or planning. Upon completion, students should be able to effectively participate in the formulation of a marketing strategy. This course is a unique concentration requirement of the Marketing and Retailing concentration in the Business Administration program.

MKT 229 **Special Events Production** 2 0 2

Prerequisites: None Corequisites: None

Available: Spring

This course introduces the different objectives of various special events and the procedures and elements necessary for successful promotional activity. Emphasis is placed on planning, budgeting, promoting, and coordinating activities. Upon completion, students should be able to utilize the elements studied in the production of special events.

3 **Medical Laboratory Technology**

Introduction to MLT

Prerequisites: Enrollment in the Medical Laboratory Technology program Corequisites: None

Available: Fall

MLT 110

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This course is designed to introduce all aspects of the medical laboratory profession. Topics include health care/laboratory organization, professional ethics, basic laboratory techniques, safety, quality assurance, and specimen collection. Upon completion, students should be able to demonstrate a basic understanding of laboratory operations and be able to perform basic laboratory skills.

Urinalysis & Body Fluids MLT 111 1 3 0 2

Prerequisites: Enrollment in the Medical Laboratory Technology program, MLT 110

Corequisites: BIO 163

Available: Summer

This course introduces the laboratory analysis of urine and body fluids. Topics include physical, chemical, and microscopic examination of the urine and body fluids. Upon completion, students should be able to demonstrate theoretical comprehension in performing and interpreting urinalysis and body fluid tests.

MLT 120 Hematology/Hemostasis 3 3 0 4

Prerequisites: Enrollment in the Medical Laboratory Technology program, MLT 110 and BIO 163

Corequisites: None

Available: Spring

This course introduces the theory and technology used in analyzing blood cells and the study of hemostasis. Topics include hematology, hemostasis, and related laboratory testing. Upon completion, students should be able to demonstrate theoretical comprehension of hematology/hemostasis, perform diagnostic techniques, and correlate laboratory findings with disorders.

MLT 126 Immunology and Serology 1 2 0 2

Prerequisites: Enrollment in the Medical Laboratory Technology program, MLT 110 and BIO 163

Corequisites: None

Available: Spring

This course introduces the immune system and response and basic concepts of antigens, antibodies, and their reactions. Emphasis is placed on basic principles of immunologic and serodiagnostic techniques and concepts of cellular and humoral immunity in health and disease. Upon completion, students should be able to demonstrate theoretical comprehension and application in performing and interpreting routine immunologic and serodiagnostic procedures.

MLT 127 Transfusion Medicine

2 3 0 3 Prerequisites: Enrollment in the Medical Laboratory Technology program and MLT 126

Corequisites: None

Available: Summer

This course introduces the blood group systems and their applications in transfusion medicine. Emphasis is placed on blood bank techniques including blood grouping and typing, pre-transfusion testing, donor selection and processing, and blood component preparation and therapy. Upon completion, students should be able to demonstrate theoretical comprehension and application in performing/interpreting routine blood bank procedures and recognizing/resolving common problems.

MLT 130 Clinical Chemistry

Prerequisites: Enrollment in the Medical Laboratory Technology program, CHM 130, and CHM 130A

Corequisites: None

Available: Spring

This course introduces the quantitative analysis of blood and body fluids and their variations in health and disease. Topics include clinical biochemistry, methodologies, instrumentation, and quality control. Upon completion, students should be able to demonstrate theoretical comprehension of clinical chemistry, perform diagnostic techniques, and correlate laboratory findings with disorders.

MLT 140 Introduction to Microbiology 2 3 0 3

Prerequisites: Enrollment in the Medical Laboratory Technology program Corequisites: None

Available: Fall

This course is designed to introduce basic techniques and safety procedures in clinical microbiology. Emphasis is placed on the morphology and identification of common pathogenic organisms, aseptic technique, staining techniques, and usage of common media. Upon completion, students should be able to demonstrate theoretical comprehension in performing and interpreting basic clinical microbiology procedures.

MLT 215 Professional Issues

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Prerequisites: Enrollment in the Medical Laboratory Technology program Corequisites: None

Available: Spring

This course surveys professional issues in preparation for career entry. Emphasis is placed on work readiness and theoretical concepts in microbiology, immunohematology, hematology, and clinical chemistry. Upon completion, students should be able to demonstrate competence in career entrylevel areas and be prepared for the national certification examination.

MLT 240 Special Clinic Microbiology

Prerequisites: MLT 140

Corequisites: None

Available: Spring

This course is designed to introduce special techniques in clinical microbiology. Emphasis is placed on advanced areas in microbiology. Upon completion, students should be able to demonstrate theoretical comprehension in performing and interpreting specialized clinical microbiology procedures.

*MLT 252 MLT Practicum I**

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Prerequisites: Enrollment in the Medical Laboratory Technology program, MLT 120, MLT 126, MLT 130, MLT 240, BIO 163, CHM 130, and CHM 130A Corequisites: MLT 111 and MLT 127

Available: Summer

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entrylevel competence on final clinical evaluations. Concentration will be in the area of Phlebotomy.

*MLT 254 MLT Practicum I**

Prerequisites: Enrollment in the Medical Laboratory Technology program and MLT 252

Corequisites: None

Available: Fall

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entrylevel competence on final clinical evaluations. Concentration will be in the area of blood banking.

*MLT 255 MLT Practicum I**

Prerequisites: Enrollment in the Medical Laboratory Technology program and MLT 252

Corequisites: None Available: Fall

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entrylevel competence on final clinical evaluations. Concentration will be in the area of microbiology.

*MLT 261 MLT Practicum II**

Prerequisites: Enrollment in the Medical Laboratory Technology program and MLT 252

Corequisites: None

Available: Fall

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entrylevel competence on final clinical evaluations. Concentration will be in the area of donors and component therapy.

*MLT 265 MLT Practicum II**

Prerequisites: Enrollment in the Medical Laboratory Technology program and MLT 252

Corequisites: None

Available: Spring

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entrylevel competence on final clinical evaluations. Concentration will be in the area of hematology.

*MLT 275 MLT Practicum III**

Prerequisites: Enrollment in the Medical Laboratory Technology program and MLT 252

Corequisites: None

Available: Spring

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entrylevel competence on final clinical evaluations. Concentration will be in the area of clinical chemistry. ** MLT 252, 254, 255, 261, 265, 275 Because of clinical space restrictions, students will have individual schedules for MLT Practicums. Students will register for these courses as assigned by the department chairperson. During each student's first clinical experience course, general hospital orientation will be covered.

Maintenance

*MNT 110 Intro to Maint Procedures Prerequisites: None Corequisites: None

Available: Fall

This course covers basic maintenance fundamentals for power transmission equipment. Topics include equipment inspection, lubrication, alignment, and other scheduled maintenance procedures. Upon completion, students should be able to demonstrate knowledge of accepted maintenance procedures and practices according to current industry standards.

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*MNT 111 Maintenance Practices

Prerequisites: None Corequisites: None Available: Spring

This course provides in-depth theory and practical applications relating to predictive and preventive maintenance programs. Emphasis is placed on equipment failure analysis, maintenance management software, and techniques such as vibration and infrared analysis. Upon completion, students should be able to demonstrate an understanding of modern analytical and documentation methods.

MNT 120 Industrial Wiring Methods

Prerequisite: None

Corequisites: None

Available: As Needed

This course is designed to prepare the student to install wiring systems in accordance with the NEC and industry practices. Emphasis is placed on the use and installation of raceways, conductors, enclosures, and other devices typically used in industry. Upon completion, students should be able to safely install simple industrial branch and feeder circuits.

Therapeutic Massage

MTH 110 Fundamentals of Massage

Prerequisites: None

Corequisites: None Available: Fall

This course introduces concepts basic to the role of the massage therapist in a variety of clinical settings. Emphasis is placed on beginning theory and techniques of body work as well as skill in therapeutic touch. Upon completion of the course, the student should be able to apply basic practical massage therapy skills.

MTH 120 Therapeutic Massage Applications 6 9 3 10

Prerequisites: MTH 110

Corequisites: None

Available: Fall, Spring

This course provides an expanded knowledge and skill base for the massage therapist in a variety of clinical settings. Emphasis is placed on selected therapeutic approaches throughout the lifespan. Upon completion, students should be able to perform entry level therapeutic massage on various populations.

MTH 121 Clinical Supplement I

Prerequisites: None

Corequisites: MTH 110, MTH 120, MTH 125, MTH 210 or MTH 220 Available: Spring

This course is designed to introduce the student to a variety of clinical experiences. Emphasis is placed on applying the therapeutic massage process across the lifespan. Upon completion, students should be able to demonstrate delivery of massage techniques in a clinical setting.

MTH 125 Ethics of Massage 2 0 0 2

Prerequisites: None Corequisites: None

Available: Fall, Spring

This course is designed to explore issues related to the practice of massage therapy. Emphasis is placed on ethical, legal, professional, and political issues. Upon completion students should be able to discuss issues relating to the practice of massage therapy, client/therapist relationships as well as ethical issues.

2 2 3 MTH 210 Advanced Skills of Massage

Prerequisites: MTH 120 or MTH 121 Corequisites: None Available: Fall This course provides knowledge

This course provides knowledge and skills in diverse body work modalities in a variety of clinical settings. Emphasis is placed on selected techniques such as Neuromuscular Therapy, Sports Massage, Soft Tissue Release, Spa Approaches, Oriental Therapies, and energy techniques. Upon completion, students should be able to perform basic skills in techniques covered.

MTH 220 Outcome-Based Massage

Prerequisites: MTH 120, MTH 121, or MTH 221 Corequisites: None

Available: Spring

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This course provides knowledge and skills in more complex body works modalities in a variety of clinical settings. Emphasis is placed on developing advanced skills in outcomebased Massage. Upon completion, students should be able to perform basic skills in techniques covered.

MTH 221 Clinical Supplement II 0 0 6 2

Prerequisites: MTH 110

Corequisites: MTH 120, MTH 125, MTH 210, or MTH 220

Available: Fall

This course is designed to be offered as an advanced clinical experience. Emphasis is placed on applying an advanced therapeutic massage process across the lifespan. Upon completion, students should be able to demonstrate delivery of massage at an advanced level in a clinical setting.

Music

MUS 110 Music Appreciation

Prerequisites: None

Corequisites: None Available: Fall, Spring

This course is a basic survey of the music of the Western world. Emphasis is placed on the elements of music, terminology, composers, form, and style within a historical perspective. Upon completion, students should be able to demonstrate skills in basic listening and understanding of the art of music. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

MUS 112Introduction to Jazz303Prerequisites: NoneCorequisites: None

Available: Fall, Spring

This course introduces the origins and musical components of jazz and the contributions of its major artists. Emphasis is placed on the development of discriminating listening habits, as well as the investigation of the styles and structural forms of the jazz idiom. Upon completion, students should be able to demonstrate skills in listening and understanding this form of American music. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts

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MUS 113 American Music

Prerequisites: None Corequisites: None Available: Fall, Spring

This course introduces various musical styles, influences, and composers of the United States from pre-Colonial times to the present. Emphasis is placed on the broad variety of music particular to American culture. Upon completion, students should be able to demonstrate skills in basic listening and understanding of American music. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

MUS 114	Non-Western Music	3	0	3
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Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course provides a basic survey of the music of the non-Western world. Emphasis is placed on nontraditional instruments, sources, and performing practices. Upon completion, students should be able to demonstrate skills in basic listening and understanding of the art of non-Western music. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

MUS 121	Music Theory I			3	2	4
Prerequisites	: None					
Corequisites:	None					
Available: Fal						
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This course provides an in-depth introduction to melody, rhythm, and harmony. Emphasis is placed on fundamental melodic, rhythmic, and harmonic analysis, introduction to part writing, ear-training, and sight-singing. Upon completion, students should be able to demonstrate proficiency in the recognition and application of the above. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

MUS 122 Music Theory II

Prerequisites: MUS 121 Corequisites: None

Available: Spring

This course is a continuation of studies begun in MUS 121. Emphasis is placed on advanced melodic, rhythmic, and harmonic analysis and continued studies in part-writing, eartraining, and sight-singing. Upon completion, students should be able to demonstrate proficiency in the recognition and application of the above. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

MUS 131	Chorus I					02	1
Prerequisites	: None						
Corequisites:	None						
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This cours	e provides	an	opportunity	to	gain	experience	ce

singing in a chorus. Emphasis is placed on vocal techniques and the study and performance of a variety of styles and periods of choral literature. Upon completion, students should be able to demonstrate skills needed to participate in choral singing leading to performance. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

3 MUS 132 Chorus II

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Prerequisites: MUS 131 Corequisites: None Available: Spring

This course provides a continuation of studies begun in MUS 131. Emphasis is placed on vocal techniques and the study and performance of a variety of styles and periods of choral literature. Upon completion, students should be able to demonstrate skills needed to participate in choral singing leading to performance. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

MUS 210 History of Rock Music Prerequisites: None Corequisites: None

Available: As Needed

This course is a survey of Rock music from the early 1950's to the present. Emphasis is placed on musical groups, soloists, and styles related to the evolution of this idiom and on related historical and social events. Upon completion, students should be able to identify specific styles and to explain the influence of selected performers within their respective eras.

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MUS 231 Chorus III Prerequisites: MUS 132 Corequisites: None

Available: As Needed

This course is a continuation of MUS 132. Emphasis is placed on vocal techniques and the study and performance of a variety of styles and periods of choral literature. Upon completion, students should be able to demonstrate skills needed to participate in choral singing leading to performance. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

MUS 232 Chorus IV

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Prerequisites: MUS 231

Available: As Needed

This course is a continuation of MUS 231. Emphasis is placed on vocal techniques and the study of styles and periods of choral literature. Upon completion, students should be able to demonstrate skills needed to participate in choral singing leading to performance. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

Networking Technology

NET 110 Networking Concepts

Prerequisites: None

Corequisites: None

Available: As Needed

This course introduces students to the networking field. Topics include network terminology and protocols, localarea networks, wide-area networks, OSI model, cabling, router programming, Ethernet, IP addressing, and network standards. Upon completion, students should be able to perform tasks related to networking mathematics, terminology, and models, media, Ethernet, subnetting, and TCP/IP Protocols. This course is also available through the Virtual Learning Community (VLC).

