



**Asheville-Buncombe Technical Community College**



**2004-2005 Catalog**

**dedicated to Student Success**





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 340 Victoria Road  
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 Phone: 828/254-1921  
 TDD: 254-1921, Ext.  
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 assistance

Enka Campus  
 P.O. Box 1739  
 Enka, NC 28728  
 1459 Sand Hill Road  
 Candler, NC 28715  
 Phone: 828/254-1921,  
 Ext. 5801

Madison Campus  
 4646 U.S. Hwy. 25-70  
 Marshall, NC 28753  
 Phone: 828/649-2947  
 Fax: 828/649-3174

### **Asheville-Buncombe Technical Community College**

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

Catalog of Courses, Day and Evening College, Volume 43, 2004-2005

Recognized and approved by:

↓  
 ERROR - SHOULD BE  
 VOLUME 42

- North Carolina Community College System
- North Carolina State Board of Education
- North Carolina Office of Emergency Medical Services
- N.C. State Approving Agency for the Use of Veterans Military and Educational Benefits

Accredited by:

- Accreditation Review Committee on Education in Surgical Technology
- American Dental Association
- Commission on Dental Accreditation
- Joint Review Committee on Education in Radiologic Technology
- National Accrediting Agency for Clinical Laboratory Sciences
- North Carolina Board of Nursing

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.



# Curriculum Programs

Curriculum Programs	<b>Program</b>	<b>Credential</b>	<b>Schedule</b>
	Accounting	A.A.S. Degree	Day/Evening
	Accounting Level I	Certificate	Day
	Accounting Level II	Certificate	Day
	Air Conditioning, Heating and Refrigeration Technology	A.A.S. Degree Diploma	Evening Day/Evening
	Air Conditioning and Heating		
	Basic	Certificate	Day/Evening
	Intermediate	Certificate	Day/Evening
	Advanced	Certificate	Evening
	Associate Degree Nursing	A.A.S. Degree	Day/Evening
	Associate in Fine Arts	A.F.A. Degree	Day
	Automotive Systems Technology	A.A.S. Degree	Day
	Automotive Systems Technology Automotive	Diploma Certificate	Evening Day
	Baking and Pastry Arts	A.A.S. Degree	Day
	Cake Designs	Certificate	Day
	Restaurant Desserts	Certificate	Day
	Basic Law Enforcement Training	Certificate	Day/Evening
	Business Administration	A.A.S. Degree	Day/Evening
	CAD Systems Management	A.A.S. Degree	Day/Evening
	CAD	Certificate	Day/Evening
	Carpentry	Diploma	Day/Evening
	Civil Engineering Technology	A.A.S. Degree	Day/Evening
	College Transfer:		
	Associate in Arts	A.A. Degree	Day/Evening
	Associate in Science	A.S. Degree	Day/Evening
	Associate in Fine Arts	A.F.A Degree	Day
	Computer Engineering Technology	A.A.S. Degree	Day/Evening
	Computer Programming	A.A.S. Degree	Day/Evening
	JAVA Programming	Certificate	Day/Evening
	Construction Management Technology	A.A.S. Degree	Evening
	Construction Management Technology	Certificate	Evening
	Criminal Justice Technology	A.A.S. Degree	Day/Evening
	Culinary Technology	A.A.S. Degree	Day
	Dental Assisting	Diploma	Day
	Dental Hygiene	A.A.S. Degree	Day
	Early Childhood Associate	A.A.S. Degree	Day
	Early Childhood Associate	Certificate	Day/Evening
	Early Childhood Associate/ Teacher Associate	A.A.S. Degree	Day
	Electrical/Electronics Technology	Diploma	Evening
	Electronics Engineering Technology	A.A.S. Degree	Day/Evening
	Emergency Medical Science	A.A.S. Degree	Day



Fire Protection Technology	A.A.S. Degree Certificate	Day/Evening Day/Evening	
General Occupational Technology	A.A.S. Degree/Diploma	Day/Evening	
Heavy Equipment and Transport Technology	Diploma A.A.S. Degree	Day Evening	
Hotel and Restaurant Management	A.A.S. Degree	Day	Curriculum
Bed and Breakfast /Inn Management	Certificate	Day	
Hospitality Management	Certificate	Day/Evening	Programs
Human Resources Management	A.A.S. Degree	Day/Evening	
Information Systems	A.A.S. Degree	Day/Evening	
Database Management	Certificate	Day/Evening	
Microcomputer Applications	Certificate	Day/Evening	
PC Installation and Maintenance	Certificate	Day/Evening	
Web Technologies	Certificate	Day/Evening	
Machining Technology	A.A.S. Degree	Evening	
Machining Technology	Diploma	Day/Evening	
Machining Technology	Certificate	Day/Evening	
Marketing and Retailing	A.A.S. Degree	Day/Evening	
Mechanical Engineering Technology	A.A.S. Degree	Day/Evening	
Mechanical Engineering Technology Automation Robotics	Certificate	Day/Evening	
Medical Coding	Certificate	Evening	
Medical Laboratory Technology	A.A.S. Degree	Day	
Medical Office Administration	Diploma	Day/Evening	
Medical Sonography	A.A.S. Degree	Day	
Medical Transcription	Diploma	Day/Evening	
Networking Technology	A.A.S. Degree	Day/Evening	
Cisco Certified Network Associate	Certificate	Day	
Cisco Certified Network Professional	Certificate	Day/Evening	
Networking	Certificate	Day	
Network Security	Certificate	Day/Evening	
Open Source Operating Systems	Certificate	Day/Evening	
Office Systems Technology	A.A.S. Degree/Diploma	Day	
Word Processing/Desktop Publishing	Certificate	Day/Evening	
PC and Network Maintenance	Certificate	Day/Evening	
Phlebotomy	Certificate	Day	
Practical Nursing	Diploma	Day	
Radiography	A.A.S. Degree	Day	
Real Estate	Certificate	Evening	
Real Estate Appraisal	Certificate	Evening	
Social Services	A.A.S. Degree	Day/Evening	
Surgical Technology	Diploma	Day	
Surveying Technology	A.A.S. Degree	Day/Evening	
Tool, Die and Mold Making	A.A.S. Degree	Day/Evening	
Welding Technology	Diploma Certificate	Day/Evening Day/Evening	



# Directory of College Services and Offices

Directory of  
College  
Services and  
Offices

ADA Coordinator .....	Director of Personnel Sunnicrest Building, Asheville Campus, Ext. 113
Admissions .....	Admissions Office, Student Services Azalea Building, Asheville Campus, Exts. 144, 145, 210
Books .....	Bookstore Coman Student Activity Center, Asheville Campus, Exts. 200, 208
Continuing Education and Off-campus Programs .....	Vice President Haynes Technology Center, Enka Campus, Ext. 5837
Adult Basic Skills/Human Resources Development .....	Executive Director Pines Building, Asheville Campus, Ext. 488
Community Service Programs .....	Director Pines Building, Asheville Campus, Ext. 134
Corporate and Economic Development .....	Executive Director Haynes Technology Center, Enka Campus, Ext. 5821
GED Preparation .....	Pines Building, Asheville Campus, Ext. 132
GED Test Scheduling .....	Basic Skills Office Pines Building, Asheville Campus, Exts. 132, 137
GED Test Results/Transcripts .....	GED Examiner Pines Building, Asheville Campus, Ext. 312
Occupational and Public Service Training .....	Executive Director Haynes Technology Center, Enka Campus, Ext. 5836
Counseling .....	Counselors, Student Services Azalea Building, Asheville Campus, Exts. 141, 146, 206, 434
Curriculum Programs .....	Vice President, Instructional Services Simpson Administration Building, Asheville Campus, Ext. 120
Allied Health and Public Service Education .....	Dean Rhododendron Building, Asheville Campus, Ext. 250
Arts and Sciences .....	Dean Elm Building, Asheville Campus, Ext. 310
Business and Hospitality Education .....	Dean Birch Building, Asheville Campus, Ext. 240
Career Pathways Partnership .....	Director Sunnicrest Building, Asheville Campus, Ext. 439
Distance Learning .....	Director Sycamore Building, Asheville Campus, Ext. 835
Engineering and Applied Technology .....	Dean Dogwood Building, Asheville Campus, Ext. 220
Disabled Student Services .....	Coordinator of Disability Services, Student Services Azalea Building, Asheville Campus, Ext. 141



Emergencies ..... Ext. 125 or 9-911

Financial Aid ..... Financial Aid Office  
Azalea Building, Asheville Campus, Ext. 163

Foundation ..... Executive Director  
Simpson Building, Asheville Campus, Ext. 176

Grade Changes ..... Class Instructor

International Student Services ..... International Student Advisor  
Student Services  
Azalea Building, Asheville Campus, Ext. 441

Intramurals ..... Ext. 843

Job Placement ..... JobLink Center  
Maple Building, Asheville Campus, 250-4761

Learning Resources Center ..... Director  
Holly Learning Resources Center, Asheville Campus, Ext. 301

Madison Campus ..... Director  
828/649-2947

News, Publications ..... Director of Communications  
Simpson Administration Building, Asheville Campus, Ext. 117

Parking Permits ..... Accounting Clerk/Cashier  
Simpson Administration Building, Asheville Campus, Ext. 152

Payments, Student Accounts ..... Business Office  
Simpson Administration Building, Asheville Campus, Exts. 152, 156, 166

Security ..... Pines Building, Asheville Campus  
Ext. 0

Student Academic Records, ..... Student Records and Registration  
Transcripts, Registration, ..... Student Services, Azalea Building, Asheville Campus,  
Drop/Add Classes ..... Exts. 148, 204, 291, 494

Student Activities ..... Director of Student Activities  
Coman Student Activity Center, Asheville Campus, Ext. 203

Transcript Request ..... Student Records and Registration  
Student Services, Azalea Building, Asheville Campus, Ext. 204

Transfer Credits ..... Director of Admissions  
Student Services  
Azalea Building, Asheville Campus, Ext. 202