3 2 4 Corequisites: None

NET 125 Networking Basics

Prerequisites: None Corequisites: None Available: Fall, Spring

This course introduces the networking field. Emphasis is placed on network terminology and protocols, local-area networks, wide-area networks, OSI model, cabling, router programming, Ethernet, IP addressing, and network standards. Upon completion, students should be able to perform tasks related to networking mathematics, terminology, and models, media, Ethernet, subnetting, and TCP/IP Protocols. This is the first course in the Cisco Networking Academy's CCNA sequence.

NET 126 Routing Basics

Prerequisites: NET 125 Corequisites: None

Available: Fall, Spring

This course focuses on initial router configuration, router software management, routing protocol configuration, TCP/ IP, and access control lists (ACLs). Emphasis will be placed on the fundamentals of router configuration, managing router software, routing protocol, and access lists. Upon completion, students should have an understanding of routers and their role in WANs, router configuration, routing protocols, TCP/IP, troubleshooting, and ACLs. This is the second course in the Cisco Networking Academy's CCNA sequence.

Wireless Technology **NET 175**

Prerequisites: NET 110 or NET 125 and NET 126 Corequisites: None

Available: Spring

This course introduces the student to wireless technology and interoperability with different communication protocols. Topics include Wireless Application Protocol (WAP), Wireless Mark-up language (WML), link manager, service discovery protocol, transport layer and frequency band. Upon completion, students should be able to discuss in written and oral form protocols and procedures required for different wireless applications.

NET 225 Routing and Switching I 1 4 3

Prereguisites: NET 126

Corequisites: None

Available: Fall, Spring

This course focuses on advanced IP addressing techniques, intermediate routing protocols, command-line interface configuration of switches, Ethernet switching, VLANs, STP, and VTP. Emphasis will be placed on application and demonstration of skills acquired in pre-requisite courses. Upon completion, students should be able to perform tasks related to VLSM, routing protocols, switching concepts and configuration, STP, VLANs, and VTP. This is the third course in the Cisco Networking Academy's CCNA sequence.

Routing and Switching II 1 4 **NET 226**

Prerequisites: NET 225

Corequisites: None

Available: Fall, Spring

This course introduces WAN theory and design, WAN technology, PPP, Frame Relay, ISDN, and additional case studies. Topics include network congestion problems, TCP/IP transport and network layer protocols, advanced routing and switching configuration, ISDN protocols, PPP encapsulation operations on a router. Upon completion, students should be able to provide solutions for network routing problems, identify ISDN protocols, and describe the Spanning Tree protocol. This is the fourth course in the Cisco Networking Academy's CCNA sequence.

3 **NET 289 Networking Project**

Prerequisites: NOS 220 and NOS 230 Corequisites: NET 226 Available: Spring, Summer

This course provides an opportunity to complete a significant networking project from the design phase through implementation with minimal instructor support. Emphasis is placed on project definition, documentation, installation, testing, presentation, and training. Upon completion, students should be able to complete a project from the definition phase through implementation.

Networking Operating Systems

NOS 110 Operating Systems Concepts

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course introduces students to a broad range of operating system concepts, including installation and maintenance. Emphasis is placed on operating system concepts, management, maintenance, and resources required. Upon completion of this course, students will have an understanding of OS concepts, installation, management, maintenance, using a variety of operating systems. The course will include file management and simple user creation under at least two operating systems.

NOS 120 Linux/UNIX Single User 22 3

Prerequisites: NOS 110 Corequisites: None

Available: Spring

This course develops the necessary skills for students to develop both GUI and command line skills for using and customizing a Linux workstation. Topics include Linux file system and access permissions, GNOME Interface, VI editor, X Window System expression pattern matching, I/O redirection, network and printing utilities. Upon completion, students should be able to customize and use Linux systems for command line requirements and desktop productivity roles.

NOS 130 Windows Single User 2 2 3

Prerequisites: NOS 110 Corequisites: None

Available: Spring

This course introduces operating system concepts for singleuser systems. Topics include hardware management, file and memory management, system configuration/optimization, and utilities. Upon completion, students should be able to perform operating systems functions at the support level in a singleuser environment.

NOS 220 Linux/UNIX Admin I 2 23

Prerequisites: NOS 120 Corequisites: None

Available: Fall

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This course introduces the Linux file system, group administration, and system hardware controls. Topics include installation, creation and maintaining file systems, NIS client and DHCP client configuration, NFS, SMB/Samba, Configure X, Gnome, KDE, basic memory, processes, and security. Upon completion, students should be able to perform system administration tasks including installation, configuring and attaching a new Linux workstation to an existing network.

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NOS 230 Windows Admin I

Prerequisites: NOS 130 Corequisites: None Available: Fall

This course covers the installation and administration of a Windows Server network operating system. Topics include managing and maintaining physical and logical devices, access to resources, the server environment, managing users, computers, and groups, and Managing/Implementing Disaster Recovery. Upon completion, students should be able to manage and maintain a Windows Server environment.

Nursing

*NUR 101 Practical	Nursing I
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Prerequisites: Admission into the Practical Nursing program Corequisites: BIO 168 and PSY 150

Available: Fall

This course introduces concepts as related to the practical nurse's care-giver and discipline-specific roles. Emphasis is placed on the nursing process, legal/ethical/professional issues, wellness/illness patterns, and basic nursing skills. Upon completion, students should be able to demonstrate beginning understanding of nursing process to promote/maintain/restore optimum health for diverse clients throughout the life span. This is a diploma-level course.

*NUF	R 102	Practica	l Nursing II	8	0	12 12	
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Prerequisites: BIO 168 and NUR 101 Corequisites: ENG 111 and BIO 169 Available: Spring

This course includes more advanced concepts as related to the practical nurse's care-giver and discipline-specific roles. Emphasis is placed on the nursing process, delegation, cost effectiveness, legal/ethical/professional issues, and wellness/ illness patterns. Upon completion, students should be able to begin participating in the nursing process to promote/maintain/ restore optimum health for diverse clients throughout the life span. This is a diploma-level course.

*NUR 103 Practical Nursing III

Prerequisites: BIO 169, PSY 150, ENG 111, and NUR 102

Corequisites: None

Available: Summer

This course focuses on use of nursing/related concepts by practical nurses as providers of care/members of discipline in collaboration with health team members. Emphasis is placed on the nursing process, wellness/illness patterns, entry level issues, accountability, advocacy, professional development, evolving technology, and changing health care delivery systems. Upon completion, students should be able to use the nursing process to promote/maintain/restore optimum health for diverse clients throughout the life span. This is a diplomalevel course.

*NUR 111 Intro to Health Concepts 4 6 6 8

Prerequisites: Admission into the Associate Degree Nursing Program Corequisites: BIO 168

Available: Fall

This course introduces the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts within each domain including medication administration, assessment, nutrition, ethics, interdisciplinary teams, informatics, evidence-based practice, individualcentered care, and quality improvement. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

*NUR 112 Health-Illness Concepts

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Prerequisites: NUR 111, BIO 168 Corequisites: BIO 169 Available: Spring

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This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of acid-base, metabolism, cellular regulation, oxygenation, infection, stress/coping, health-wellness-illness, communication, caring interventions, managing care, safety, quality improvement, and informatics. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

*NUR 113 Family Health Concepts 3 0 6 5

Prerequisites: NUR 111, NUR 112, NUR 114, BIO 169 Corequisites: PSY 241

Available: Fall and Summer

This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of oxygenation, sexuality, reproduction, grief/loss, mood/affect, behaviors, development, family, health-wellness-illness, communication, caring interventions, managing care, safety, and advocacy. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

*NUR 114 Holistic Health Concepts 3 0 6 5

Prerequisites: NUR 111, BIO 168 Corequisites: BIO 169 Available: Spring

This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of cellular regulation, perfusion, inflammation, sensory perception, stress/coping, mood/affect, cognition, self, violence, health-wellness-illness, professional behaviors, caring interventions, and safety. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

*NUR 211 Health Care Concepts

Prerequisites: NUR 111, NUR 112, NUR 114, BIO 169

Corequisites: None

Available: Fall and Summer

This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of cellular regulation, perfusion, infection, immunity, mobility, comfort, behaviors, health-wellness-illness, clinical decision-making, caring interventions, managing care, and safety. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

*NUR 212 Health System Concepts 3 0 6 5

Prerequisites: NUR 111, NUR 112, NUR 114, BIO 169

Corequisites: None

Available: Fall and Summer

This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of grief/loss, violence, health-wellness-illness, collaboration, managing care, safety, advocacy, legal issues, policy, healthcare systems, ethics, accountability, and evidence-based practice. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

Course Descriptions

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*NUR 213 **Complex Health Concepts**

Prerequisites: NUR 111, NUR 112, NUR 113, NUR 114, NUR 211, and NUR 212

Corequisites: None Available: Spring 2012

This course is designed to assimilate the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of fluid/electrolytes, metabolism, perfusion, mobility, stress/coping, violence, health-wellness-illness, professional caring behaviors, interventions, managing care, healthcare systems, and quality improvement. Upon completion, students should be able to demonstrate the knowledge, skills, and attitudes necessary to provide quality, individualized, entry level nursing care.

Office Administration

OST 131 Keyboarding

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course covers basic keyboarding skills. Emphasis is placed on the touch system, correct techniques, and development of speed and accuracy. Upon completion, students should be able to key at an acceptable speed and accuracy level using the touch system. Students should be able to complete timed writing competencies consisting of three timed writings at 25 nwam for three minutes with three or fewer errors and 160 keystrokes per minute for two minutes with two or less errors on the numeric keypad using the touch system.

OST 132 Keyboard Skill Building

Prerequisites: OST 134 Corequisites: None

Available: Spring, Summer

This course is designed to increase speed and improve accuracy in keyboarding. Emphasis is placed on diagnostic tests to identify accuracy and speed deficiencies followed by corrective drills. Upon completion, students should be able to keyboard rhythmically with greater accuracy and speed. Students should be able to complete timed writing competencies consisting of three timed writings at 50 nwam for five minutes with five or fewer errors using the touch system.

OST 134 Text Entry and Formatting

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course is designed to provide skills needed to increase speed, improve accuracy, and format documents. Topics include letters, memos, tables, and business reports. Upon completion, students should be able to produce documents and key timed writings at speeds commensurate with employability. Students should be able to complete timed writing competencies consisting of three timed writings at 40 nwam for five minutes with five or fewer errors using the touch system.

OST 136 Word Processing

Prerequisites: None Corequisites: None

Available: Fall, Spring

This course is designed to introduce word processing concepts and applications. Topics include preparation of a variety of documents and mastery of specialized software functions. Upon completion, students should be able to work effectively in a computerized word processing environment. Upon course entrance, a keyboarding proficiency test requiring 25 gwam at 98 percent accuracy using the touch system will be administered.

OST 137 Office Software Applications

Prerequisites: None Corequisites: None Available: Fall

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This course introduces the concepts and functions of software that meets the changing needs of the community. Emphasis is placed on the terminology and use of software through a hands-on approach. Upon completion, students should be able to use software in a business environment.

OST 141 Med Terms I-Med Office 3 0 3

Prerequisites: None Corequisites: None

Available: Fall, Spring

This course uses a language-structure approach to present the terminology and vocabulary that will be encountered in medical office settings. Topics include word parts that relate to systemic components, conditions, pathology, and disorder remediation in approximately one-half of the systems of the human body. Upon completion, students should be able to relate words to systems, pluralize, define, pronounce, and construct sentences with the included terms.

OST 142 Med Terms II-Med Office	3	0	3
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Prerequisites: OST 141

Corequisites: None

Available: Spring, Summer

This course is a continuation of OST 141 and continues the study, using a language-structure approach, of medical office terminology and vocabulary. Topics include word parts that relate to systemic components, conditions, pathology, and disorder remediation in the remaining systems of the human body. Upon completion, students should be able to relate words to systems, pluralize, define, pronounce, and construct sentences with the included terms.

OST 148 Med Coding Billing & Insu 3 0

Prerequisites: CIS 110 and MED 121

Corequisites: None

Available: Fall, Spring

This course introduces fundamentals of medical coding, billing, and insurance. Emphasis is placed on the medical billing cycle to include third party payers, coding concepts, and form preparation. Upon completion, students should be able to explain the life cycle of and accurately complete a medical insurance claim.

*OST 149 Medical Legal Issues 0 3 3

Prerequisites: None

Corequisites: None

Available: Spring, Summer

This course introduces the complex legal, moral, and ethical issues involved in providing health-care services. Emphasis is placed on the legal requirements of medical practices; the relationship of physician, patient, and office personnel; professional liabilities; and medical practice liability. Upon completion, students should be able to demonstrate a working knowledge of current medical law and accepted ethical behavior.

OST 164 Text Editing Applications 3 0 3

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course provides a comprehensive study of editing skills needed in the workplace. Emphasis is placed on grammar, punctuation, sentence structure, proofreading, and editing. Upon completion, students should be able to use reference materials to compose and edit text.

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OST 184	Records	Management
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Prerequisites: None Corequisites: None

Available: Fall, Spring, Summer

This course includes the creation, maintenance, protection, security, and disposition of records stored in a variety of media forms. Topics include alphabetic, geographic, subject, and numeric filing methods. Upon completion, students should be able to set up and maintain a records management system.

3 2 4 **OST 201 Medical Transcription I**

Prerequisites: OST 136 and OST 164

Corequisites: MED 122 or OST 142; and OST 164

Available: Fall, Spring

This course introduces dictating equipment and typical medical dictation. Emphasis is placed on efficient use of equipment, dictionaries, PDRs, and other reference materials. Upon completion, students should be able to efficiently operate dictating equipment and to accurately transcribe a variety of medical documents in a specified time.

*OST 202 Medical Transcription II 3 2 4

Prerequisites: OST 201

Corequisites: None

Available: Summer

This course provides additional practice in transcribing documents from various medical specialties. Emphasis is placed on increasing transcription speed and accuracy and understanding medical procedures and terminology. Upon completion, students should be able to accurately transcribe a variety of medical documents in a specified time.

OST 233 Office Publications Design 2 2 3

Prerequisites: OST 136

Corequisites: None Available: Spring

This course provides entry-level skills in using software with desktop publishing capabilities. Topics include principles of page layout, desktop publishing terminology and applications, and legal and ethical considerations of software use. Upon completion, students should be able to design and produce professional business documents and publications.

OST 243 Med Office Simulation 2 2 3

Prerequisites: OST 148 Corequisites: None

Available: Spring, Summer

This course introduces medical systems used to process information in the automated office. Topics include traditional and electronic information resources, storing and retrieving information, and the billing cycle. Upon completion, students should be able to use the computer accurately to schedule, bill, update, and make corrections.

22 **OST 247 Procedure Coding** 1

Prerequisites: MED 121 or OST 141

Corequisites: None

Available: Summer

This course provides in-depth coverage of procedural coding. Emphasis is placed on CPT and HCPCS coding systems. Upon completion, students should be able to properly code procedures and services performed in a medical facility.

3 **OST 248 Diagnostic Coding**

Prerequisites: MED 121 or OST 141 Corequisites: None Available: Summer

This course provides an in-depth study of diagnostic coding. Emphasis is placed on ICD coding system. Upon completion, students should be able to properly code diagnoses In a medical facility.

*OST 286 **Professional Development** 0 3 3

Prerequisites: None

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Corequisites: None

Available: Fall, Summer

This course covers the personal competencies and qualities needed to project a professional image in the office. Topics include interpersonal skills, healthy life-styles, appearance, attitude, personal and professional growth, multicultural awareness, and professional etiquette. Upon completion, students should be able to demonstrate these attributes in the classroom, office, and society.

*OST 289 Administrative Office Mgt 2 2 3 Prerequisites: OST 136 and OST 164

Corequisites: None

Available: Spring, Summer

This course is designed to be a capstone course for the office professional and provides a working knowledge of modern office procedures. Emphasis is placed on scheduling, telephone procedures, travel arrangements, event planning, office design, and ergonomics. Upon completion, students should be able to adapt in an office environment.

Phlebotomy

*PBT 100 Phlebotomy Technology

5206 Prerequisites: Enrollment in the Phlebotomy Technology program and RED 090

Corequisites: PBT 101

Available: Fall, Spring

This course provides instruction in the skills needed for the proper collection of blood and other specimens used for diagnostic testing. Emphasis is placed on ethics, legalities, medical terminology, safety and universal precautions, health care delivery systems, patient relations, anatomy and physiology, and specimen collection. Upon completion, students should be able to demonstrate competence in the theoretical comprehension of phlebotomy techniques. This is a certificate-level course.

*PBT 101 Phlebotomy Practicum

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Prerequisites: Enrollment in the Phlebotomy Technology program

Corequisites: PBT 100 Available: Fall, Spring

This course provides supervised experience in the performance of venipuncture and microcollection techniques in a clinical facility. Emphasis is placed on patient interaction and application of universal precautions, proper collection techniques, special procedures, specimen handling, and data management. Upon completion, students should be able to safely perform procedures necessary for specimen collections on patients in various health care settings. This is a certificatelevel course.

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Professional Crafts: Sculpture

PCS 110	Intro to Metal Sculpture	2	9	5
Prerequisites:	PCS 112			
Corequisites:	None			

Available: Fall

This course introduces the process and design of metal sculpture for the crafts-man. Topics include design of metal sculpture, layout, construction, and finishing. Upon completion, students should be able to demonstrate the ability to design and construct metal sculptures.

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Prerequisites: None Corequisites: None Available: Spring

This course is an introduction to the proper equipment and tools of the metal shop and welding methods for the artist. Topics include welding, cutting, forging, fabricating and finishing, and studio safety. Upon completion, students will be able to demonstrate efficient and safe use of metal shop tools and equipment.

Professional Crafts: Jewelry

PCJ 262	Hand	Wrought	Metals
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Prerequisites: None Corequisites: None Available: Fall

This course covers the fundamental processes, techniques and tools for heating and forging ferrous and non-ferrous metals. Topics include fire control, use of hammers, tools and traditional techniques for metal shaping. Upon completion, students should be able to heat and use a variety of metals to create tools and shape basic metal projects.

Physical Education

PED 11	0	Fit and \	Well for	Life
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Prerequisites: None Corequisites: None

Available: Fall, Spring, Summer

This course is designed to investigate and apply the basic concepts and principles of lifetime physical fitness and other health-related factors. Emphasis is placed on wellness through the study of nutrition, weight control, stress management, and consumer facts on exercise and fitness. Upon completion, students should be able to plan a personal, lifelong fitness program based on individual needs, abilities, and interests. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 113 Aerobics I (0	3	1
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Prerequisites: None

Corequisites: None

This course introduces a program of cardiovascular fitness involving continuous, rhythmic exercise. Emphasis is placed on developing cardiovascular efficiency, strength, and flexibility and on safety precautions. Upon completion, students should be able to select and implement a rhythmic aerobic exercise program. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 114 Aerobics II

Prerequisites: PED 113 Corequisites: None

Available: Fall, Spring

This course provides a continuation of a program of cardiovascular fitness involving rhythmic exercise. Emphasis is placed on a wide variety of aerobic activities which include cardiovascular efficiency, strength, and flexibility. Upon completion, students should be able to participate in and design a rhythmic aerobic exercise routine. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 117 Weight Training I 0 3 1 Prereguisites: None

Corequisites: None

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Available: Fall, Spring, Summer

This course introduces the basics of weight training. Emphasis is placed on developing muscular strength, muscular endurance, and muscle tone. Upon completion, students should be able to establish and implement a personal weight training program. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 118 Weight Training II 3 1 Prerequisites: PED 117 Corequisites: None Available: Fall, Spring, Summer This course covers advanced levels of weight training. Emphasis is placed on meeting individual training goals and addressing

weight training needs and interests. Upon completion, students should be able to establish and implement an individualized advanced weight training program. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 119	Circuit Training	
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Prerequisites: None

Corequisites: None

Available: As Needed

This course covers the skills necessary to participate in a developmental fitness program. Emphasis is placed on the circuit training method which involves a series of conditioning timed stations arranged for maximum benefit and variety. Upon completion, students should be able to understand and appreciate the role of circuit training as a means to develop fitness. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

PED 120 Walking for Fitness

Prerequisites: None Corequisites: None

Available: Fall, Spring

This course introduces fitness through walking. Emphasis is placed on stretching, conditioning exercises, proper clothing, fluid needs, and injury prevention. Upon completion, students should be able to participate in a recreational walking program. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

Available: Fall, Spring

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PED 122 Yoga I

Prerequisites: None Corequisites: None

Available: Fall, Spring

This course introduces the basic discipline of yoga. Topics include proper breathing, relaxation techniques, and correct body positions. Upon completion, students should be able to demonstrate the procedures of yoga. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 123 Yoga II

Prerequisites: PED 122

Corequisites: None

Available: As Needed

This course introduces more detailed aspects of the discipline of yoga. Topics include breathing and physical postures, relaxation, and mental concentration. Upon completion, students should be able to demonstrate advanced procedures of yoga. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 125 Self-Defense - Beginning 0 2 1

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course is designed to aid students in developing rudimentary skills in self-defense. Emphasis is placed on stances, blocks, punches, and kicks as well as non-physical means of self-defense. Upon completion, students should be able to demonstrate basic self-defense techniques of a physical and non-physical nature. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 126 Self-Defense - Intermediate

Prerequisites: PED 125

Corequisites: None

Available: As Needed

This course is designed to aid students in building on the techniques and skills developed in PED 125. Emphasis is placed on the appropriate psychological and physiological responses to various encounters. Upon completion, students should be able to demonstrate intermediate skills in self-defense stances, blocks, punches, and kick combinations. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

PED 128	Golf - Beginning	0	2	1
Prerequisites	None			

Corequisites: None

Available: Fall, Spring

This course emphasizes the fundamentals of golf. Topics include the proper grips, stance, alignment, swings for the short and long game, putting, and the rules and etiquette of golf. Upon completion, students should be able to perform the basic golf shots and demonstrate a knowledge of the rules and etiquette of golf. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

1 PED 130 Tennis - Beginning

Prerequisites: None Corequisites: None

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Available: Fall, Spring

This course emphasizes the fundamentals of tennis. Topics include basic strokes, rules, etiquette, and court play. Upon completion, students should be able to play recreational tennis. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 142 Lifetime Sports

Prerequisites: None

Corequisites: None Available: As Needed

This course is designed to give an overview of a variety of sports activities. Emphasis is placed on the skills and rules necessary to participate in a variety of lifetime sports. Upon completion, students should be able to demonstrate an awareness of the importance of participating in lifetime sports activities. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 143 Volleyball - Beginning 0 2 1

Prerequisites: None Corequisites: None

Available: Fall, Spring

This course covers the fundamentals of volleyball. Emphasis is placed on the basics of serving, passing, setting, spiking, blocking, and the rules and etiquette of volleyball. Upon completion, students should be able to participate in recreational volleyball. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 145 Basketball - Beginning 0 2 1

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course covers the fundamentals of basketball. Emphasis is placed on skill development, knowledge of the rules, and basic game strategy. Upon completion, students should be able to participate in recreational basketball. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 170 Backpacking Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course covers the proper techniques for establishing a campsite, navigating in the wilderness, and planning for an overnight trip. Topics include planning for meals, proper use of maps and compass, and packing and dressing for extended periods in the outdoors. Upon completion, students should be able to identify quality backpacking equipment, identify the principles of no-trace camping, and successfully complete a backpacking experience. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

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PED 171 Nature Hiking

Prerequisites: None Corequisites: None Available: Summer

This course provides instruction on how to equip and care for oneself on the trail. Topics include clothing, hygiene, trail ethics, and necessary equipment. Upon completion, students should be able to successfully participate in nature trail hikes. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 186	Dancing for Fitness	0	2	1
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Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course is designed to develop movement and recreational dance skills, safety, fitness, coordination, and techniques used to teach various groups. Emphasis is placed on participation and practice with adapting dances for ages and ability levels. Upon completion, students should be able to demonstrate knowledge of fitness through social, folk, and square dance participation and instruction. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

PED 215 Outdoor Cycling

Prerequisites: None Corequisites: None

Available: Fall

This course is designed to promote physical fitness through cycling. Emphasis is placed on selection and maintenance of the bicycle, gear shifting, pedaling techniques, safety procedures, and conditioning exercises necessary for cycling. Upon completion, students should be able to demonstrate safe handling of a bicycle for recreational use. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

PED 217 Pilates I

Prerequisites: None

Corequisites: None Available: Fall, Spring

This course provides an introduction to the Pilates method of body conditioning exercise. Topics include instruction in beginning and intermediate Pilates exercises using a mat or equipment, history of the Pilates method, and relevant anatomy and physiology. Upon completion, students should be able to perform beginning and intermediate exercises, and posses an understanding of the benefits of conditioning the body's core muscles. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

PED 218 Pilates II

Prerequisites: PED 217 Corequisites: None

Available: As Needed

This course provides continued instruction to the Pilates method of body conditioning exercise. Topics include instruction in intermediate and advanced Pilates exercises using a mat or equipment, relevant anatomy and physiology, and further discussion of related concepts. Upon completion, students should be able to perform intermediate and advanced exercises, and possess the autonomy to maintain their own personal Pilates practice. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

2 1 PED 220 Exercise for Physically Challenged 0 2

Prerequisites: None Corequisites: None

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Available: As Needed

This course is designed to improve physical strength, endurance, and range of motion while focusing on individual needs. Emphasis is placed on exercises which are designed and adapted to serve those with special needs. Upon completion, students should be able to show improved physical fitness, body awareness, and an appreciation for their physical well-being. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PED 230 Shotokan Karate

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course introduces martial arts using the Shotokan Karate form. Topics include proper conditioning exercises, proper terminology, historical foundations, etiquette and drills. Upon completion, students should be able to perform skills and techniques related to this form of martial arts. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.

PED 240 Advanced PE Skills 0 2 1

Prerequisites: Instructor Consent Required

Corequisites: None

Available: As Needed

This course provides those who have mastered skills in a particular physical education area the opportunity to assist with instruction. Emphasis is placed on methods of instruction, class organization, and progressive skill development. Upon completion, students should be able to design, develop, and implement a unit lesson plan for a skill they have mastered. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

Philosophy

PHI 210 History of Philosophy

Prerequisites: ENG 111

Corequisites: None

Available: As Needed

This course introduces fundamental philosophical issues through an historical perspective. Emphasis is placed on such figures as Plato, Aristotle, Lao-Tzu, Confucius, Augustine, Aquinas, Descartes, Locke, Kant, Wollstonecraft, Nietzsche, and Sartre. Upon completion, students should be able to identify and distinguish among the key positions of the philosophers studied. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

PHI 215 Philosophical Issues

Prerequisites: ENG 111 Corequisites: None

Available: Fall, Spring

This course introduces fundamental issues in philosophy considering the views of classical and contemporary philosophers. Emphasis is placed on knowledge and belief, appearance and reality, determinism and free will, faith and reason, and justice and inequality. Upon completion, students should be able to identify, analyze, and critique the philosophical components of an issue. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

PHI 230 Introduction to Logic

Prerequisites: ENG 111 Corequisites: None

Available: Fall, Spring, Summer

This course introduces basic concepts and techniques for distinguishing between good and bad reasoning. Emphasis is placed on deduction, induction, validity, soundness, syllogisms, truth functions, predicate logic, analogical inference, common fallacies, and scientific methods. Upon completion, students should be able to analyze arguments, distinguish between deductive and inductive arguments, test validity, and appraise inductive reasoning. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

PHI 240 Introduction to Ethics 3 0

Prerequisites: ENG 111

Corequisites: None

Available: Fall, Spring, Summer

This course introduces theories about the nature and foundations of moral judgments and applications to contemporary moral issues. Emphasis is placed on utilitarianism, rule-based ethics, existentialism, relativism versus objectivism, and egoism. Upon completion, students should be able to apply various ethical theories to individual moral issues such as euthanasia, abortion, crime and punishment, and justice. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/ fine arts.