Transfer-to-Senior-Institution Information ..... Transfer Advisor, Student Services  
Azalea Building, Asheville Campus, Ext. 441

Tutoring ..... Class Instructor

Veterans ..... Veteran's Service Office  
Azalea Building, Asheville Campus, Ext. 206

Visiting the Campus ..... College Recruiter, Student Services  
Coman Student Activity Center, Asheville Campus, Ext. 203

Directory of  
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Services and  
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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](http://www.abtech.edu)



# College Calendar 2004-2005

## Fall Semester - 2004

Registration: Current and Continuing Students .....	July 12-16
Registration: New Classified Students .....	July 19-23
Registration Continues for all Students .....	July 26-August 13
Financial Aid Recipients:	
Last name A-L Charge Tuition and Fees .....	August 11
Financial Aid Recipients:	
Last name M-Z Charge Tuition and Fees .....	August 12
Last Day to Pay Tuition and Fees .....	August 13
New Student Welcome .....	August 12 & 13
Classes Begin .....	August 16
Mini-mester I .....	August 16-October 8
Last Day for Late Registration .....	August 20
Last Day to Drop for a Partial Refund .....	August 25
Professional Development - 1/2 Day .....	September 16
Fall Break .....	October 11-12
Mini-mester II .....	October 13-December 13
Last Day to Withdraw from a full 16-Week Class	
Without Penalty .....	November 10
Thanksgiving Break .....	November 24-26
Last Day of Class/Examinations* .....	December 13
Total Class Days .....	80
Holidays: .....	September 6, November 25-26, December 22-31

## Spring Semester - 2005

Registration: Current and Continuing Students .....	November 15-19
Registration: Continues for all Students .....	Nov. 29-Dec. 21, January 3-7
Financial Aid Recipients:	
Last Name A-L Charge Tuition and Fees .....	January 5
Financial Aid recipients:	
Last Name M-Z Charge Tuition and Fees .....	January 6
Last Day to Pay Tuition and Fees .....	January 7
New Student Welcome .....	January 7
Classes Begin .....	January 10
Mini-mester I .....	January 10-March 7
Last Day for Late Registration .....	January 14
Last Day to Drop for a Partial Refund .....	January 20
Professional Development - 1/2 Day .....	February 17
Mini-mester II .....	March 8-May 9
Last day to Apply for Spring Graduation .....	March 14
Spring Break .....	March 21-25
Last Day to Withdraw from a full 16-Week Class	
Without Penalty .....	April 11
Last Day of Class/Examinations* .....	May 9
Spring Graduation .....	May 13
Total Class Days .....	80
Holidays: .....	January 17, March 25



## Summer Session - 2005

Registration: Current and Continuing Students .....	April 25-29
Registration: Continues for all Students .....	May 2-20
Financial Aid Recipients Charge Tuition and Fees .....	May 19
Last Day to Pay Tuition and Fees .....	May 20
New Student Welcome .....	May 20
Classes Begin .....	May 23
Last Day for Late Registration .....	May 25
Last Day to Drop for a Partial Refund .....	May 27
Last Day to Apply for Summer Graduation .....	June 10
Last Day to Withdraw from a full 10-Week Class Without Penalty .....	July 14
Last Day of Class/Examinations .....	August 1
Summer Graduation .....	August 5
Total Class Days .....	50
Holiday: .....	July 4

\*Up to three days may be made up at the end of the semester for inclement weather.

*All dates in this calendar are subject to change.*

# 2004

<b>January</b>	<b>February</b>	<b>March</b>	<b>April</b>
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
4 5 6 7 8 9 10	8 9 10 11 12 13 14	7 8 9 10 11 12 13	4 5 6 7 8 9 10
11 12 13 14 15 16 17	15 16 17 18 19 20 21	14 15 16 17 18 19 20	11 12 13 14 15 16 17
18 19 20 21 22 23 24	22 23 24 25 26 27 28	21 22 23 24 25 26 27	18 19 20 21 22 23 24
25 26 27 28 29 30 31	29	28 29 30 31	25 26 27 28 29 30

<b>May</b>	<b>June</b>	<b>July</b>	<b>August</b>
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
2 3 4 5 6 7 8	6 7 8 9 10 11 12	4 5 6 7 8 9 10	8 9 10 11 12 13 14
9 10 11 12 13 14 15	13 14 15 16 17 18 19	11 12 13 14 15 16 17	15 16 17 18 19 20 21
16 17 18 19 20 21 22	20 21 22 23 24 25 26	18 19 20 21 22 23 24	22 23 24 25 26 27 28
23 24 25 26 27 28 29	27 28 29 30	25 26 27 28 29 30 31	29 30 31
30 31			

<b>September</b>	<b>October</b>	<b>November</b>	<b>December</b>
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
5 6 7 8 9 10 11	3 4 5 6 7 8 9	7 8 9 10 11 12 13	5 6 7 8 9 10 11
12 13 14 15 16 17 18	10 11 12 13 14 15 16	14 15 16 17 18 19 20	12 13 14 15 16 17 18
19 20 21 22 23 24 25	17 18 19 20 21 22 23	21 22 23 24 25 26 27	19 20 21 22 23 24 25
26 27 28 29 30	24 25 26 27 28 29 30	28 29 30	26 27 28 29 30 31
	31		

# 2005

<b>January</b>	<b>February</b>	<b>March</b>	<b>April</b>
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
2 3 4 5 6 7 8	6 7 8 9 10 11 12	6 7 8 9 10 11 12	3 4 5 6 7 8 9
9 10 11 12 13 14 15	13 14 15 16 17 18 19	13 14 15 16 17 18 19	10 11 12 13 14 15 16
16 17 18 19 20 21 22	20 21 22 23 24 25 26	20 21 22 23 24 25 26	17 18 19 20 21 22 23
23 24 25 26 27 28 29	27 28	27 28 29 30 31	24 25 26 27 28 29 30
30 31			

<b>May</b>	<b>June</b>	<b>July</b>	<b>August</b>
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
8 9 10 11 12 13 14	5 6 7 8 9 10 11	3 4 5 6 7 8 9	7 8 9 10 11 12 13
15 16 17 18 19 20 21	12 13 14 15 16 17 18	10 11 12 13 14 15 16	14 15 16 17 18 19 20
22 23 24 25 26 27 28	19 20 21 22 23 24 25	17 18 19 20 21 22 23	21 22 23 24 25 26 27
29 30 31	26 27 28 29 30	24 25 26 27 28 29 30	28 29 30 31
		31	

<b>September</b>	<b>October</b>	<b>November</b>	<b>December</b>
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
4 5 6 7 8 9 10	2 3 4 5 6 7 8	6 7 8 9 10 11 12	4 5 6 7 8 9 10
11 12 13 14 15 16 17	9 10 11 12 13 14 15	13 14 15 16 17 18 19	11 12 13 14 15 16 17
18 19 20 21 22 23 24	16 17 18 19 20 21 22	20 21 22 23 24 25 26	18 19 20 21 22 23 24
25 26 27 28 29 30	23 24 25 26 27 28 29	27 28 29 30	25 26 27 28 29 30 31
	30 31		



# Summary of Performance Measures

## 2003 Report

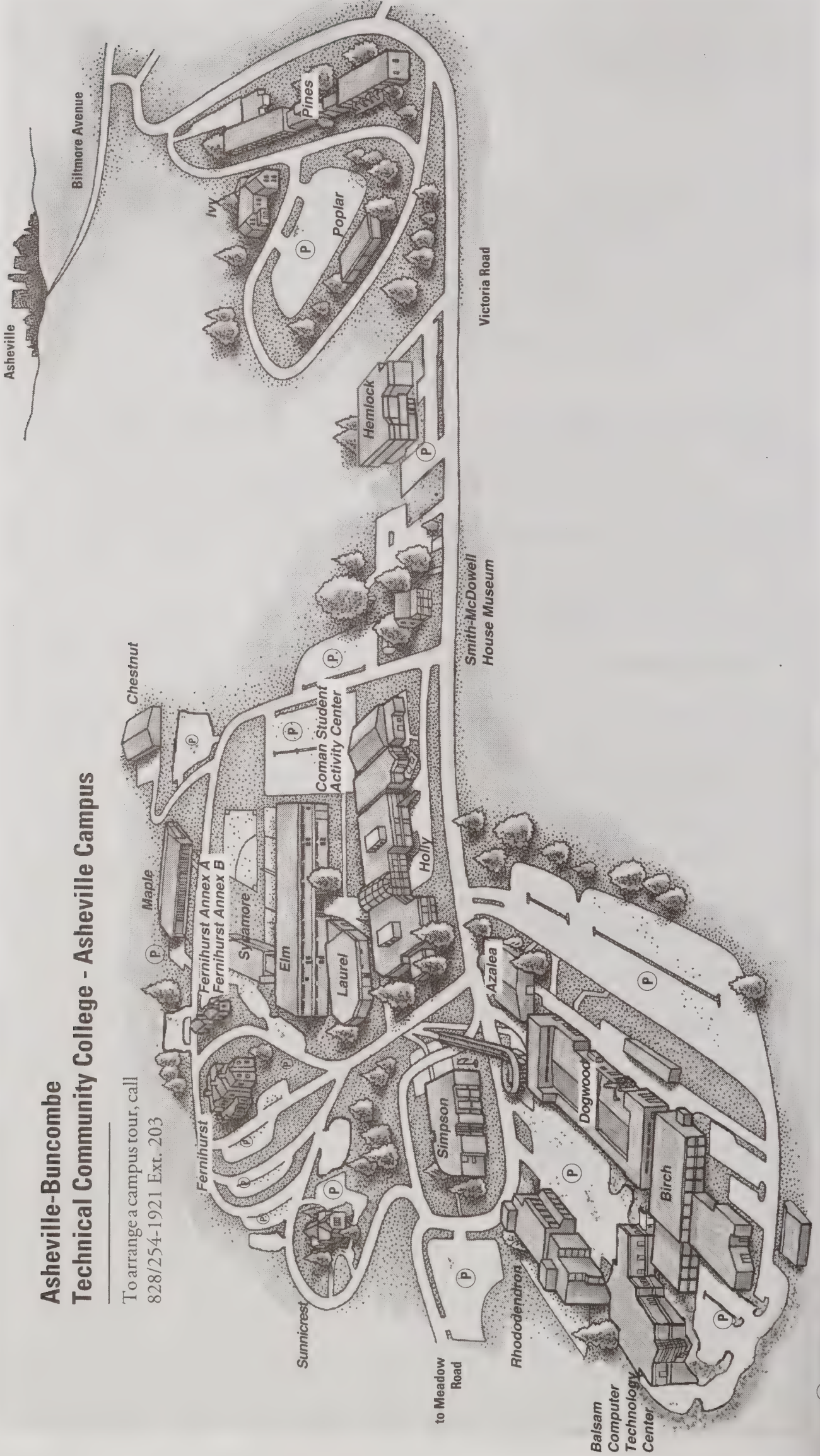
A-B Tech was one of only three institutions in the North Carolina Community College System to earn a superior rating for the third consecutive year on performance standards mandated by the General Assembly to measure how well colleges meet the needs of students and business and industry. The performance measures gauge the success of each of the state's 58 community colleges based on standards set by the State Board of Community Colleges.

<b>Performance Measure</b>	<b>Standard Met</b>
1. Progress of basic skills students . . . . .	YES
2. Passing rates for licensure and certification examinations . . . . .	YES
3. Goal completion of program completers and non-completers . . . . .	YES
4. Employment status of graduates . . . . .	YES
5. Performance of college transfer students . . . . .	YES
6. Passing rates of students in developmental courses . . . . .	YES
7. Success rate of developmental students in subsequent college-level courses . . . . .	YES
8. Student satisfaction of program completers and non-completers . . . . .	YES
9. Curriculum student retention and graduation . . . . .	YES
10. Employer satisfaction . . . . .	YES
11. Business/industry satisfaction with services provided . . . . .	YES
12. Program enrollment . . . . .	YES



# Asheville-Buncombe Technical Community College - Asheville Campus

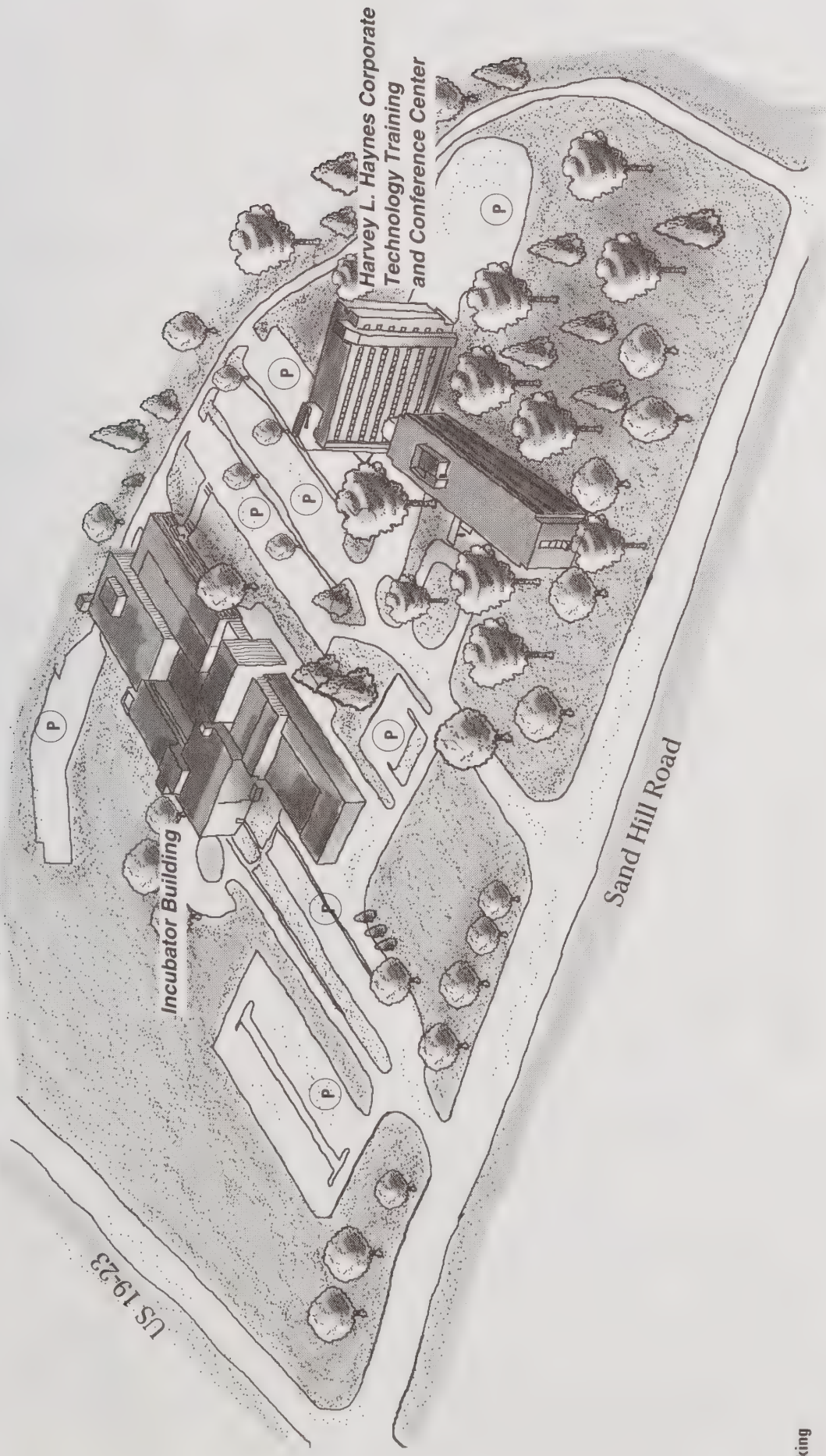
To arrange a campus tour, call  
828/254-1921 Ext. 203



P Parking



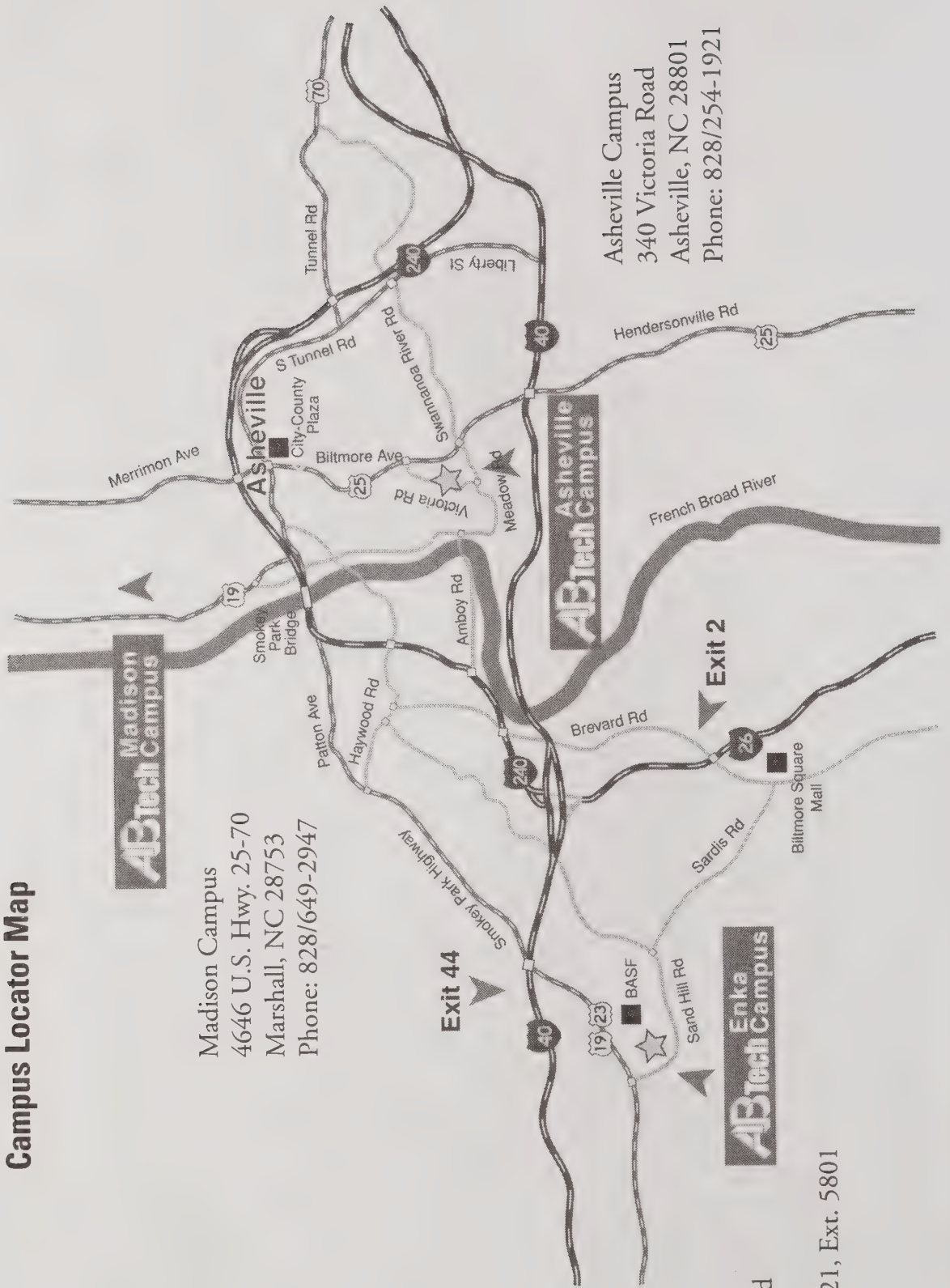
**Asheville-Buncombe  
Technical Community College - Enka Campus**