Physical Science

PHS 140 Weather and Climate

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Prerequisites: None Corequisites: None

Available: Spring

This course introduces the nature, origin, processes, and dynamics of the earth's atmospheric environment. Topics include general weather patterns, climate, and ecological influences on the atmosphere. Upon completion, students should be able to demonstrate an understanding of weather formation, precipitation, storm patterns, and processes of atmospheric pollution. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

Physics PHY 110 Conceptual Physics 3

Prerequisites: None Corequisites: PHY 110A Available: Fall Spring Sur

Available: Fall, Spring, Summer

This course provides a conceptually-based exposure to the fundamental principles and processes of the physical world. Topics include basic concepts of motion, forces, energy, heat, electricity, magnetism, and the structure of matter and the universe. Upon completion, students should be able to describe examples and applications of the principles studied. Nonmathematical discussions of concepts and practical applications will be stressed. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

PHY 110A Conceptual Physics Lab

Prerequisites: None Corequisites: PHY 110 Available: Fall, Spring, Summer

This course is a laboratory for PHY 110. Emphasis is placed on laboratory experiences that enhance materials presented in PHY 110. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in PHY 110. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

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PHY 121 Applied Physics I 3 2 4

Prerequisites: None Corequisites: None

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Available: Fall, Spring

This algebra-based course introduces fundamental physical concepts as applied to industrial and service technology fields. Topics include systems of units, problem-solving methods, graphical analyses, vectors, motion, forces, Newton's laws of motion, work, energy, power, momentum, and properties of matter. Upon completion, students should be able to demonstrate an understanding of the principles studied as applied in industrial and service fields.

PHY 125	Health Sciences Physics	324
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Prerequisites: None

Corequisites: None

Available: Fall

This course introduces fundamental physical principles as they apply to health technologies. Topics include motion, force, work, power, simple machines, and other topics as required by the student's area of study. Upon completion, students should be able to demonstrate an understanding of the fundamental principles covered as they relate to practical applications in the health sciences.

PHY 131 Physics - Mechanics

Prerequisites: MAT 121, MAT 161, MAT 171, or MAT 175

Corequisites: None

Available: As Needed

This algebra/trigonometry-based course introduces fundamental physical concepts as applied to engineering technology fields. Topics include systems of units, problemsolving methods, graphical analysis, vectors, motion, forces, Newton's laws of motion, work, energy, power, momentum, and properties of matter. Upon completion, students should be able to apply the principles studied to applications in engineering technology fields.

PHY 151 College Physics I

Prerequisites: MAT 161 or MAT 171

Corequisites: None

Available: Fall, Spring, Summer

This course uses algebra- and trigonometry-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include units and measurement, vectors, linear kinematics and dynamics, energy, power, momentum, fluid mechanics, and heat. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

Course Descriptions

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Course Descriptions

PHY 152 College Physics II

Prerequisites: PHY 151 Corequisites: None Available: Spring, Summer

This course uses algebra- and trigonometry-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include electrostatic forces, electric fields, electric potentials, direct-current circuits, magnetostatic forces, magnetic fields, electromagnetic induction, alternatingcurrent circuits, and light. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

*PHY 251 General Physics I 3 3 4

Prerequisites: MAT 271 Corequisites: MAT 272

Available: Fall

This course uses calculus-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include units and measurement, vector operations, linear kinematics and dynamics, energy, power, momentum, rotational mechanics, periodic motion, fluid mechanics, and heat. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

*PHY 252 General Physics II

Prerequisites: MAT 272 and PHY 251 Corequisites: None

Available: Spring

This course uses calculus-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include electrostatic forces, electric fields, electric potentials, direct-current circuits, magnetostatic forces, magnetic fields, electromagnetic induction, alternatingcurrent circuits, and light. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.

Plastics

*PLA 110 Introduction to Plastics

Prerequisites: None Corequisites: None

Available: Fall

This course introduces the plastics processing industry, including thermoplastics and thermosets. Emphasis is placed on the description, classification, and properties of common plastics and processes and current trends in the industry. Upon completion, students should be able to describe the differences between thermoplastics and thermosets and recognize the basics of the different plastic processes.

4 *PLA 120 Injection Molding

Prerequisites: None Corequisites: None Available: Fall

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This course provides theory and processing experience with the injection molding process. Topics include machine type, molds, controls, machine-polymer part relationship, molding factors, troubleshooting, and molding problems/solutions. Upon completion, students should be able to demonstrate an understanding of machine setup and operation and be able to optimize common injection molding machines.

Political Science

POL 110Introduction to Political Science303Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course introduces basic political concepts used by governments and addresses a wide range of political issues. Topics include political theory, ideologies, legitimacy, and sovereignty in democratic and non-democratic systems. Upon completion, students should be able to discuss a variety of issues inherent in all political systems and draw logical conclusions in evaluating these systems. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/ behavioral science.

POL 120 American Government 3

Prerequisites: None

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Corequisites: None

Available: Fall, Spring

This course is a study of the origins, development, structure, and functions of American national government. Topics include the constitutional framework, federalism, the three branches of government including the bureaucracy, civil rights and liberties, political participation and behavior, and policy formation. Upon completion, students should be able to demonstrate an understanding of the basic concepts and participatory processes of the American political system. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.

POL 130 State & Local Government 3 0 3

Prerequisites: None

Corequisites: None

This course includes state and local political institutions and practices in the context of American federalism. Emphasis is placed on procedural and policy differences as well as political issues in state, regional, and local governments of North Carolina. Upon completion, students should be able to identify and discuss various problems associated with intergovernmental politics and their effect on the community and the individual. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

POL 210 Comparative Government

Prerequisites: None Corequisites: None

Available: Fall, Spring

This course provides a cross-national perspective on the government and politics of contemporary nations such as Great Britain, France, Germany, and Russia. Topics include each country's historical uniqueness, key institutions, attitudes and ideologies, patterns of interaction, and current political problems. Upon completion, students should be able to identify and compare various nations' governmental structures, processes, ideologies, and capacity to resolve major problems. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.

POL 220 International Relations 3 0 3

Prerequisites: None

Corequisites: None

This course provides a study of the effects of ideologies, trade, armaments, and alliances on relations among nation-states. Emphasis is placed on regional and global cooperation and conflict, economic development, trade, non-governmental organizations, and international institutions such as the World Court and UN. Upon completion, students should be able to identify and discuss major international relationships, institutions, and problems. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

Psychology

PSY 118 Interpersonal Psychology

Prerequisites: None Corequisites: None

Available: As Needed

This course introduces the basic principles of psychology as they relate to personal and professional development. Emphasis is placed on personality traits, communication/ leadership styles, effective problem solving, and cultural diversity as they apply to personal and work environments. Upon completion, students should be able to demonstrate an understanding of these principles of psychology as they apply to personal and professional development. This course is intended for certificate, diploma, and A.A.S. degree programs.

PSY 150 General Psychology

Prerequisites: None

Corequisites: None

Available: Fall, Spring, Summer

This course provides an overview of the scientific study of human behavior. Topics include history, methodology, biopsychology, sensation, perception, learning, motivation, cognition, abnormal behavior, personality theory, social psychology, and other relevant topics. Upon completion, students should be able to demonstrate a basic knowledge of the science of psychology. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.

PSY 215	Positive Psychology	3	0	3
Prerequisites:	PSY 150			

Corequisites: None

Available: Fall, Spring

This course is an overview of the scientific study of human strengths. Topics include resilience, optimism, vital engagement (flow), positive relationships, creativity, wisdom, happiness, empathy, emotional intelligence, and other relevant topics. Upon completion, students should be able to demonstrate

an understanding of the psychological factors relevant to enhancing well being. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

PSY 231 Forensic Psychology 3 0 3 Prerequisites: PSY 150

Corequisites: None

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Available: Fall, Spring

This course introduces students to concepts which unite psychology and the legal system. Topics include defining competency, insanity, involuntary commitment as well as introducing forensic assessment techniques, such as interviewing process, specialized assessments, and collecting collateral information. Upon completion, students should be able to demonstrate knowledge in areas of forensic psychology: risk assessment, criminal competencies, insanity, psychopathology, and mentally disordered offenders. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/ or elective

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PSY 237 Social Psychology

Prerequisites: PSY 150 or SOC 210

Corequisites: None

Available: Fall, Spring

This course introduces the study of individual behavior within social contexts. Topics include affiliation, attitude formation and change, conformity, altruism, aggression, attribution, interpersonal attraction, and group behavior. Upon completion, students should be able to demonstrate an understanding of the basic principles of social influences on behavior. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

PSY 239 Psychology of Personality 3 0 3

Prerequisites: PSY 150

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Corequisites: None

Available: Fall, Spring

This course covers major personality theories and personality research methods. Topics include psychoanalytic, behavioristic, social learning, cognitive, humanistic, and trait theories including supporting research. Upon completion, students should be able to compare and contrast traditional and contemporary approaches to the understanding of individual differences in human behavior. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.

PSY 241 Developmental Psychology 3 0 3

Prerequisites: PSY 150

Corequisites: None

Available: Fall, Spring, Summer

This course is a study of human growth and development. Emphasis is placed on major theories and perspectives as they relate to the physical, cognitive, and psychosocial aspects of development from conception to death. Upon completion, students should be able to demonstrate knowledge of development across the life span. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/ behavioral science.

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PSY 243 Child Psychology

Prerequisites: PSY 150 Corequisites: None

Available: As Needed

This course provides an overview of physical, cognitive, and psychosocial development from conception through adolescence. Topics include theories and research, interaction of biological and environmental factors, language development, learning and cognitive processes, social relations, and moral development. Upon completion, students should be able to identify typical and atypical childhood behavior patterns as well as appropriate strategies for interacting with children. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

PSY 246 Adolescent Psychology 3

Prerequisites: PSY 150

Corequisites: None

This course provides an overview of the behavior patterns, life changes, and social issues that accompany the developmental stage of adolescence. Topics include developmental theories; physical, cognitive and psychosocial growth; transitions to young adulthood; and sociocultural factors that influence adolescent roles in home, school and community. Upon completion, students should be able to identify typical and atypical adolescent behavior patterns as well as appropriate strategies for interacting with adolescents. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

PSY 259 Human Sexuality

Prerequisites: PSY 150

Corequisites: None

Available: As Needed

This course provides the biological, psychological, and sociocultural aspects of human sexuality and related research. Topics include reproductive biology, sexual and psychosexual development, sexual orientation, contraception, sexually transmitted diseases, sexual disorders, theories of sexuality, and related issues. Upon completion, students should be able to demonstrate an overall knowledge and understanding of human sexuality. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

PSY 271 Sports Psychology

Prerequisites: PSY 150 Corequisites: None

Available: Fall, Spring

This course provides an overview of the field of sports and exercise psychology. Topics include concentration, goal setting, arousal level, exercise psychology, mental imagery, confidence, and other issues related to sport and exercise performance. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

PSY 275 Health Psychology

Prerequisites: PSY 150 Corequisites: None

Available: Fall, Spring

This course covers the biopsychological dynamics of stress and the maintenance of good health. Topics include enhancing health and well-being, stress management, lifestyle choices and attitudes, the mind-body relationship, nutrition, exercise and fitness. Upon completion, students should be able to demonstrate an understanding of the psychological

factors related to health and well-being. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

PSY 281 Abnormal Psychology 3 0 3

Prerequisites: PSY 150

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Corequisites: None Available: Fall, Spring, Summer

This course provides an examination of the various psychological disorders, as well as theoretical, clinical, and experimental perspectives of the study of psychopathology. Emphasis is placed on terminology, classification, etiology, assessment, and treatment of the major disorders. Upon completion, students should be able to distinguish between normal and abnormal behavior patterns as well as demonstrate knowledge of etiology, symptoms, and therapeutic techniques. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.

Radiography

RAD 110 Radiography Intro & Patient Care

Prerequisites: Enrollment in Radiography program Corequisites: BIO 163, RAD 111, RAD 151, and RAD 182 Available: Fall

This course provides an overview of the radiography profession and student responsibilities. Emphasis is placed on basic principles of patient care, radiation protection, technical factors, and medical terminology. Upon completion, students should be able to demonstrate basic skills in these areas.

RAD 111 RAD Procedures I

Prerequisites: Enrollment in the Radiography program Corequisites: BIO 163, RAD 110, RAD 151, and RAD 182 Available: Fall

This course provides the knowledge and skills necessary to perform standard radiographic procedures. Emphasis is placed on radiography of the chest, abdomen, extremities, spine, and pelvis. Upon completion, students should be able to demonstrate competence in these areas.

RAD 112 RAD Procedures II

Prerequisites: BIO 163, RAD 110, RAD 111, RAD 151, and RAD 182 Corequisites: RAD 121 and RAD 161

Available: Spring

This course provides the knowledge and skills necessary to perform standard radiographic procedures. Emphasis is placed on radiography of the skull, bony thorax, and gastrointestinal, biliary, and urinary systems. Upon completion, students should be able to demonstrate competence in these areas.