**P** Parking



## Campus Locator Map



Madison Campus  
 4646 U.S. Hwy. 25-70  
 Marshall, NC 28753  
 Phone: 828/649-2947

Asheville Campus  
 340 Victoria Road  
 Asheville, NC 28801  
 Phone: 828/254-1921

Enka Campus  
 1459 Sand Hill Road  
 Candler, NC 28715  
 Phone: 828/254-1921, Ext. 5801



# Buildings Legend

## Asheville Campus Facilities

Thomas W. Simpson

### Administration Building

Administrative Services  
Business Office  
College Relations Office  
Communications Office  
Elevated Lecture Room  
Foundation Office  
Instructional Services  
Office of the President  
Research and Planning Office

### Azalea Building

Admissions Office  
Career Center  
Counseling Offices  
Disability Services  
Employment and Organization  
Development Director  
Financial Aid Office  
International Student Services  
Placement Testing  
Records and Registration(Registrar)  
Veterans Representative

### Balsam Computer Technology Center

Cisco Regional Academy  
Computer Programming  
Information Systems  
Medical Coding  
Medical Office Administration  
Medical Transcription  
Microcomputer Applications  
Networking Technology  
Office Systems Technology  
Word Processing/Desktop Publishing

### Birch Building

Accounting  
Baking and Pastry Arts  
Business Administration  
Culinary Technology  
Dining Room  
Hotel and Restaurant Management  
Human Resources Management  
Marketing and Retailing  
Mountain Tech Lodge  
Real Estate  
Real Estate Appraisal

### Chestnut Building

Plant Operations Office  
Receiving

### Dogwood Building

Air Conditioning, Heating, and  
Refrigeration Technology  
Automotive Systems Technology  
Carpentry  
Construction Management Technology  
Electrical/Electronics Technology  
Heavy Equipment and Transport  
Technology  
Machining Technology  
Tool, Die, and Mold Making  
Welding Technology

### Elm Building

CAD Systems Management  
Civil Engineering Technology  
Electronic Servicing Technology  
Electronics Engineering Technology  
English/Communications  
Humanities/Fine Arts  
Mathematics  
Mechanical Engineering Technology  
Surveying Technology

### Fernihurst

Continuing Education Classes  
Human Resources Development  
Program

### Fernihurst Annex A and B

Faculty Offices  
Studio Art

### Hemlock Building

Basic Law Enforcement Training  
Criminal Justice Technology  
Early Childhood Associate  
Emergency Medical Science  
Fire Protection Technology  
Social Services  
Teacher Associate

### Holly Learning Resources Center

Audiovisual Services  
Library

### Ivy Building

Continuing Education Classes  
Decorative Restoration



**J. Herbert Coman Student****Activity Center**

A-B Tech Cafe  
 Bookstore  
 Gym  
 Health and Physical Education  
 Intramurals  
 Recruiter  
 Student Government Association

**Laurel Building**

Developmental Studies  
 Ferguson Auditorium  
 Social/Behavioral Sciences

**Maple Building**

Flexible Automated  
 Manufacturing Training Center  
 JobLink Career Center  
 Workforce Development Office

**Pines Building**

Adult Basic Education (ABE)  
 Adult High School  
 Compensatory Education  
 Continuing Education Classes  
 English as a Second Language  
 General Education Development (GED)  
 Security Office

**Poplar Building**

Child Care Center

**Rhododendron Building**

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

**Smith-McDowell House  
Museum**

(Leased to WNC Historical  
 Association)

Museum of WNC History

**Sunnicrest**

ADA Coordinator  
 Buncombe County Middle  
 College  
 Career Pathways  
 Partnership  
 Personnel

**Sycamore Building**

Biology  
 Chemistry/Physics  
 Distance Learning  
 Video Conference Center

**Enka Campus Facilities****Harvey L. Haynes Corporate Technology  
Training and Conference Center**

Continuing Education Administration  
 Corporate and Economic Development  
 Occupational and Public Service Training

**Incubator Building**

Small Business Center  
 Incubating Businesses

**Madison Campus Facilities****Liston B. Ramsey Building**

Administrative Offices  
 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. 27, 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 which 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 and in September 1989 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 satellite campus in Madison County. The College had served the county out of temporary quarters at the Marshall Elementary School since Dec. 12, 1984.

In its early years, the College administered the operation of four units located throughout Western North Carolina. These units have gained independent status and are now fully accredited community colleges.

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 approximately 37 acres and three buildings to A-B Tech to establish a satellite campus in Enka that includes a small business incubator and a corporate technology training and conference center.



## 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.

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 Continuing Education courses—including Adult Basic Education, Human Resources Development, New and Expanding Industry Training, Small Business Center, Total Quality Management, and Focused Industrial Training activities—are ongoing or are repeated on a regular basis.

Both curriculum and Continuing Education programs are supported through the activities of the GED Testing program, Guided Studies, and the Learning Resources Center. 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 campus 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 for A-B Tech property 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 campus in Enka that includes a small business incubator and a corporate technology training and conference center.

## **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 ABTCC 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 25,000 in 2002-2003.



## Location

The main 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 Campus is located in Marshall, NC. The Enka Campus is located in the Enka community near Asheville, NC.

## College Mission , Vision , and Strategic Plan

### 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.

### College Strategic Plan

Consistent with our mission and vision, A-B Tech has identified the following strategic goals:

1. Utilize comprehensive research, planning, and marketing to ensure the effectiveness of college programs and services.
  - a. Develop and implement a comprehensive program for marketing the college.
  - b. Ensure that departments/divisions utilize the results of the college planning and evaluation process.
2. Attract, develop, and retain qualified employees who are dedicated to student success.
  - a. Determine the college's human resource needs to ensure effective and efficient utilization of resources and delivery of college programs and services.
  - b. Establish an efficient approach to the recruitment process that expands the number and diversity of qualified candidates.
  - c. Establish a selection process that more accurately identifies candidates who are likely to be successful on the job.
  - d. Enhance the success, quality, and stability of the college through organization and leadership development.
  - e. Establish and maintain a performance management program that facilitates organization and employee growth.
3. Utilize college facilities to effectively accommodate increasing enrollment and facilitate the efficient delivery of programs and services.
  - a. Ensure adequate facilities to meet program needs and to promote institutional effectiveness.



- b. Implement a utilization plan for college properties to improve the use of space for college activities.
4. Ensure the success and stability of the college through efficient administrative processes and diversified financial resource development.
    - a. Implement the new administrative information system with minimal disruption.
    - b. Implement administrative processes that improve efficiency.
    - c. Complete a plan for diversified financial resource development.
  5. Enable prospective and current students to achieve their educational goals in an environment that focuses on meeting their needs.
    - a. Implement success strategies to assure student perseverance toward goal completion.
    - b. Provide effective academic advising and career counseling services.
    - c. Ensure consistent quality services to students in Huskins Bill Programs.
    - d. Promote transition opportunities between continuing education and curriculum.
    - e. Facilitate student transfers between A-B Tech and four-year colleges and universities.
  6. Offer educational opportunities that promote academic excellence and complement community development.
    - a. Offer quality instructional programs that are relevant, affordable, and responsive to community needs.
    - b. Encourage and support the implementation of innovative teaching methods.
    - c. Utilize alternative delivery methods to meet the diverse needs of students, and assess their effectiveness.
  7. Support economic development through strategic business and community partnerships.
    - a. Provide a variety of innovative services to the business community.
    - b. Collaborate with other organizations to attract emerging technology companies to the region.
    - c. Establish more community and business partnerships.

## **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 com-

plaints 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 Personnel

Asheville-Buncombe Technical Community College

340 Victoria Road

Asheville, North Carolina 28801

Sunnicrest Building

Telephone: 828/254-1921, Ext. 113

TDD: 254-1921, Ext. 444 or depress space bar several times for operator assistance

Internet: [www.abtech.edu](http://www.abtech.edu)

## **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, materials in alternative accessible formats, or who wish to file a complaint of alleged discrimination on the basis of disability should contact the ADA Coordinator 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 respon-



sible, 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 unsecure 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 North Carolina Integrated Information Network. As such, all users are subject to the governing policies established by the North

Carolina Information Resource Management Commission (IRMC) in addition to the above A-B Tech Internet and Campus Network Acceptable Use Policy. The current IRMC policy governing use of the North Carolina Integrated Information Network and the Internet can be reviewed on their Web site at [www.sips.state.nc.us/IRMC/documents/approvals/irmcinet.html](http://www.sips.state.nc.us/IRMC/documents/approvals/irmcinet.html). and <http://irmc.state.nc.us/documents/approvals/acceptableusepolicy.pdf>

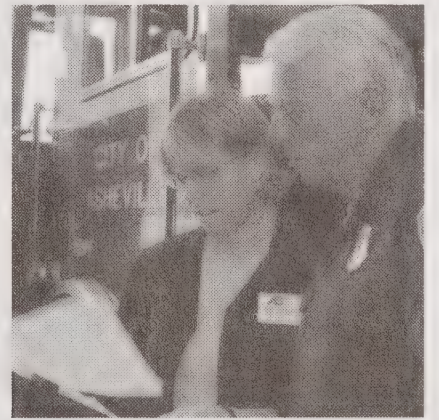


## Continuing Education

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Continuing Education provides vocational education opportunities for the unemployed, upgrading courses for those already employed, adult basic education for those seeking a higher educational level, and certain avocational courses for individual enrichment.

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# Continuing Education

The 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 community 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 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 most conveniently be met.

Some of the Continuing and Off-Campus Education programs are coordinated with the Job Training Partnership Act (JTPA) 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 course work may carry Continuing Education Unit (CEU) credit; these unit credits are not a part of college curriculum diploma or degree programs. Curriculum courses that carry full college diploma and degree credits are offered at off-campus sites through the coordinated efforts of Continuing Education Program directors and the deans and department chairs of the four curriculum academic divisions of the College.

The Continuing Education Division provides programs for adults age 18 or older. Minors may enroll for some classes with special permission. For some programs, the enrollment of minors cannot displace an adult.

## Costs

Costs for Continuing Education classes vary, but there is usually a nominal registration fee. Fees may also be charged for books, materials, and supplies. For some classes, North Carolina residents age 65 or older are exempted from registration fees. There are no registration fees for basic skills classes.



## Course Repetition

There is a limit on the number of times a student may enroll in a particular continuing education class. The Continuing Education Course Repetition policy guides enrollment in selected types of classes.

Occupational extension 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 extension courses more than once if the repetitions are required for certification, licensure, or recertification.

Continuing  
Education

A course other than occupational extension 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 classes may continue in them 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

Continuing Education needs are addressed in four domains: (1) Corporate and Economic Development Services, (2) Occupational and Public Service Training, (3) Community Service Programs, and (4) Adult Basic Skills and Human Resources Development.

## Corporate and Economic Development Services

The Center for Corporate and Economic Development provides programs and services to address the training and development needs that impact the local and regional economy. The Center ties the College to the associated efforts of local, regional, and state agencies for economic development.

**Focused Industrial Training (FIT)** is designed to address the special training needs of existing North Carolina industry. Serving primarily the manufacturing population, FIT uses individual needs assessment and consultations to target and upgrade workers' skills needed to keep up with new work methods and technology. FIT job training can be designed for skilled and semiskilled workers, lead supervisors, and team leaders. The targeted occupations are material handlers, assembly technicians, welders, machinists, maintenance mechanics, metal workers, production line workers, and woodworking machine operators. Technical assistance, which covers any subject taught at A-B Tech, is also available to manufacturing companies through FIT.

**New and Expanding Industry** needs are met through customized training programs designed especially for prospective employees and funded at no cost to the employer. New and expanding

companies are able to initiate operations more quickly with this assistance.

The **Small Business Center** provides consulting and advising services to existing and potential small business owners. Additionally, through very practical, short-term seminars, the Center addresses the continuing needs of small business clients for updating information, refining entrepreneurial skills, and enhancing techniques to improve the profit advantage in risk taking. The seminars frequently address the critical areas of capital formation and prevention of business failures. The Small Business Center works cooperatively with local Chambers of Commerce, the Active Corps of Executives (ACE), the Service Corps of Retired Executives (SCORE), the Center for Improving Mountain Living's small business counseling services, and the U.S. Small Business Administration.

The **Quality Program** provides training and technical assistance in total quality practices and ISO 9000 for businesses, industries, and public and private sector agencies. Programs include process improvement, team building, quality skills, statistical process control, facilitator development, self-assessments, and all phases of ISO 9000 implementation. The program also partners with the American Society for Quality Control to provide quality course offerings. Additionally, a resource center for quality information and a lending library make specialized books and videos available.

The **Productivity Institute** offers training in the disciplines that make industries more competitive. The Institute currently offers courses and assistance with Lean Manufacturing, Six Sigma Quality, and Manufacturing Best Practices.

## 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 for employment in careers such as Fire and Fire Rescue, Emergency Services, Criminal Justice/Law Enforcement, Certified Nursing Assistant (CNA), and Dental Radiography. Other offerings include programs for the following occupational areas: acting, equine management, hospitality, organic farming, mechanical, plumbing, computer applications, public safety education, electrical, construction, and inspection.

Students in the **Decorative Painting Techniques & Restoration Program** train in all aspects of surface treatments and decoration. The content of the program deals with traditional finishes in historic buildings as well as new work and the development of individual styles and techniques. Students learn the physical and chemical nature of building materials, methods of stenciling, gilding, ornamental plaster work, marbling, woodgraining, wall glazing, paperhanging and the preparation of old and new surfaces



to receive decorative treatments. Qualifying graduates will receive the "City and Guilds of London" certificate for Decorative Painting and Restoration. Related job opportunities include residential and commercial decorating, church restoration, picture frame and architectural gilding. This 44 week program starts in January and ends in December. The foundation level covers tools and equipment, materials, drawings and geometric shapes, calculations, and surface preparation. The advanced level covers specifications, site organization, decorative treatments, and color. There are also opportunities for international travel.

Continuing  
Education

**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. Many of these courses are offered as apprenticeships or to meet certification requirements for employment in careers such as General Building Contractor, Electrical Journeymen, Electrical Maintenance, Home Inspector, Refrigeration or CFC Testing, and Fork Lift Operator. Additional course offerings include: plastics, computer applications, business management, construction, safety, and supervision.

## Community Service Programs

The **Community Service 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 the upgrading of existing art, languages and practical skills. Among the art component courses are calligraphy, drawing, oil and watercolor painting, pottery, sculpting, photography and creative writing. The language component includes courses such as French, German, Italian, Spanish and Sign Language. Typical class offerings in the practical skills component of the program include cooking, upholstery, sewing, quilting, residential landscaping, picture framing and matting.

## Adult Basic Skills and Human Resources Development

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

One of two adult high school programs can lead the student to the equivalent of high school completion: (1) The General Education Development (GED) Program offers instruction in five subject areas in preparation for taking the high school diploma equivalency (GED) test and (2) The Adult High School Diploma Program provides instruction designed to qualify individuals for an adult high school diploma, awarded jointly by a local board of educa-

tion and the College after the student successfully completes 20 units of credit and the North Carolina Competency Tests. Instruction for Basic Skills Programs is available 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
- Social Studies
- Reading
- Mathematics
- Science

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 (254-1921, Ext. GED).
- pay the testing fees (\$7.50 for initial testing and \$2.50 for retesting in Writing Skills) at the Business Office in the Simpson Administration Building before arriving at the testing center.

**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.

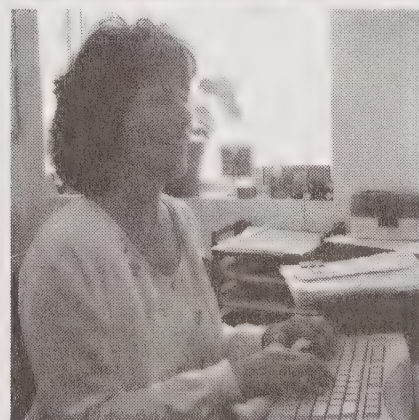
The **Compensatory Education** Program is an academic program specifically for adults with mental retardation. The program features lessons in community living, consumer education, health, language, mathematics, social science, and vocational education. Emphasis is placed on helping each student become 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.

The **Human Resources Development (HRD)** Program provides short-term pre-vocational training and counseling designed to help unemployed and underemployed adults successfully enter the work force and 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



# Admissions and Student Information



# General Admission Procedures

Asheville-Buncombe Technical Community College has an OPEN DOOR admission policy. High school graduation or equivalence is normally required for admission to any curriculum; however, there are a few programs for non-graduates 18 years of age or older. The College accepts applications continuously throughout the school year. Early application is advised for many programs.

Individually selected classes may be taken by Unclassified Students providing the prerequisites have been met. After accumulating 20 hours, Unclassified Students must see a counselor/advisor in Student Services in order to confirm further educational plans.

Placement into a specific course of study is based upon standards that will help to assure the applicant's success in that course of study. Those who do not yet possess the background required by the course of study of their choice may be enrolled in developmental courses designed to provide this background.

Persons wishing to enroll in a curriculum program at the College must complete the entire application process and meet the following requirements:

1. Submit an application form.
2. Obtain transcripts of credits from all secondary and post-secondary schools attended. Records should show that the student is a high school graduate or has a state approved equivalent education.
3. Complete the battery of placement tests administered by the College. In the case of the eight competitive allied health programs, the placement tests are used to earn admission through a point system. Provisional or unconditional admission to individual programs will be determined by scores on the tests. (See programs for details.) Requests for reasonable accommodations or test exemption by transfer credit will be reviewed individually. Alternate testing formats will be made available to individuals with disabilities upon request to the Coordinator of Disability Services.
4. A complete physical examination may be required by some programs, but only after the student is admitted.

Upon completion of this procedure, the student will be accepted unconditionally or provisionally into the program. Provisional acceptance indicates that developmental classes are necessary; this status changes to unconditional acceptance once the developmental classes are completed and the student notifies Student Services.



## Competitive Allied Health Programs

Admission to seven of the Allied Health curricula is competitive among qualified applicants according to established criteria and has 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](http://www.abtech.edu). The printed version is available in the Counseling Center. The criteria are reviewed, updated, and approved 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 Computerized Placement Test (CPT). 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 class or any course for which math or English are prerequisites. Alternate testing formats will be made available to individuals with disabilities upon request to the Coordinator of Disability Services. 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 CPT scores which have been earned within the preceding three years. To be enrolled directly into the first-level curriculum English and math courses, students would need to have a score of 500 on both the verbal and mathematics portions of the SAT or 21 on ACT English, 18 on ACT Reading, and 20 on ACT Math. 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 Admissions and Counseling offices.

All students, upon submitting a College application, will receive a copy of the college's "Placement Testing" brochure with a list of testing dates and times. The brochure provides information on each of the placement testing sections as well as a sample test. 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 a counselor or academic advisor immediately after the student completes the tests. Based on placement scores, a student will be placed directly into College English and math or into one of the developmental courses that are designed to prepare the student for entry into his or her chosen field of study.

### **Provisional Student Status**

Provisional status accommodates those students who can benefit from the academic programs offered by the College but require additional developmental course work to be successful in their chosen program. Any student seeking a diploma, degree, or certificate in a noncompetitive program of study may be eligible for provisional student status.

The determination of provisional status shall be dependent upon the results of placement testing and the professional judgment of the Student Services counselor/advisor. The counselor/advisor will identify courses tailored to meet the student's academic needs. The Placement Information Sheet will document the developmental course work required of the student. A copy of the Placement Information Sheet will be filed in the student's permanent record as well as with the academic advisor.