RAD 121 Radiographic Imaging I

Prerequisites: RAD 110, RAD 111, and RAD 151 Corequisites: RAD 112 and RAD 161

Available: Spring

This course provides the principles of conventional filmscreen radiography. Emphasis is placed on the factors that impact density, contrast, recorded detail, and distortion. Upon completion, students should be able to demonstrate an understanding of conventional film-screen radiographic imaging. Course Descriptions
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RAD 122 Radiographic Imaging II

Prerequisites: RAD 112, RAD 121, and RAD 161 Corequisites: RAD 131 and RAD 171 Available: Summer

This course provides advanced principles of imaging including digital radiography. Emphasis is placed on the factors that impact brightness, contrast, recorded detail, and distortion. Upon completion, students should be able to demonstrate an understanding of advanced principles of imaging.

Radiographic Physics I 1 3 0 2 **RAD 131**

Prerequisites: RAD 112, RAD 121, and RAD 161 Corequisites: RAD 122 and RAD 171 Available: Summer

This course introduces the principles of radiation characteristics and production. Emphasis is placed on imaging equipment. Upon completion, students should be able to demonstrate basic understanding of radiation characteristics and production

RAD Clinical Education I 0 0 6 2 *RAD 151

Prerequisites: Enrollment in the Radiography program Corequisites: RAD 110, RAD 111, and RAD 182 Available: Fall

This course introduces patient management and basic radiographic procedures in the clinical setting. Emphasis is placed on mastering positioning of the chest and extremities, manipulating equipment and applying principles of ALARA. Upon completion, students should be able to demonstrate successful completion of clinical objectives. This course is designed to be taken in conjunction with RAD 182, RAD Clinical Elective.

*RAD 161 **RAD Clinical Education II** 0 0 15 5

Prerequisites: RAD 110, RAD 111, RAD 151, and RAD 182 Corequisites: RAD 112 and RAD 121

Available: Spring

This course provides additional experience in patient management and in more complex radiographic procedures. Emphasis is placed on mastering positioning of the spine, pelvis, head and neck, and thorax, and adapting procedures to meet patient variations. Upon completion, students should be able to demonstrate successful completion of clinical objectives.

*RAD 171 RAD Clinical Education III 0 0 12 4

Prerequisites: RAD 112, RAD 121, and RAD 161 Corequisites: RAD 122 and RAD 131

Available: Summer

This course provides experience in patient management specific to fluoroscopic and advanced radiographic procedures. Emphasis is placed on applying appropriate technical factors to all studies and mastering positioning of gastrointestinal and urological studies. Upon completion, students should be able to demonstrate successful completion of clinical objectives.

RAD Clinical Elective *RAD 182

Prerequisites: Enrollment in the Radiography program Corequisites: RAD 110, RAD 111, and RAD 151

Available: Fall

This course provides advanced knowledge of clinical applications. Emphasis is placed on enhancing clinical skills. Upon completion, students should be able to successfully complete the clinical course objectives. This course is designed to be taken in conjunction with RAD 151, RAD Clinical Education I.

1 3 0 2 **RAD 211 RAD Procedures III**

Prerequisites: RAD 112 and RAD 122 Corequisites: RAD 231, RAD 241, and RAD 251

Available: Fall

This course provides the knowledge and skills necessary to perform standard and specialty radiographic procedures. Emphasis is placed on radiographic specialty procedures, sectional anatomy and advanced imaging. Upon completion, students should be able to demonstrate an understanding of these areas.

RAD 231 **Radiographic Physics II**

Prerequisites: RAD 122, RAD 131, and RAD 171 Corequisites: RAD 211, RAD 241, and RAD 251 Available: Fall

This course provides advanced principles of radiation characteristics and production including digital imaging and Computed Tomography (CT). Emphasis is placed on imaging equipment. Upon completion, students should be able to demonstrate an understanding of radiation characteristics and production.

RAD 241 Radiobiology/Protection

Prerequisites: RAD 122, RAD 131, and RAD 171 Corequisites: RAD 211, RAD 231, and RAD 251

Available: Fall

This course covers the principles of radiation protection and radiobiology. Topics include the effects of ionizing radiation on body tissues, protective measures for limiting exposure to the patient and personnel, and radiation monitoring devices. Upon completion, students should be able to demonstrate an understanding of the effects and uses of radiation in diagnostic radiology.

RAD 245 Image Analysis

Prerequisites: RAD 211, RAD 231, RAD 241, and RAD 251

Corequisites: RAD 261

Available: Spring

This course provides an overview of image analysis and introduces methods of quality management. Topics include image evaluation, pathology, quality control and quality assurance. Upon completion, students should be able to demonstrate a basic knowledge of image analysis and quality management of images.

*RAD 251 **RAD Clinical Education IV**

Prerequisites: RAD 122, RAD 131, and RAD 171

Corequisites: RAD 211, RAD 231, and RAD 241

Available: Fall

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This course provides the opportunity to continue mastering all basic radiographic procedures and to attain experience in advanced areas. Emphasis is placed on equipment operation, pathological recognition, pediatric and geriatric variations, and a further awareness of radiation protection requirements. Upon completion, students should be able to demonstrate successful completion of clinical objectives.

*RAD 261 **RAD Clinical Education V**

Prerequisites: RAD 211, RAD 231, RAD 241, and RAD 251

Corequisites: RAD 245 and RAD 271

Available: Spring

This course is designed to enhance expertise in all radiographic procedures, patient management, radiation protection, and image production and evaluation. Emphasis is placed on developing an autonomous approach to the diversity of clinical situations and successfully adapting to those procedures. Upon completion, students should be able to demonstrate successful completion of clinical objectives.

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Course Descriptions

RAD 271 Radiography Capstone

Prerequisites: RAD 211, RAD 231, RAD 241, RAD 251 Corequisites: RAD 245 and RAD 261 Available: Spring

This course provides an opportunity to exhibit problem-solving skills required for certification. Emphasis is placed on critical thinking and integration of didactic and clinical components. Upon completion, students should be able to demonstrate the knowledge required of any entry-level radiographer.

Reading

RED 080 Introduction to College Reading 3 2 Prerequisites: ENG 075 or RED 070 or placement

Corequisites: None

Available: Fall, Spring, Summer

This course introduces effective reading and inferential thinking skills in preparation for RED 090. Emphasis is placed on vocabulary, comprehension, and reading strategies. Upon completion, students should be able to determine main ideas and supporting details, recognize basic patterns of organization, draw conclusions, and understand vocabulary in context. This course does not satisfy the developmental reading prerequisite for ENG 111.

RED 090 Improved College Reading

Prerequisites: ENG 085 or RED 080 or placement Corequisites: None

Available: Fall, Spring, Summer

This course is designed to improve reading and critical thinking skills. Topics include vocabulary enhancement; extracting implied meaning; analyzing author's purpose, tone, and style; and drawing conclusions and responding to written material. Upon completion, students should be able to comprehend and analyze college-level reading material. This course satisfies the developmental reading prerequisite for ENG 111.

Religion

REL 110	World Religions	3	0
Prerequisites:	None		

Corequisites: None

Available: Fall, Spring

This course introduces the world's major religious traditions. Topics include Primal religions, Hinduism, Buddhism, Islam, Judaism, and Christianity. Upon completion, students should be able to identify the origins, history, beliefs, and practices of the religions studied. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

REL 111	Eastern Religions	30
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Prerequisites: None

Corequisites: None Available: Fall, Spring

This course introduces the major Asian religious traditions. Topics include Hinduism, Buddhism, Taoism, Confucianism, and Shinto. Upon completion, students should be able to identify the origins, history, beliefs, and practices of the religions studied. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

0 3 0 1 **REL 112** Western Religions

Prerequisites: None Corequisites: None Available: Fall, Spring

This course introduces the major western religious traditions. Topics include Zoroastrianism, Islam, Judaism, and Christianity. Upon completion, students should be able to identify the origins, history, beliefs, and practices of the religions studied. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

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Prerequisites: None

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3 2 4 Corequisites: None

Available: Fall, Spring

This course is a survey of the literature of the Hebrews with readings from the law, prophets, and other writings. Emphasis is placed on the use of literary, historical, archeological, and cultural analysis. Upon completion, students should be able to use the tools of critical analysis to read and understand Old Testament literature. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

REL 212 Intro to New Testament	3	0	3
Prerequisites: None			
Corequisites: None			
Available: Fall, Spring			
This course is a survey of the literature of fin	rst-o	centi	ury
Christianity with readings from the gospels, Acts	s, a	nd	the
Pauline and pastoral letters. Topics include th	ie !	litera	arv

structure, audience, and religious perspective of the writings, as well as the historical and cultural context of the early Christian community. Upon completion, students should be able to use the tools of critical analysis to read and understand New Testament literature. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

Substance Abuse

*SAB 110 Substance Abuse Overview

Prerequisites: None Corequisites: None

Available: Fall

This course provides an overview of the core concepts in substance abuse and dependence. Topics include the history of drug use/abuse, effects on societal members, treatment of addiction, and preventative measures. Upon completion, students should be able to demonstrate knowledge of the etiology of drug abuse, addiction, prevention, and treatment. This course has been approved by the North Carolina Substance Abuse Professional Practice Board (NCSAPPB) for training/education credit for substance abuse certification/ recertification.

*SAB 140 Pharmacology

Prerequisites: None Corequisites: None

Available: Fall

This course covers the pharmacology of psychoactive drugs and abused chemicals and treatment options. Emphasis is placed on the use of psychoactive drugs and related psychological and social complexities, including models for prevention and treatment. Upon completion, students should be able to understand and identify theories of addiction, major classes of drugs, treatment alternatives, and social repercussions.

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*SAB 210	Substance Abuse Counseling	
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Prerequisites: None Corequisites: None

Available: Spring

This course provides theory and skills acquisition by utilizing intervention strategies designed to obtain therapeutic information, support recovery, and prevent relapse. Topics include counseling individuals and dysfunctional families, screening instruments, counseling techniques and approaches, recovery and relapse, and special populations. Upon completion, students should be able to discuss issues critical to recovery, identify intervention models, and initiate a procedure culminating in cognitive/behavioral change.

Information Systems Security

SEC 110	Security Concepts	3	0
Prerequisites	None		
0	NI		

Corequisites: None

Available: Fall

This course introduces the concepts and issues related to securing information systems and the development of policies to implement information security controls. Topics include the historical view of networking and security, security issues, trends, security resources, and the role of policy, people, and processes in information security. Upon completion, students should be able to identify information security risks, create an information security policy, and identify processes to implement and enforce policy.

SEC 150 Secure Communications 2 2 3

Prerequisites: SEC 110, NET 110 or NET 125 Corequisites: None

Available: Fall

This course provides an overview of current technologies used to provide secure transport of information across networks. Topics include data integrity through encryption, Virtual Private Networks, SSL, SSH, and IPSec. Upon completion, students should be able to implement secure data transmission technologies. This is a Cisco Networking Academy course.

SEC 160 Secure Admin I

Prerequisites: SEC 110, NET 110 or NET 125

Corequisites: None

Available: Fall, Spring

This course provides an overview of security administration and fundamentals of designing security architectures. Topics include networking technologies, TCP/IP concepts, protocols, network traffic analysis, monitoring, and security best practices. Upon completion, students should be able to identify normal network traffic using network analysis tools and design basic security defenses.

SEC 210	Intrusion Detection	2	2	3
Prerequisite	s: SEC 160			
Corequisites	s: None			
Available: F	all Spring			

This course introduces the student to intrusion detection methods in use today. Topics include the types of intrusion detection products, traffic analysis, and planning and placement of intrusion detection solutions. Upon completion, students should be able to plan and implement intrusion detection solutions for networks and host based systems.

SEC 220 Defense-In-Depth

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Prerequisites: None Corequisites: SEC 160 Available: Fall, Spring

This course introduces students to the concepts of defense in-depth, a security industry best practice. Topics include firewalls, backup systems, redundant systems, disaster recovery, and incident handling. Upon completion, students should be able to plan effective information security defenses, backup systems, and disaster recovery procedures. This is a Cisco Networking Academy course.

SEC 289	Security Capstone Project		1	4	3
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Prerequisites: SEC 220

Corequisites: None

Available: Spring, Summer

This course provides the student the opportunity to put into practice all the skills learned to this point. Emphasis is placed on security policy, process planning, procedure definition, business continuity, and systems security architecture. Upon completion, students should be able to design and implement comprehensive information security architecture from the planning and design phase through implementation.

Sociology

	<u> </u>			
SOC 210	Introduction to Sociology	3	0	3
Prerequisites	:: None			
Corequisites	None			
Available: Fa	II, Spring, Summer			
This cours	e introduces the scientific study of h	uman s	soci	ety,
culture, an	d social interactions. Topics include	social	izati	on,

culture, and social interactions. Topics include socialization, research methods, diversity and inequality, cooperation and conflict, social change, social institutions, and organizations. Upon completion, students should be able to demonstrate knowledge of sociological concepts as they apply to the interplay among individuals, groups, and societies. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/ behavioral science.

SOC 213	Sociology of the Family	3	0	3
Prerequisites	: None			
Corequisites:	None			

Available: Fall, Spring

This course covers the institution of the family and other intimate relationships. Emphasis is placed on mate selection, gender roles, sexuality, communication, power and conflict, parenthood, diverse life-styles, divorce and remarriage, and economic issues. Upon completion, students should be able to analyze the family as a social institution and the social forces which influence its development and change. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/ behavioral science.

SOC 215 Group Processes 3

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course introduces group processes and dynamics. Emphasis is placed on small group experiences, roles and relationships within groups, communication, cooperation and conflict resolution, and managing diversity within and among groups. Upon completion, students should be able to demonstrate the knowledge and skills essential to analyze group interaction and to work effectively in a group context. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

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Course Descriptions

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SOC 220 Social Problems

Prerequisites: None Corequisites: None Available: Fall, Spring

Available: Fall, Spring

This course provides an in-depth study of current social problems. Emphasis is placed on causes, consequences, and possible solutions to problems associated with families, schools, workplaces, communities, and the environment. Upon completion, students should be able to recognize, define, analyze, and propose solutions to these problems. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/ behavioral science.