Provisional students are generally permitted to register concurrently for developmental courses and required courses in their program of study as long as they meet the prerequisites; however, it is recommended that the course schedule for any academic term not exceed 15 credit hours. Developmental courses must be taken beginning with the student's first semester of enrollment and all such course work must be completed as outlined by the student's academic advisor.

For more information about provisional student status, students are encouraged to contact Student Services.

### **Adult Basic Skills Student Status**

Students who place into Adult Basic Skills 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 Adult Basic Skills language and mathematics must also receive appropriate remediation prior to enrolling in College courses.

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

## **Transfer, Proficiency, 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 and



obtain from the Admissions Office a Request for Transfer Credit form for the evaluation of all post-secondary work. Transcripts will not be evaluated until this form has been completed. No 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. 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. Transfer 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 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 will not be eligible for the Articulation Agreement between the universities and NCCCS. Students who have quarter courses will also not be eligible for the Articulation Agreement. Transcripts of these students will be evaluated on a course-by-course basis.

Students transferring into the AA or AS 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 given credit for the general education core.

### **Credit by Examination (Proficiency Examination)**

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. 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 examina-

tion 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"). The decision of the examining instructor is final. No quality points are awarded for credit by examination.

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. The courses which may not be challenged by examination are marked with an asterisk in the course description section of the catalog. Most institutions will not accept proficiency credits for transfer.

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 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.
3. Remain enrolled and attend class until the examination is administered. During this period, students who have written approval for the exam may attend class without purchasing textbooks and materials. If books are purchased and returned for refund, they must be in new condition.
4. Students who are very confident of passing the exam may choose to begin with a course overload.
5. Students who perform on the exam at a level sufficient to get credit may leave the course and have an indication of Proficiency Credit by Examination (P) posted to their record for the course. Receiving proficiency credit does not entitle the student to a tuition refund.
6. Students who do not receive credit by examination are encouraged to purchase textbooks and materials and remain in the class 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 proficiency credit. Assistance may be reduced and reimbursement will be required if the course load is reduced by receiving credit by examination. Students may choose to overload in this case.

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

### **Articulated and Advanced Placement 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 submit the request form to the Director of Admissions along with the high school transcript.

**AP and CLEP.** College credit may be awarded if appropriate conditions are met by Advanced Placement (AP) courses or College Level Examination Program (CLEP) test scores. A-B Tech academic credit will be granted to enrolled students who receive scores of 3, 4, or 5 on the AP tests offered by the College Board. CLEP is granted for scores of 50%. 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.

A-B Tech credit may be granted to students who have satisfactorily passed certain CLEP tests. Credit may be considered only for those courses which have been approved by the various divisions and/or programs of the College. A maximum of six semester credit hours may be granted for each CLEP subject examination. A-B Tech will accept a total of 12 semester credit hours earned through CLEP tests. See the Admissions Office in the Azalea Building for details.

## International Applicants

Proficiency in the English language and satisfactory academic records are important factors in the admission decision for all applicants from outside the United States. International students must have graduated from a secondary school that is equivalent to secondary schools in the United States. A transcript of secondary school work must be sent to the Admissions Office. The transcript must be translated into English.

To demonstrate proficiency in the English language, international applicants from countries where English is not the first language must take the Test of English as a Foreign Language (TOEFL). The applicant must score at least a 133 on the computer-based test or a 450 on the paper-based test. If the applicant is already in the Asheville area or near another North Carolina community College that offers the Computerized Placement Test (CPT), minimum scores of 51.1 on the reading part and 52.1 on the sentence skills part of the CPT may be substituted for the TOEFL requirement. All international applicants must take the CPT prior to registering for classes.

International applicants must also certify their ability to pay for transportation, living expenses, out-of-state tuition, fees and other school expenses while in the United States.

The A-B Tech application, high school transcript, TOEFL scores, and evidence of financial resources must be received before an admission decision can be made and a Bureau of Citizenship and Immigration Services (BCIS) I-20 form issued to the student for application for an F-1 student visa.

International applicants should contact the International Student Advisor in the Counseling Center for further information about admission. E-mail inquiries should be addressed to: [admissions@abtech.edu](mailto:admissions@abtech.edu).

# 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 Azalea building. 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 Azalea building, houses a variety of career resources, both print and computerized, to assist students in career-related areas. Individual career testing and career counseling sessions are available by appointment.

## 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 a curriculum are advised by a faculty member from that curriculum. Unclassified students are advised by the counselors/advisors in Student Services. Counselors/advisors initially determine the provisional courses for students based upon the results of placement testing. Faculty advisors use this information when advising provisional students. In all instances, a student's registration form must be signed by an appropriate advisor indicating that the schedule meets appropriate academic standards. No student will be allowed to register without an advisor's signature. Students who desire to register for more than 20 credit hours in a semester will need the approval of their department chair.

## 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, notetakers, 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 Azalea Building. In order to assess each disabled student's needs and to provide the necessary support services, professional documentation of a disability or disabilities must be furnished to the Disability Services Office. Documentation must be current. Information provided by students is voluntary and appropriate confidentiality is maintained.

Students who need assistance for academic services should call the Coordinator of Disability Services at 828/254-1921, Ext. 141. 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.

The College has a telecommunications device for the deaf (TDD/TTY). Calls are received at the College switchboard, and the spacebar should be pressed several times to signal a TDD/TTY call. Please remain on the line while your call is being transferred to the Disability Services Office. Our purpose is to facilitate your involvement in the life of our College and all of the benefits it provides.

An appointment with the Coordinator of Disability Services 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 Appeals Policy.

## **Developmental Studies**

This department provides post-secondary students with instruction in basic math, English, and reading in structured and unstructured settings. A tutorial component serves curriculum students needing assistance outside of class in math or English related subjects. Tutoring is accomplished through individual sessions, small groups, and computer-assisted instruction.

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 grade of "D" will not be used for Developmental Studies courses.

Developmental Studies courses are listed in the class schedules. Current lab schedules may be obtained from Developmental Studies personnel.

## **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 video cassette from the Vice President for Student Services.
2. Student Handbook. A copy of the annual Student Handbook will be mailed upon request to distance learners. The Student Handbook is also available on the College web page at **www.abtech.edu**.
3. Application. Application to the College may be made at the College web page. Applications may also be mailed in; they are available in the schedule of classes each semester.
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 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 and Registration Office for evaluation. They are also available on the College web page.
6. Catalog. The catalog is available on the College web page.
7. A-B Tech Transcripts. Transcripts of A-B Tech work may be requested by fax or mail from the transcript clerk in the Records and Registration Office. 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 Vice President for Student Services. **dking@abtech.edu**.
9. Schedule of Classes. Schedules of classes will be mailed to every home in Buncombe and Madison Counties each fall and spring semester. Schedules are also available each semester on the College web page.
10. Financial Aid. Applications for federal financial aid (FAFSA) are available on the Internet. Financial Aid advice is available by e-mailing the director of financial aid. **ldeyton@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 from the Director of Counseling. **dharmon@abtech.edu**.
12. Veteran's Services. Veteran's services and advice are available by e-mailing the veteran's counselor. **kedwards@abtech.edu**.
13. Special Needs. Students with special needs as defined by the Americans with Disabilities Act may seek services by e-mailing the counselor for students with special needs. **aclingenpeel@abtech.edu**.



14. Career Counseling Services. Some career counseling services are available through e-mail or the postal service.  
**sthompson@abtech.edu.**
15. Placement Testing. Placement testing may be accomplished at any college which offers the Computerized Placement Test. Scores can then be faxed by the originating college. Also, SAT or ACT scores may be used instead of testing. For information, e-mail the testing coordinator. **kedwards@abtech.edu.**
16. Payment of Tuition and Fees: Tuition and fees may be paid online at the College web page.
17. Purchase of Books. Books may be purchased online from the College Bookstore.

## 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, voting in the state, belonging to churches, clubs or other organizations. Anyone having a question regarding resident status should contact the Director of Admissions.

### Tuition\*

#### Fall, Spring, and Summer Semester:

N.C. residents per semester .....	\$568.00
Nonresident of N.C. ....	\$3,152.00
(16 or more credit hours)	
Part-time N.C. residents per credit hour per semester .....	\$35.50
Nonresident of N.C. per credit hour per semester .....	\$197.00
(fewer than 16 credit hours)	
Return Check Charge .....	\$15.00

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.*

## 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 day, on-campus credit hours will be charged a student activity fee of \$12.00 for fall and spring semesters and \$10.00 for summer semester. The student who enrolls for eight or fewer day, on-campus credit hours will be charged a student activity fee of \$9.00 for fall and spring semesters and \$6.00 for summer semester.

## 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 REQUIRED 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.

## 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 .....	\$600-800
Supplies .....	\$200-500

### Arts and Sciences: A.A., A.S., A.F.A.

Books .....	\$600-900
Supplies .....	\$100-200

### Business and Hospitality Education

Books .....	\$600-900
Supplies .....	\$100-500

### Engineering and Applied Technology

Books .....	\$500-600
Supplies .....	\$150-1000

The cost of books and supplies varies from year-to-year 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, uniforms and shoes, rental of uniforms, safety equipment, hand tools, calculators, lab coats, membership dues, pins and caps. 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 Refund Policy

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. Refer to the College calendar (pp. 11-12) for 10% dates each semester. Insurance and student activity fees are NOT refundable. Federal regulations, if different from above, will overrule this policy.

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

## Tuition Refund Procedure

To be eligible for a tuition refund the student must:

1. Register and pay tuition and fees.
2. Process a "Drop/Add Registration Change Notice" form in the Student Records and Registration Office on or before the 10% point of the term as defined above.

## 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 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 which 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.

Copies of all applications mentioned in the following procedure may be obtained from any high school guidance office, most College and university financial aid offices, and the A-B Tech Financial Aid Office. Alternative accessible application formats will be made available to individuals with disabilities upon request to the ADA Coordinator.

## **Application Procedure**

All applicants desiring priority consideration for available financial aid funds must complete the following steps:

1. Before applying for financial aid it is advisable that each applicant complete the first three steps of the Admission Procedure. (See Table of Contents for the General Admission Requirements and Procedures page reference.)
2. The applicant must complete and mail a Free Application for Federal Student Aid (FAFSA) to the Federal Student Aid Program in the envelope which accompanies the application. (Important Note: Applicants may use the electronic version of the FAFSA-FAFSA on the Web to apply for assistance. For more information about the electronic application, the applicant may call FAFSA customer service at 1-800-801-0576. Electronic applications are processed faster than paper applications. Applicants may use the College computers in the Holly Learning Resources Building computer lab and in the Financial Aid Office in the Azalea Building to access FAFSA on the Web and to file their application electronically.)
3. When completing the application, the applicant must list the appropriate federal school code number on the application. A-B Tech's code number is 004033.

The applicant will receive a Student Aid Report (SAR) from the processor approximately three to four weeks after mailing the application. The Financial Aid Office receives an electronic report from the processor and will notify the applicant when the report has been reviewed.

Once the application process has been completed, the applicant's eligibility for assistance will be determined. Official notification of awards is made no earlier than May 15 prior to fall semester enrollment. Each award is contingent upon the availability of funds.

Students desiring additional information about the Financial Aid Program at A-B Tech are urged to write or phone: Office of Financial Aid, Asheville-Buncombe Technical Community College, 340 Victoria Road, Asheville, NC 28801, (828) 254-1921, Ext. 163.

## **Satisfactory Academic Progress Standards for Financial Aid**

Introduction. The Higher Education Act of 1965, as amended by Congress in 1980, mandates institutions of higher education to establish minimum standards of "satisfactory progress" for students receiving financial aid. The federal regulations addressing satisfactory progress were initially published in October 1983, with amendments made in December 1987 and then again in April 1994.



**Satisfactory Progress Defined.** Generally, a student is considered to be making satisfactory progress toward his/her curriculum program of study when three requirements are satisfied:

1. Maintain a minimum cumulative grade point average based on credit hours attempted. (The qualitative standard required by regulation).
2. Complete a minimum number of credit hours of the total credit hours attempted with grades of A, B, C, or D. (The first quantitative standard required by regulation).
3. Successfully complete the program of study within its maximum time frame. Regulations specify that the maximum time frame may not exceed 150% of the published length of the program for full-time students. (The second quantitative standard required by regulation).

**Monitoring Satisfactory Progress.** The College will monitor the qualitative and quantitative standards referenced in 1 and 2 above using the chart below. The chart has been designed to accommodate all federally eligible programs of study offered by the College, and variable enrollment status of students (e.g. full-time, half-time, less than half-time).

Credit Hours Attempted*	Minimum Credit Hours To Be Completed**	Minimum Cumulative GPA Required***
1-10	1	0.50
11-20	4	0.50
21-30	10	0.75
31-40	16	1.00
41-45	23	1.25
46-50	30	1.50
51-55	36	1.75
56-60	40	2.00
61-65	43	2.00
66-70	47	2.00
71-75	50	2.00
76-80	53	2.00
81-85	57	2.00
86-90	60	2.00
91-95	63	2.00
96-100	67	2.00
101-105	70	2.00
106-110	73	2.00
111-114	76	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 last day for registration as outlined in the College Catalog.

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

\*\*\*Cumulative GPA is computed 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, or U.

The second quantitative standard referred to as the maximum time frame will be measured independent 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.

Examples:

1. Practical Nursing curriculum requires 47 credit hours to complete the diploma. The time frame is calculated ( $47 \times 150\% = 71$ ).
2. Associate Degree Nursing requires 75 credit hours to complete the degree. The time frame is calculated ( $75 \times 150\% = 113$ ).
3. Associate in Arts (A.A.) Degree, Associate in Fine Arts (A.F.A.) Degree, and Associate in Science (A.S.) Degree require 65 credit hours to complete the degree. The time frame is calculated ( $65 \times 150\% = 98$ ).
4. Carpentry requires 46 credit hours to complete the diploma. The time frame is calculated ( $46 \times 150\% = 69$ ).

The maximum time frame establishes the maximum number of credit hours a student may attempt in an effort to complete a program of study, and at the same time, remain eligible to receive financial assistance.

Key Points to remember regarding the quantitative standard of the 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 their academic advisor and/or the student services counseling staff. It is the responsibility of the student to register only for classes listed in their chosen major in the College Catalog and for scheduling only the number of hours they are capable of completing. **SOME STUDENTS WILL BE REQUIRED TO TAKE PROVISIONAL COURSES 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. Provisional 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.
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.

## Satisfactory Progress Increments

The College will monitor satisfactory academic progress at two points during each academic year (i.e. at the end of both the Fall and Spring Semesters). The only exceptions to this would be (1) for those students returning to the College who have a prior academic record at the College. Such students would be monitored at the time they reenroll since the federal regulations require the standards for progress to cover all periods of enrollment, including those periods for which the student did not receive aid from Title IV funds, and (2) for students who return to the College at their own expense in an effort to reestablish their eligibility. These students would be monitored each term until they meet the satisfactory progress definition.

Based upon the number of credit hours attempted, the student will be expected to complete a minimum number of credit hours with satisfactory grades as described earlier and at the same time maintain a minimum cumulative grade point average without exceeding the maximum time frame. Failure to meet the standards outlined will result in termination of financial aid eligibility. Due to the leniency of the satisfactory progress standards early in the student's program of study, the College will not provide an automatic probationary period during which the student may continue receiving financial aid while attempting to improve upon the number of credit hours completed

and/or the cumulative grade point average required. Nevertheless, the College will provide an appeal procedure for reinstatement of financial aid eligibility.

## **Appeal of Financial Aid Termination**

To appeal financial aid termination a student must be able to demonstrate mitigating circumstances. The procedure for appeal is:

1. A student will indicate in writing to the Director of Financial Aid the reasons why he/she did not make satisfactory progress and why financial aid should not be terminated. Documentation to support the appeal is required.
2. The Director of Financial Aid will review the appeal to determine whether or not termination of aid is justified. The student will be advised of the decision in writing.
3. A student wishing to appeal the decision of the Director of Financial Aid may do so, in writing, to the Student Financial Aid Committee, c/o the Financial Aid Office. Additional appeals may be made through the Student Due Process Procedure and then to the President of the College if deemed necessary by the student.

## **Reinstatement of Financial Aid Eligibility**

Should a student have his/her financial aid eligibility terminated due to not meeting the satisfactory progress definition, termination will continue until the student enrolls for a subsequent academic term at his/her own expense and completes the term satisfying the satisfactory progress definition. Once the satisfactory progress definition is met eligibility is reinstated for the subsequent satisfactory progress increment. In addition, financial aid eligibility will immediately be reinstated for all appeals upheld.

# **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 second-year 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. A collection of scholarship booklets are kept on reserve for student use in the Resource Room of the A-B Tech Financial Aid Office in the Azalea Building.

An excellent source for scholarships is located on the World Wide Web. Students can do searches by accessing [www.finaid.org](http://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/](http://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.

- By January 30, applications are available from the Financial Aid Office located in Azalea.
- By March 1, students applying for scholarships requiring the establishment of financial need should complete the Free Application for Federal Student Aid (FAFSA).
- By April 1, scholarship applications are due to the Financial Aid Office.
- By July 1, the Foundation Office informs the students and the Financial Aid Office of the selection status.

For additional information about the Foundation, please call 254-1921, Ext. 176 or 179.

### **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](http://www.ed.gov/offices/ope):** Click on "Information for Students" for federal student aid information.

**[www.cfnc.org](http://www.cfnc.org):** Provides comprehensive information about scholarships, loans and other programs/issues.

**[www.nasfaa.org](http://www.nasfaa.org):** Click on "Financial Aid Information for Students, Parents & Counselors;" provided by the National Association of Student Financial Aid Administrators.

**[www.cfi.org](http://www.cfi.org):** Provides comprehensive information about student and parent loans.

## **The Hope Tax Credit**

The Hope Credit is a federal tax credit. A family may claim up to \$1,500 per year for each eligible dependent, for up to two years. One hun-

dred percent of the first \$1,000 of eligible expenses, and 50% of the next \$1,000 may be claimed for an annual maximum of \$1,500. 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 up to \$2,000 per year 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 taxpayer may claim up to 20% of \$10,000 of eligible expenses. 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 [www.ed.gov/inits/hope/](http://www.ed.gov/inits/hope/).*

## **Veteran's Educational Benefits**

The Veteran's Counselor will help incoming veterans evaluate their eligibility for benefits. The Veteran's Office is located in the Counseling Center in the Azalea Building. 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.

# **Parking Regulations**

All students are required to register their vehicles and display parking permits. Copies of parking regulations are available in the Business Office. Parking spaces designated for individuals with disabilities are located at each facility. Spaces marked by yellow lines are for faculty and staff use only. All parking fines must be paid prior to registering for classes.



# Student Rights, Responsibilities and Due Process

## Code of Student Conduct

Over 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.

Consequences for violations include verbal warnings, written warnings, disciplinary probations, particular consequences adapted to the violation, and suspensions. Any disciplinary decision rendered by the Vice President for Student Services may be appealed to the Student Due Process Appeals Committee.

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. Rights, as they pertain to the hearing, are listed elsewhere in this manual.

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. **Damage to Property** - You may not damage property of the College or of any other person working at or attending the College.
5. **Disobedience** - You may not disobey the reasonable directions of College employees, including administrators, faculty members, security officers, and other staff employees.
6. **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.
7. **Disruption** - You may not disrupt the normal activities of the College by physically or verbally interfering with instruction, meetings, traffic, or scheduled administrative functions.
8. **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.
9. **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.
10. **Assault** - 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.
11. **Gambling** - You may not gamble on campus.
12. **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.
13. **Professional Conduct** - Various curricula have specific codes of professional conduct for which you may be held accountable, if you are enrolled in those curricula.
14. **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 prosecution as well as College discipline.
15. **Public Laws** - You may not violate the laws of the state of North Carolina while on campus. Doing so may lead to legal actions as well as campus discipline.