SOC 225 Social Diversity 3 0 3

Prerequisites: None

Corequisites: None

Available: Fall, Spring, Summer

This course provides a comparison of diverse roles, interests, opportunities, contributions, and experiences in social life. Topics include race, ethnicity, gender, sexual orientation, class, and religion. Upon completion, students should be able to analyze how cultural and ethnic differences evolve and how they affect personality development, values, and tolerance. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.

SOC 232	Social Context of Aging	3	0	3
Prerequisites:	None			

Corequisites: None

Available: As Needed

This course provides an overview of the social implications of the aging process. Emphasis is placed on the roles of older adults within families, work and economics, politics, religion, education, and health care. Upon completion, students should be able to identify and analyze changing perceptions, diverse lifestyles, and social and cultural realities of older adults. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

SOC 234 Sociology of Gender

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course examines contemporary roles in society with special emphasis on recent changes. Topics include sex role specialization, myths and stereotypes, gender issues related to family, work, and power. Upon completion, students should be able to analyze modern relationships between men and women. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

SOC 240 Social Psychology 3		0	3
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Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course examines the influence of culture and social groups on individual behavior and personality. Emphasis is placed on the process of socialization, communication, conformity, deviance, interpersonal attraction, intimacy, race and ethnicity, small group experiences, and social movements. Upon completion, students should be able to identify and analyze cultural and social forces that influence the individual in a society. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.

3 SOC 244 Sociology of Death & Dying 3 0 3

Prerequisites: None Corequisites: None

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Available: As Needed

This course presents sociological perspectives on death and dying. Emphasis is placed on analyzing the different death rates among various groups, races, and societies, as well as various types of death. Upon completion, students should be able to discuss the rituals of death, both cultural and religious, and examine current issues relating to death and dying. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/ or elective course requirement.

SOC 254 Rural and Urban Sociology 3 0 3

Prerequisites: None

Corequisites: None Available: As Needed

This course applies sociological concepts to a comparative study of major social issues facing contemporary rural and urban America. Emphasis is placed on growth and development patterns, ecological factors, social organizations, social controls, and processes of change. Upon completion, students should be able to illustrate the differences and similarities that exist between urban and rural environments as they resolve contemporary issues. This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.

Medical Sonography

SON 110 Introduction to Sonography

Prerequisites: Enrollment in Sonography Program Corequisites: SON 130

Available: Fall

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This course provides an introduction to medical sonography. Topics include applications, sonographic terminology, history, patient care, ethics, and basic skills. Upon completion, students should be able to define professionalism and sonographic applications and perform basic patient care skills and preliminary scanning techniques.

SON 111 Sonographic Physics 3 3 0 4

Prerequisites: CVS 163 or SON 110

Corequisites: None

Available: Spring

This course introduces ultrasound physical principles, bioeffects, and sonographic instrumentation. Topics include sound wave mechanics, transducers, sonographic equipment, Doppler physics, bioeffects, and safety. Upon completion, students should be able to demonstrate knowledge of sound wave mechanics, transducers, sonography equipment, the Doppler effect, bioeffects, and safety.

SON 120 SON Clinical Ed I

Prerequisites: SON 110 Corequisites: None Available: Spring

This course provides active participation in clinical sonography. Emphasis is placed on imaging, processing, and technically evaluating sonographic examinations. Upon completion, students should be able to image, process, and evaluate sonographic examinations.

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SON 121 SON Clinical Ed II

Prerequisites: SON 120 Corequisites: None

Available: Summer

This course provides continued active participation in clinical sonography. Emphasis is placed on imaging, processing, and technically evaluating sonographic examinations. Upon completion, students should be able to image, process, and evaluate sonographic examinations.

2 3 0 3 **SON 130** Abdominal Sonography I

Prerequisites: Enrollment in Sonography Program

Corequisites: SON 110

Available: Fall

This course introduces abdominal and small parts sonography. Emphasis is placed on the sonographic anatomy of the abdomen and small parts with correlated laboratory exercises. Upon completion, students should be able to recognize and acquire basic abdominal and small parts images.

1 3 0 2 **SON 131** Abdominal Sonography II

Prerequisites: SON 130

Corequisites: None

Available: Spring

This course covers abdominal and small parts pathology recognizable on sonograms. Emphasis is placed on abnormal sonograms of the abdomen and small parts with correlated sonographic cases. Upon completion, students should be able to recognize abnormal pathological processes in the abdomen and on small parts sonographic examinations.

2002 **SON 140 Gynecological Sonography**

Prerequisites: SON 110

Corequisites: None

Available: Spring

This course is designed to relate gynecological anatomy and pathology to sonography. Emphasis is placed on gynecological relational anatomy, endovaginal anatomy, and gynecological pathology. Upon completion, students should be able to recognize normal and abnormal gynecological sonograms.

SON 220 SON Clinical Ed III

Prerequisites: SON 121

Corequisites: None Available: Fall

This course provides continued active participation in clinical sonography. Emphasis is placed on imaging, processing, and technically evaluating sonographic examinations. Upon completion, students should be able to image, process, and evaluate sonographic examinations.

SON 221 SON Clinical Ed IV

Prerequisites: SON 220 Corequisites: None

Available: Spring

Course Descriptions

This course provides continued active participation off campus in clinical sonography. Emphasis is placed on imaging, processing, and technically evaluating sonographic examinations. Upon completion, students should be able to image, process, and evaluate sonographic examinations.

0 0 15 5 **SON 225 Case Studies**

Prerequisites: SON 110 or CVS 163 Corequisites: None Available: Spring

This course offers the opportunity to present interesting cases found during clinical education. Emphasis is placed on presentation methods which integrate patient history, laboratory results, and sonographic findings with reference to current literature. Upon completion, students should be able to correlate information necessary for complete presentation of case studies.

SON 241 **Obstetrical Sonography I** 2002

Prerequisites: SON 110

Corequisites: None

Available: Summer

This course covers normal obstetrical sonography techniques, the normal fetal environment, and abnormal first trimester pregnancy states. Topics include gestational dating, fetal anatomy, uterine environment, and first trimester complications. Upon completion, students should be able to produce gestational sonograms which document age, evaluate the uterine environment, and recognize first trimester complications.

SON 242 Obstetrical Sonography II 2002

Prerequisites: SON 241

Corequisites: None

Available: Fall

This course covers second and third trimester obstetrical complications and fetal anomalies. Topics include abnormal fetal anatomy and physiology and complications in the uterine environment. Upon completion, students should be able to identify fetal anomalies, fetal distress states, and uterine pathologies.

SON 250 Vascular Sonography 1 3 0 2

Prerequisites: SON 111

Corequisites: None Available: Fall

This course provides an in-depth study of the anatomy and pathology of the vascular system. Topics include peripheral arterial, peripheral venous, and cerebrovascular disease testing. Upon completion, students should be able to identify normal vascular anatomy and recognize pathology of the vascular system.

SON 289 Sonographic Topics

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Prerequisites: SON 110 and SON 220

Corequisites: SON 221 Available: Spring

This course provides an overview of sonographic topics in preparation for certification examinations. Emphasis is placed on registry preparation. Upon completion, students should be able to demonstrate a comprehensive knowledge of sonography and be prepared for the registry examinations.

Spanish

SPA 110 Introduction to Spanish

Prerequisites: None Corequisites: None

Available: Fall, Spring

This course provides an introduction to understanding, speaking, reading, and writing Spanish. Emphasis is placed on pronunciation, parts of speech, communicative phrases, culture, and skills for language acquisition. Upon completion, students should be able to identify and apply basic grammar concepts, display cultural awareness, and communicate in simple phrases in Spanish.

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Course Descriptions

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SPA 111 Elementary Spanish I

Prerequisites: RED 090 Corequisites: SPA 181 Available: Fall, Spring, Summer

This course introduces the fundamental elements of the Spanish language within a cultural context. Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Lab practice is expected of students. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written Spanish and demonstrate cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/ fine arts.

SPA 112 Elementary Spanish II

Prerequisites: SPA 111

Corequisites: SPA 182

Available: Fall, Spring, Summer

This course is a continuation of SPA 111 focusing on the fundamental elements of the Spanish language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Lab practice is expected of students. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written Spanish and demonstrate further cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

0 3 **SPA 120 Spanish for the Workplace** 3

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course offers applied Spanish for the workplace to facilitate basic communication with people whose native language is Spanish. Emphasis is placed on oral communication and career-specific vocabulary that targets health, business, and/or public service professions. Upon completion, students should be able to communicate at a functional level with native speakers and demonstrate cultural sensitivity.

SPA 141 Culture and Civilization

Prerequisites: None

Corequisites: None

Available: Fall, Spring

This course provides an opportunity to explore issues related to the Hispanic world. Topics include historical and current events, geography, and customs. Upon completion, students should be able to identify and discuss selected topics and cultural differences related to the Hispanic world. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

SPA 181 Spanish Lab I

Prerequisites: None

Corequisites: SPA 111

Available: Fall, Spring, Summer

This course provides an opportunity to enhance acquisition of the fundamental elements of the Spanish language. Emphasis is placed on the progressive development of basic listening, speaking, reading, and writing skills through the use of various supplementary learning media and materials. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written Spanish and demonstrate cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

SPA 182 Spanish Lab II

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Prerequisites: SPA 181 Corequisites: SPA 112 Available: Fall, Spring, Summer

This course provides an opportunity to enhance acquisition of the fundamental elements of the Spanish language. Emphasis is placed on the progressive development of basic listening, speaking, reading, and writing skills through the use of various supplementary learning media and materials. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written Spanish and demonstrate cultural awareness. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

SPA 211 **Intermediate Spanish I**

Prerequisites: SPA 112

Corequisites: None

Available: Fall, Spring

This course provides a review and expansion of the essential skills of the Spanish language. Emphasis is placed on the study of authentic and representative literary and cultural texts. Lab practice is expected of students. Upon completion, students should be able to communicate effectively, accurately, and creatively about the past, present, and future. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/ fine arts.

SPA 212 0 3 **Intermediate Spanish II** 3

Prerequisites: SPA 211

Corequisites: None

Available: Spring

This course provides a continuation of SPA 211. Emphasis is placed on the continuing study of authentic and representative literary and cultural texts. Lab practice is expected of students. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

SPA 221 **Spanish Conversation** 3 0 3 Prerequisites: SPA 212

Corequisites: None

Available: As Needed

This course provides an opportunity for intensive communication in spoken Spanish. Emphasis is placed on vocabulary acquisition and interactive communication through the discussion of media materials and authentic texts. Upon completion, students should be able to discuss selected topics, express ideas and opinions clearly, and engage in formal and informal conversations. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

Surveying

SRV 110 Surveying I Prerequisites: None

Corequisites: EGR 115 and MAT 121, MAT 161, MAT 171 or MAT 175 Available: Fall, Spring

This course introduces the theory and practice of plane surveying. Topics include measuring distances and angles, differential and profile leveling, compass applications, topography, and mapping. Upon completion, students should be able to use/care for surveying instruments, demonstrate field note techniques, and apply the theory and practice of plane surveying.

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SRV 111 Surveying II

Prerequisites: SRV 110 Corequisites: None

Available: Fall, Spring

This course introduces route surveying and roadway planning and layout. Topics include simple, compound, reverse, spiral, and vertical curves; geometric design and layout; planning of cross-section and grade line; drainage; earthwork calculations; and mass diagrams. Upon completion, students should be able to calculate and lay out highway curves; prepare roadway plans, profiles, and sections; and perform slope staking.

SRV 210 Surveying III

Prerequisites: SRV 110

Corequisites: None

Available: Fall, Spring

This course introduces boundary surveying, land partitioning, and calculations of areas. Topics include advanced traverses and adjustments, preparation of survey documents, and other related topics. Upon completion, students should be able to research, survey, and map a boundary.

SRV 220 Surveying Law 2 2 3

Prerequisites: SRV 110

Corequisites: None

Available: Fall, Spring

This course introduces the law as related to the practice of surveying. Topics include surveyors' responsibilities, deed descriptions, title searches, eminent domain, easements, weight of evidence, riparian rights, and other related topics. Upon completion, students should be able to identify and apply the basic legal aspects associated with the practice of land surveying.

SRV 230 Subdivision Planning 1 6 3

Prerequisites: SRV 111, SRV 210, and CIV 211 Corequisites: None

Available: Fall, Spring

This course covers the planning aspects of residential

subdivisions from analysis of owner and municipal requirements to plat layout and design. Topics include municipal codes, lot sizing, roads, incidental drainage, esthetic considerations, and other related topics. Upon completion, students should be able to prepare a set of subdivision plans.

SRV 240 Topographic/Site Surveying 2 6 4

Prerequisites: SRV 110 Corequisites: SRV 210

Available: Fall, Spring

This course covers topographic, site, and construction surveying. Topics include topographic mapping, earthwork, site planning, construction staking, and other related topics. Upon completion, students should be able to prepare topographic maps and site plans and locate and stake out construction projects.

SRV 250 Advanced Surveying

Prerequisites: SRV 111

Corequisites: None

Available: Fall, Spring

This course covers advanced topics in surveying. Topics include photogrammetry, astronomical observations. coordinate systems, error theory, GPS, GIS, Public Land System, and other related topics. Upon completion, students should be able to apply advanced techniques to the solution of complex surveying problems.

4 **SRV 260 Field and Office Practices**

Prerequisites: Completion of three semesters of the Surveying Technology program

Corequisites: None Available: Spring

This course covers surveying project management, estimating, and responsibilities of surveying personnel. Topics include record-keeping, starting and operating a surveying business, contracts, regulations, taxes, personnel management, and professional ethics. Upon completion, students should be able to understand the requirements of operating a professional land surveying business.

Surgical Technology

SUR 110 Introduction to Surgical Technology 3 0 0 3

Prerequisites: Enrollment in the Surgical Technology program

Corequisites: BIO 163 and SUR 111

Available: Fall

This course provides a comprehensive study of the operative professional roles, moral/legal/ethical environment responsibilities, and medical communications used in surgical technology. Topics include professional behaviors, medical terminology, interdepartmental/peer/relationships, operating room environment/safety, pharmacology, anesthesia, incision sites, physiology of wound healing and biomedical sciences. Upon completion, students should be able to apply theoretical knowledge of the course topics to the operative environment.

SUR 111 Periop Patient Care

Prerequisites: Enrollment in the Surgical Technology program Corequisites: BIO 163 and SUR 110

Available: Fall

This course provides theoretical knowledge for the application of essential operative skills during the perioperative phase. Topics include surgical asepsis, sterilization/disinfection, and perioperative patient care. Upon completion, students should be able to demonstrate the principles and practices of aseptic technique, sterile attire, basic case preparation, and other relevant skills.

SUR 122 Surgical Procedures I

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Prerequisites: SUR 110 and SUR 111 Corequisites: SUR 123 or STP 101

Available: Spring

This course provides an introduction to selected basic and intermediate surgical specialties that students are exposed to the first clinical rotation. Emphasis is placed on related surgical anatomy, pathology, and procedures that enhance theoretical knowledge of patient care, instrumentation, supplies and equipment. Upon completion, students should be able to correlate, integrate, and apply theoretical knowledge of the course topics to the clinical operative environment.

SUR Clinical Practice I SUR 123 0 0 21 7

Prerequisites: BIO 163, or BIO 168 and BIO 169, SUR 110 and SUR 111 Corequisites: BIO 175 and SUR 122

Available: Spring

2 6 4

> This course provides clinical experience with a variety of perioperative assignments to build upon skills learned in SUR 111. Emphasis is placed on the scrub and circulating roles of the surgical technologist including aseptic technique and basic case preparation for selected surgical procedures. Upon completion, students should be able to prepare, assist with, and dismantle basic surgical cases in both the scrub and circulating roles.

2 6

SUR 134 Surgical Procedures II

Prerequisites: SUR 123 or STP 101 Corequisites: SUR 135 and SUR 137 Available: Summer

This course provides a comprehensive study of intermediate and advanced surgical specialties that students are exposed to in the second clinical rotation. Emphasis is placed on related surgical anatomy, pathology, and procedures that enhance theoretical knowledge of patient care, instrumentation, supplies, and equipment. Upon completion, students should be able to correlate, integrate, and apply theoretical knowledge of the course topics to the clinical operative environment.

0 0 12 4 SUR 135 **SUR Clinical Practice II**

Prerequisites: SUR 122 and SUR 123 Corequisites: SUR 134 and SUR 137 Available: Summer

This course provides clinical experience with a variety of perioperative assignments to build skills required for complex perioperative patient care. Emphasis is placed on greater technical skills, critical thinking, speed, efficiency, and autonomy in the operative setting. Upon completion, students should be able to function in the role of an entry-level surgical technologist.

SUR 137 **Prof Success Prep**

Prerequisites: SUR 122 and SUR 123 Corequisites: SUR 134 and SUR 135 Available: Summer

This course provides job-seeking skills and an overview of theoretical knowledge in preparation for certification. Topics include test-taking strategies, resume preparation, and interviewing techniques. Upon completion, students should be able to prepare a resume, demonstrate appropriate interview techniques, and identify strengths and weaknesses in preparation for certification.

SUR 210 **Adv SUR Clinical Practice**

Prerequisites: SUR 137

Corequisites: None

Available: Spring

This course is designed to provide individualized experience in advanced practice, education, circulating, and managerial skills. Emphasis is placed on developing and demonstrating proficiency in skills necessary for advanced practice. Upon completion, students should be able to assume leadership roles in a chosen specialty area. Current national certification in surgical technology from the NBSTSA, is required by students enrolling in this course.

SUR 211 **Adv Theoretical Concepts** 2002

Prerequisites: SUR 137

roles in a chosen specialty area.

Corequisites: None

Available: Fall This course covers theoretical knowledge required for extension of the surgical technologist role. Emphasis is placed on advanced practice in complex surgical specialties, educational methodologies, and managerial skills. Upon completion, students should be able to assume leadership

5005 **Sustainability Technologies**

SST 110 Intro to Sustainability

Prerequisites: None

Corequisites: None Available: Fall

This course introduces sustainability issues and individual contributions toward environmental sustainability. Topics include management processes needed to maximize renewable/ non-renewable energy resources, economics of sustainability, and reduction of environmental impacts. Upon completion, students should be able to discuss sustainability practices and demonstrate an understanding of their effectiveness and impacts.

SST 120 Energy Use Analysis 22 3

Prerequisites: MAT 070

Corequisites: None

Available: As Needed

This course introduces the principles of analyzing energy use, energy auditing tools and techniques, conservation techniques, and calculating energy savings. Topics include building system control theory, calibrating digital controls, energy loss calculations, and applicable conservation techniques. Upon completion, students should be able to demonstrate an understanding of energy use, audits, and controls in the analysis of energy consumption.

SST 130 Modeling Renewable Energy 2 2 3

Prerequisites: EGR 125, CIS 111, CIS 113, or CIS 110

Corequisites: None

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0 0 6 2

Available: Spring, Fall

This course introduces software and other technologies used for modeling renewable energy systems. Topics include renewable energy modeling software applications, data analysis, renewable energy sources, and cost of renewable energy systems. Upon completion, students should be able to use appropriate technology to model the effectiveness of renewable energy systems.

SST 140 Green Building Concepts 1 3 2

Prereguisites: None

Corequisites: None

Available: Summer

This course introduces green building design, LEED' (Leadership in Energy and Environmental Design) and comparable certifications, and their significance in modern building construction. Topics include LEED certification or similar rating systems, energy efficiency, indoor environmental quality, and sustainable building materials. Upon completion, students should be able to incorporate ecological awareness and sustainable principles within the context of design and construction.

SST 210	Issues in Sustainability	3

Prerequisites: SST 110

Corequisites: None

Available: Spring

This course introduces the long-term impacts and difficulties of applying sustainability concepts in an organization, business, or society. Topics include the application of sustainable technologies and the analysis of affordability, efficiencies, recycling, and small and large-scale design. Upon completion, students should be able to recognize the possible limitations of sustainable technologies and be prepared to reconcile such conflicts.

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Social Work

*SWK 110 Introduction to Social Work 3 0 0 3

Prerequisites: None

Corequisites: None Available: Spring

This course examines the historical development, values, orientation, and professional standards of social work and focuses on the terminology and broader systems of social welfare. Emphasis is placed on the various fields of practice including those agencies whose primary function is financial assistance, corrections, mental health, and protective services. Upon completion, students should be able to demonstrate an understanding of the knowledge, values, and skills of the social work professional. This course has been approved by the North Carolina Substance Abuse Professional Practice Board (NCSAPPB) for training/education credit for substance abuse certification/recertification.

Veterinary Medical Technology

VET 110 Animal Breeds and Husbandry

Prerequisites: Enrollment in the VMT program Corequisites: None

Available: Fall

This course provides a study of the individual breed characteristics and management techniques of the canine, feline, equine, bovine, porcine, ovine, caprine, and laboratory animals. Topics include physiological data, animal health management, and basic care and handling of animals. Upon completion, students should be able to identify breeds of domestic and laboratory animals, list physiological data, and outline basic care, handling, and management techniques.

VET 114 Introduction to Veterinary Medical Tech 1 0 0 1

Prerequisites: Enrollment in the VMT program

Corequisites: None

Available: Fall

This course introduces the standard operating procedures and responsibilities of veterinary technology departments, common zoonotic diseases, safety and ethical issues, and USDA/DEA/OSHA regulations/compliance. Emphasis is placed on standard operating procedures, zoonotic diseases, safety and ethical issues, and the importance of USDA/DEA/OSHA regulations and compliance. Upon completion, students should be able to perform duties assigned in veterinary medical technology, recognize potential zoonotic diseases, and establish safety protocols/regulatory compliance.

VET 120 Veterinary Anatomy and Physiology

Prerequisites: Enrollment in the VMT program

Corequisites: None

Available: Fall

This course covers the structure and function of the animal body with emphasis on the similarities and differences among domestic animals. Emphasis is placed on the structure and function of the major physiological systems of domestic, laboratory, and zoo animals. Upon completion, students should be able to identify relevant anatomical structure and describe basic physiological processes for the major body systems.

VET 121 Veterinary Medical Terminology

Prerequisites: Enrollment in the VMT program Corequisites: None

Available: Fall

This course covers the basic medical terminology required for veterinary technicians. Topics include the pronunciation, spelling and definition of word parts and vocabulary terms unique to the anatomy, clinical pathology, and treatment of animals. Upon completion, students should be able to demonstrate knowledge and understanding of basic medical terms as they relate to veterinary medicine. It is highly recommended that this course be taken in the first semester of the Veterinary Technology program.

VET 123 Veterinary Parasitology 2 3 0 3

Prerequisites: VET 110, VET 120 and VET 121

Corequisites: None

Available: Spring

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This course covers the common internal and external parasites of companion animals, livestock, selected zoo animals, and wild animals. Emphasis is placed on laboratory diagnosis of the most common forms of the parasite through fecal, urine, skin and blood exams. Upon completion, students should be able to identify common parasites and discuss life-cycles, treatment and prevention strategies, and public health aspects of veterinary parasitology.

VET 125 Veterinary Diseases I 2 0 0 2

Prerequisites: VET 110, VET 120 and VET 121

Corequisites: None

Available: Spring

This course introduces basic immunology, fundamentals of disease processes including inflammation, and common infectious diseases of animals and their prevention through immunization. Topics include fundamental disease processes, principles of medical therapy, immunologic processes, infections and zoonotic diseases of domestic animals, and prevention of disease. Upon completion, students should be able to describe basic disease and immunological processes, recognize infections and zoonotic diseases, and discuss prevention strategies.

VET 126 Veterinary Diseases II

Prerequisites: VET 125

Corequisites: VET 211, VET 213, and VET 215

Available: Fall

This course includes the study of basic disease processes, fundamentals of pathology and other selected topics of veterinary medicine. Topics include histopathology, pathologic changes associated with common diseases of animals, necropsy procedures, specimen handling, and other selected material. Upon completion, students should be able to describe basic pathological changes associated with disease, recognize histopathologic changes, and properly perform collection and submission of necropsy specimens.

VET 131 Veterinary Lab Techniques I 2 3 0 3

Prerequisites: VET 110, VET 114, VET 123 and VET 125

Corequisites: VET 133

Available: Summer

This course includes the fundamental study of hematology, hemostasis, and urinalysis. Emphasis is placed on basic hematology and urinalysis techniques, manual skill development, instrumentation, quality control, and applications to veterinary science. Upon completion, students should be able to perform manual and automated CBCs, hemostatic assays, and complete urinalyses and maintain laboratory equipment and quality control.

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Course Descriptions

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225

VET 133 Veterinary Clinical Practices I

Prerequisites: VET 110, VET 114, VET 123 and VET 125 Corequisites: VET 131, VET 120 Available: Summer

This course introduces basic practices and techniques of the veterinary clinic and biomedical research fields for dogs, cats, and laboratory animals. Topics include physical exam, husbandry, housing, sanitation, restraint and handling, administration of medications, anesthesia and euthanasia techniques, grooming and dentistry. Upon completion, students should be able to properly restrain, medicate, examine, groom, and maintain each of the species studied.

VET 137 Veterinary Office Practices 1 2 0 2

Prerequisites: Enrollment in the VMT program

Corequisites: None

Available: Summer

This course is designed to teach basic administrative techniques, client communication skills, and regulations pertaining to veterinary medicine. Topics include record keeping, telephone techniques, professional liability, office procedures, state and national regulatory laws, human relations, and animal welfare. Upon completion, students should be able to demonstrate effective communication techniques, office procedures, and knowledge of regulatory laws and issues relating to animal welfare.

VET 211 Veterinary Lab Techniques II

Prerequisites: VET 131 Corequisites: VET 213 Available: Fall

This course covers advanced hematology, serology, immunology, and clinical chemistry. Topics include advanced hematologic, serologic, and immunologic test procedures, manual and automated clinical chemistry procedures, laboratory safety, and quality control. Upon completion, students should be able to collect, prepare, and analyze serum and plasma samples and outline quality control and safety procedures.

VET 212 Veterinary Lab Techniques III

Prerequisites: VET 211 Corequisites: VET 214

Available: Spring

This course introduces the basic principles of microbiology, histology and cytology. Emphasis is placed on collection of microbiological samples for culture and sensitivity and collection and preparation of samples for histological and cytological examination. Upon completion, students should be able to perform microbiological culture and sensitivity and evaluate cytology and histology specimens.

VET 213 Veterinary Clinical Practice II 1 9 0 4

Prerequisites: VET 133 Corequisites: VET 126, VET 211, and VET 215 Available: Fall

This course covers basic radiography, anesthesia techniques, dentistry, sample collection and handling, surgical assistance and instrumentation, sterile techniques, and patient record keeping. Topics include basic radiology, injectable and gas anesthesia, dentistry, instrument identification and care, sterile surgical technique, specimen collection and processing, and maintenance of patient records. Upon completion, students should be able to take and process radiographs, administer and monitor anesthesia, assist in surgical procedures, collect specimens, and maintain surgical records.

2 3 0 3 VET 214 Veterinary Clinical Practice III

Prerequisites: VET 126, VET 211, VET 213, VET 215 Corequisites: VET 212

Available: Spring

The course covers advanced anesthetic techniques, special radiographic techniques, advanced dentistry, sample collection and processing, bandaging, and emergency and critical care procedures. Topics include induction and maintenance of anesthesia, radiographic contrast studies, advanced dentistry, external coaptation, intensive care procedures, and advanced sample collection techniques. Upon completion, students should be able to demonstrate proficiency in sample collection, radiology, anesthesia, critical care and emergency procedures, and dentistry.

VET 215 Veterinary Pharmacology 3 0 0 3

Prerequisites: CHM 130 and CHM 130A, or CHM 151, VET 125 Corequisites: VET 213

Available: Fall

This course introduces drugs and other substances utilized in veterinary medicine. Emphasis is placed on drug classification and methods of action, administration, effects and side effects, storing and handling of drugs and dosage calculations. Upon completion, students should be able to properly calculate and administer medications, recognize adverse reactions, and maintain pharmaceutical inventory and administration records.

VET 217 Large Animal Clinical Practice

Prerequisites: VET 110, VET 120, and VET 125 Corequisites: VET 214, VET 213

Available: Spring

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This course covers the topics relevant to the medical and surgical techniques for the common domestic large animal species. Topics include physical exam, restraint, sample collection, bandaging, emergency treatment, surgical and obstetrical procedures and instruments, herd health, and lameness topics. Upon completion, students should be able to safely perform restraint, examination, and sample collection; assist surgical, obstetrical, and emergency procedures; and discuss herd health.

VET 237 Animal Nutrition

Prerequisites: CHM 130 and CHM 130A

Corequisites: None

Available: Spring

This course covers the principles of nutrition and their application to feeding practices of domestic, farm, and companion animals. Topics include basic nutrients and nutritional needs of individual species, proximate analysis, interpretation of food and feed labels, types of animal foods, and ration formulation. Upon completion, students should be able to select appropriate diets for animals in various stages of health and disease, analyze nutrition labels, and identify foods.

Water and Wastewater Treatment

WAT 161	Solid Waste Management
Prerequisite:	None
Corequisites:	None
Available: As	Needed
This course	e covers the theory, practice, and

This course covers the theory, practice, and regulation of solid waste management. Topics include generation, characteristics, and disposal options for management of solid wastes and sludges. Upon completion, students should be able to identify the sources and characteristics of solid wastes and sludges and describe the alternatives available for their disposal.

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226

Web Technologies

WEB 110	Internet/Web Fundamentals	2	2	3
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Prerequisite: None

Corequisites: None

Available: Fall

This course introduces World Wide Web Consortium (W3C) standard markup language and services of the Internet. Topics include creating web pages, search engines, FTP, and other related topics. Upon completion, students should be able to deploy a hand-coded website created with mark-up language, and effectively use and understand the function of search engines.

WEB 115 Web Markup and Scripting 2 2 3

Prerequisite: Basic computer literacy including file management skills is necessary (if you do not have basic skills, CTS060 will give you the foundation for this course.)

Corequisites: None

Available: Fall, Spring

This course introduces Worldwide Web Consortium (W3C) standard client-side Internet programming using industryestablished practices. Topics include JavaScript, markup elements, stylesheets, validation, accessibility, standards, and browsers. Upon completion, students should be able to develop hand-coded web pages using current markup standards.

2 2 3 WEB 120 Intro Internet Multimedia

Prerequisites: WEB 115

Corequisites: None

Available: Spring

This is the first of two courses covering the creation of Internet Multimedia. Topics include multimedia file types, file type conversion, acquisition of digital audio/video, streaming audio/video and graphics animation plug-in programs and other related topics. Upon completion, students should be able to create Internet multimedia presentations utilizing a variety of methods and applications.

WEB 140 Web Development Tools

Prerequisites: CIS 110 Corequisites: None

Available: Fall

This course provides an introduction to web development software suites. Topics include the creation of web sites and applets using web development software. Upon completion, students should be able to create entire web sites and supporting applets.

WEB 182 PHP Programming

Prerequisite: CIS 115 and WEB 116 Corequisites: None Available: Fall, Spring

This course introduces students to the server-side. HTMLembedded scripting language PHP. Emphasis is placed on programming techniques required to create dynamic web pages using PHP scripting language features. Upon completion, students should be able to design, code, test, debug, and create a dynamic web site using the PHP scripting language.

WEB 186 **XML** Technology

Prerequisites: CIS 115 and DBA 110 Corequisites: None

Available: Spring

This course is designed to introduce student to XML and related internet technologies. Topics include extendible style language (XSL), document object model (DOM), extendible style sheet language transformation (XSLT), and simple object access protocol (SOAP). Upon completion, students should be able to create a complex XML document.

WEB 210 Web Design

Prerequisite: WEB 115

Corequisites: None

Available: Fall, Spring

This course introduces intermediate to advanced web design techniques. Topics include customer expectations, advanced markup language, multimedia technologies, usability and accessibility practices, and techniques for the evaluation of web design. Upon completion, students should be able to employ advanced design techniques to create high impact and highly functional web sites.

WEB 215 Adv Markup and Scripting 2 2 3

Prerequisite: DBA 120, WEB 115 and WEB 182

Corequisites: None

Available: Fall

This course covers advanced programming skills required to design Internet applications. Emphasis is placed on programming techniques required to support Internet applications. Upon completion, students should be able to design, code, debug, and document Internet-based programming solutions to various real-world problems using an appropriate programming language.

WEB 230 Implementing Web Serv 2 2 3

Prerequisites: NET 110 or NET 125 and NOS 120

Corequisites: None

Available: Fall, Spring

This course covers website and web server architecture. Topics include installation, configuration, administration, and security of web servers, services and sites. Upon completion, students should be able to effectively manage the web services deployment lifecycle according to industry standards.

WEB 250 **Database Driven Websites** 22 3

Prerequisites: DBA 110, DBA 120, WEB 182 and WEB 210 Corequisites: None

Available: Fall

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This course introduces dynamic (database-driven) website development. Topics include the use of basic database CRUD statements (create, read, update and delete) incorporated into web applications, as well as in software architecture principles. Upon completion, students should be able to design and develop database driven web applications according to industry standards.

*WEB 289 Internet Technologies Project 4 3 1

Prerequisites: WEB 110, WEB 140, WEB 230 and WEB 250

Corequisites: None

Available: Spring

This course provides an opportunity to complete a significant Web technologies project from the design phase through implementation with minimal instructor support. Emphasis is placed on project definition, documentation, installation, testing, presentation, and training. Upon completion, students should be able to complete an Internet project from the definition phase through implementation.

Welding

WLD 110 **Cutting Processes**

3 2 1

Prerequisites: Admission to Welding Program Corequisites: None

Available: Fall

This course introduces oxy-fuel and plasma-arc cutting systems. Topics include safety, proper equipment setup, and operation of oxy-fuel and plasma-arc cutting equipment with emphasis on straight line, curve and bevel cutting. Upon completion, students should be able to oxy-fuel and plasmaarc cut metals of varying thickness.

2 2 3

Course Descriptions

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WLD 111 Oxy-Fuel Welding

Prerequisites: None Corequisites: None Available: Spring

This course introduces the oxy-fuel welding process. Topics include safety, proper equipment setup, and operation of oxy-fuel welding equipment with emphasis on bead application, profile, and discontinuities. Upon completion, students should be able to oxy-fuel weld fillets and grooves on plate and pipe in various positions.

WLD 112 Basic Welding Processes

Prerequisites: None Corequisites: None

Available: Spring

This course introduces basic welding and cutting. Emphasis is placed on beads applied with gases, mild steel fillers, and electrodes and the capillary action of solder. Upon completion, students should be able to set up welding and oxy-fuel equipment and perform welding, brazing, and soldering processes.

WLD 113 Soldering and Brazing

Prerequisites: None Corequisites: None

Available: Spring

This course covers procedures for cutting, soldering and brazing of pipe and tubing. Topics includes safety, proper equipment setup, and operation of soldering and brazing equipment. Upon completion, students should be able to solder and braze pipe, tubing, and fittings in various positions.

WLD 115 SMAW (Stick) Plate 2 9 5

Prerequisites: None Corequisites: None

Available: Fall

This course introduces the shielded metal arc (stick) welding process. Emphasis is placed on padding, fillet, and groove welds in various positions with SMAW electrodes. Upon completion, students should be able to perform SMAW fillet and groove welds on carbon plate with prescribed electrodes.

WLD 116 SMAW (Stick) Plate/Pipe

Prerequisites: WLD 115

Corequisites: None

Available: Spring

This course is designed to enhance skills with the shielded metal arc (stick) welding process. Emphasis is placed on advancing manipulative skills with SMAW electrodes on varying joint geometry. Upon completion, students should be able to perform groove welds on carbon steel with prescribed electrodes in the flat, horizontal, vertical, and overhead positions.

WLD 121	GMAW (MIG) FCAW/Plate	26
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Prerequisites: None

Corequisites: None Available: Fall

Available: Fall

This course introduces metal arc welding and flux core arc welding processes. Topics include equipment setup and fillet and groove welds with emphasis on application of GMAW and FCAW electrodes on carbon steel plate. Upon completion, students should be able to perform fillet welds on carbon steel with prescribed electrodes in the flat, horizontal, and overhead positions.

1 3 2 WLD 122 GMAW (MIG) Plate/Pipe

Prerequisites: WLD 121 Corequisites: None Available: Spring

This course is designed to enhance skills with the gas metal arc (MIG) welding process. Emphasis is placed on advancing skills with the GMAW process making groove welds on carbon steel plate and pipe in various positions. Upon completion, students should be able to perform groove welds with prescribed electrodes on various joint geometry.

WLD 131GTAW (TIG) Plate264Prerequisites: None

Corequisites: None Available: Summer

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This course introduces the gas tungsten arc (TIG) welding process. Topics include correct selection of tungsten, polarity, gas, and proper filler rod with emphasis placed on safety, equipment setup, and welding techniques. Upon completion, students should be able to perform GTAW fillet and groove welds with various electrodes and filler materials.

WLD 132	GTAW (TIG) Plate/Pipe	1	6	3
Prerequisite	s: WLD 131			

Corequisites: None

Available: Fall

This course is designed to enhance skills with the gas tungsten arc (TIG) welding process. Topics include setup, joint preparation, and electrode selection with emphasis on manipulative skills in all welding positions on plate and pipe. Upon completion, students should be able to perform GTAW welds with prescribed electrodes and filler materials on various joint geometry.

WLD 141	Symbols and Specifications	2	2	3
Prerequisites:	None			
Corequisites: N	None			
Available: Spri	ing			
This course	introduces the basic symbols and spec	cific	atic	ns
used in weld	ling. Emphasis is placed on interpretatio	n o	f lin	es,
notes, weldi	ng symbols, and specifications. Upon co	omp	letio	on,
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students should be able to read and interpret symbols and specifications commonly used in welding.

WLD 143 Welding Metallurgy 1 2 2

Prerequisites: WLD 115, WLD 121 or WLD 131

Corequisites: None

Available: Summer

This course introduces the concepts of welding metallurgy. Emphasis is placed on basic metallurgy, effects of welding on various metals, and metal classification and identification. Upon completion, students should be able to understand basic metallurgy, materials designation, and classification systems used in welding.

WLD 145 Thermoplastic Welding	1	3	2
Prerequisite: None			
Corequisites: None			
Available: As Needed			

This course introduces the thermoplastic welding processes and materials identification. Topics include filler material selection, identification, joint design, and equipment setup with emphasis on bead types and applications. Upon completion, students should be able to perform fillet and groove welds using thermoplastic materials.

228

WLD 151 Fabrication I

Prerequisites: WLD 110, WLD 115, WLD 116, and WLD 131 Corequisites: None Available: Fall

This course introduces the basic principles of fabrication. Emphasis is placed on safety, measurement, layout techniques, and the use of fabrication tools and equipment. Upon completion, students should be able to perform layout activities and operate various fabrication and material handling equipment.

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WLD 212 Inert Gas Welding 1 3 2

Prerequisites: None

Corequisites: None

Available: As Needed

This course introduces inert gas-shielded welding methods (MIG/TIG). Topics include correct selection of consumable and non-consumable electrodes, equipment setup, safety, and welding techniques. Upon completion, students should be able to perform inert gas welding in flat, horizontal, and overhead positions.

WLD 215 SMAW (Stick) Pipe

Prerequisites: WLD 115 or WLD 116

Corequisites: None

Available: Summer

This course covers the knowledge and skills that apply to welding pipe. Topics include pipe positions, joint geometry, and preparation with emphasis placed on bead application, profile, and discontinuities. Upon completion, students should be able to perform SMAW welds to applicable codes on carbon steel pipe with prescribed electrodes in various positions.

WLD 231 GTAW (TIG) Pipe

Prerequisites: WLD 132 Corequisites: None Available: Spring

This course covers gas tungsten arc welding on pipe. Topics include joint preparation and fit up with emphasis placed on safety, GTAW welding technique, bead application, and joint geometry. Upon completion, students should be able to perform GTAW welds to applicable codes on pipe with prescribed electrodes and filler materials in various pipe positions.

WLD 251 Fabrication II

Prerequisites: WLD 151 Corequisites: None

Available: Spring

This course covers advanced fabrication skills. Topics include advanced layout and assembly methods with emphasis on the safe and correct use of fabrication tools and equipment. Upon completion, students should be able to fabricate projects from working drawings.

WLD 261 Certification Practices

Prerequisites: WLD 115, WLD 121, and WLD 131 Corequisites: None Available: Spring

This course covers certification requirements for industrial welding processes. Topics include techniques and certification requirements for pre-qualified joint geometry. Upon completion, students should be able to perform welds on carbon steel plate and/or pipe according to applicable codes.

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WLD 262 Inspection and Testing

Prerequisites: None Corequisites: None Available: Summer

This course introduces destructive and nondestructive testing methods. Emphasis is placed on safety, types and methods of testing, and the use of testing equipment and materials. Upon completion, students should be able to understand and/or perform a variety of destructive and nondestructive testing processes.

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The primary accreditor of Asheville-Buncombe Technical Community College is the Commission on Colleges of the Southern Association of Colleges and Schools located at 1866 Southern Lane, Decatur, GA 30033-4097, telephone 404.679.4500. Inquiries about the College's accreditation status only may be obtained by contacting this organization.

Copies are printed at a cost of \$1.69 each. Produced by the Community Relations & Marketing Department of Asheville-Buncombe Technical Community College.

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