16. **Sexual Harassment** - You may not sexually harass, either verbally or physically, any member of the College community, including other students, employees, or other persons on the College campus.
17. **Use of the Internet** - The College has an extensive policy on 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 e-mail or access to sexually explicit material.

## 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. **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.
2. **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.
3. **Conversation.** Do not carry on side conversations in class.
4. **Other Activities.** You may not work on other activities while in class. This includes homework for other courses or other personal activities.
5. **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.
6. **Sleep.** Do not sleep in class.
7. **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.
8. **Profanity and Offensive Language.** You may not use profanity or offensive language in class.
9. **Cell phones and beepers.** You may not receive or send telephone calls or pages during class. You are responsible for turning off cell phones and beepers upon entering class.

10. **Guests.** You may not bring unregistered friends or children to class.
11. **Food, Drink, Tobacco Products.** You may not have food or drink in class. You may not use tobacco products in the buildings of A-B Tech.
12. **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.

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 of 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 Appeals Policy

If you feel that you have been disciplined unfairly or wish to appeal some other decision which 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 Appeal Policy which is summarized below. A complete copy is available from the Vice President for Student Services in the Azalea Building.

The intention of the Student Appeal Policy is that the faculty member or other employee who has been responsible for the act which 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 made 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 nonteaching 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. The decision of the President 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.

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.

## **Workplace Violence Prevention Policy and Procedures**

### **Policy**

ABTCC 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 campus security. 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 misdemeanor, and upon conviction may be punished at the discretion of the court.

## Academic Procedures

### 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 80% of the contact hours of the class. Upon accumulating absences exceeding 20% of the course contact hours, the student may be dropped from the class and will be awarded a grade of "U," unless the student follows the official withdrawal procedure before the grade of "U" is recorded. (Note: To receive course credit when enrolled in associate degree nursing or practical nursing, a student should attend a minimum of 90% of the contact hours of all NUR courses. Upon accumulating absences exceeding 10% of the course contact hours, the student may be dropped from the class and will be awarded a grade of "U," unless the student follows the official withdrawal procedure before the grade of "U" is recorded.)**

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.

## Examples of Excessive 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.

## 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.
B	80-89	Good academic performance, high-level mastery of course content.
C	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.
I	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 official withdrawal policy by the course withdrawal deadline or is dropped for excessive absences. This is the equivalent of an "F" grade and <b>will</b> influence the quality point ratio.	
W	Official Withdrawal (no penalty). Assigned when the student <b>OFFICIALLY WITHDRAWS</b> . This <b>will not</b> influence the quality point ratio.	
X	Continuing	Assigned when a student is unable to complete work during the current semester because of class scheduling over consecutive semesters or at the discretion of the instructor to allow additional time to complete work. A "contract" of



conditions 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.
- NS No Show. Student enrolled, but never attended the class. This will not influence the quality point ratio.
- P Proficiency Credit by Examination.
- T Transfer credit from other colleges, universities, and military credit.
- TS Transfer credit for NCCC semester courses which can be used only for diploma 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.

## 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 complete a "Request for an Audit Grade" form in the Student 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 Student 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. *Physical education courses may not be audited.* 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. The student must submit a "Transcript Correction" form to the Student Records and Registration Office to request that the lower grade be excluded in the grade point average calculation.

## 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	F	no quality points
B	3 quality points per credit hour	I	no quality points
C	2 quality points per credit hour	U	no quality points
D	1 quality point per credit hour	W	no quality points

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

## 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.)

## 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 curriculum area dean on a case-by-case basis.

## Schedule Adjustments

### Dropping/Withdrawing from 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 to the Student Records and Registration Office 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 mini-mesters the 10% occurs on the fourth day. For Summer Session the 10% occurs on the fifth day.) To drop a course, the student should fill out a **"Drop/Add Registration Change Notice."** This form can be obtained in the Student Records and Registration Office. In the case of drops, the course(s) will not be included on the transcript.

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. Anyone receiving veteran's benefits must obtain signatures from the instructor(s) and the Veteran's Affairs Counselor. **All withdrawal forms must be submitted to the Student Records and Registration Office during the first 75% of the term.** (For full semester classes the 75% point occurs at the end of the 12th week. For mini-mesters it occurs at the end of the sixth 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 which will appear on the transcript.

Any student who accumulates absences in excess of 20% of the course contact hours may be dropped from the class and awarded a grade of "U," unless the student follows the official withdrawal procedure before the grade of "U" is recorded. 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 completing a **"Drop/Add Registration Change Notice"** form in the Student Records and Registration Office. A class may only be added during the first five days of a semester. During Summer Session or mini-mesters, a class may only be added during the first three days of the term.

### **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.

### **Course Substitutions**

Course substitutions must be approved by the program area dean. The course grade will be the grade earned in the substitute course(s).

## Independent Study

Selected courses may be available for Independent Study at the discretion of the faculty with Department Chair approval. The completed "Request for Independent Study" form must be presented to the Students Records and Registration Office when the student registers.

## Final Exam 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.

## Standards for Academic Progress (Academic Warning, Probation and Suspension Policy)

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 will be posted on the grade report for that semester and the student's advisor will be notified. The warning advises students of their academic status and encourages them to meet with their advisor immediately to examine present academic plans.

### 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.



### 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 Student 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.

## 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 from all courses will receive grades of "W."

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.

## Honors And Achievements

### Dean's List

1. For the Dean's List, students must be enrolled in an academic program, carrying a minimum of eight credit hours of curricu-

- lum 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 and students enrolled in developmental courses are not eligible for the Dean's List for that semester. Students receiving credit for a course by examination are not affected.
  4. The Dean's List will be compiled by the Registrar, the Administrative Assistant of Instructional Services, and Department Chairpersons. The draft of candidates will be posted on major bulletin boards for students to review. The Vice President, Instructional Services, 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, carrying a minimum of eight 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.
3. Students who earn grades F, I, U or X and students enrolled in developmental courses 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, the Administrative Assistant for Instructional Services, and Department Chairpersons. The draft of candidates will be posted on major bulletin boards for students to review. The Vice President for Instructional Services will be responsible for final approval and publication.

### **Privacy of Student Records**

1. In compliance with the Family Educational Rights and Privacy Act of 1974 (FERPA), Asheville-Buncombe Technical Community College will not release information concerning its students except for directory information, and as stipulated in paragraph 3 below. Directory information is defined as:
 

a. name	e. major field of study
b. address (physical and e-mail)	f. dates of attendance
c. telephone number	g. degrees received
d. date of birth and place of birth	h. Dean's List/President's List

Directory Information will be released to anyone who asks for it, unless the student specifies in writing to the Student Records and Registration Office that this information is to be withheld. In such cases, no directory information will be released.

2. A student over the age of 18 is considered an adult within the definition of the law and controls who has access to his or her records. A parent of an eligible student does not automatically have access to the student's records. In order for parents to have access to a student's 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 file.

3. Asheville-Buncombe Technical Community College will release a student's educational records without his or her approval only as follows:
  - a. to Asheville-Buncombe Technical Community College officials who have legitimate educational interest in the records.
  - b. to officials of another college or university in which a student seeks to enroll.
  - c. to certain federal and state educational authorities for purposes of enforcing legal requirements in federally supported educational programs.
  - d. to persons involved in granting financial aid for which the student has applied.
  - e. to state and local authorities to whom information is required to be disclosed under the provisions of a statute adopted prior to Nov. 19, 1974.
  - f. to testing, research, and accrediting organizations.
  - g. in compliance with a court order or lawfully issued subpoena.
  - h. in very narrowly defined emergencies affecting the health and safety of the student or other persons.
  - i. to parents of eligible students under the provision of paragraph 2 above.
4. For further information concerning the Federal Educational Rights and Privacy Act, students may contact the Student Records and Registration Office.

## **Academic Programs And Graduation Requirements**

### **Degrees, Diplomas, and Certificates**

#### **Degree Programs**

Asheville-Buncombe Technical Community College confers the following degrees: Associate in Arts, Associate in Applied Science, Associate in Science, and Associate in Fine Arts. These degrees are conferred in the name of the North Carolina State Board of Community Colleges when all requirements for graduation have been satisfied.

#### **Diploma Programs**

Asheville-Buncombe Technical Community College awards a diploma in all one-year applied curricula. A diploma may be awarded upon completion of the first half of some degree programs. Diplomas are granted in the name of the North Carolina State Board of Community Colleges when all requirements for graduation have been satisfied.

## **Certificates**

Certificates may be issued in the name of the Asheville-Buncombe Technical Community College to students who successfully complete designated short-term programs or course sequences. At least half of the credit hours in a certificate program must be earned at this College.

## **Multiple Degrees/Diplomas/Certificates**

Students may earn multiple degrees, diplomas, and certificates upon completion of program requirements.

## **Declaring, Changing, or Adding Second Majors**

In order to declare a major, change majors, or add a second major, the student needs to see a counselor/advisor in Student Services. A change-of-major form indicating the new major or the second major must be completed by the counselor/advisor. The catalog in effect at the time of this declaration will be the catalog recorded for this major. (See Requirements for Graduation on the following page.)

## **Requirements for Graduation**

The College holds graduation ceremonies in May and August 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 academic advisor 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 2005 cannot use a catalog earlier than 2000-2001). 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. The advisor must document the official catalog selected on the Application for Graduation.
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.
  - c. Take an A-B Tech proficiency exam.

**At least half of the credit hours in a program of study must be earned at this College by taking courses and/or proficiency examinations. Any exception must be approved by the Vice President, Instructional Services.**

**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.**

3. Earn a grade of at least "C" in each course with a major prefix



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. **Submit an application for graduation to the Student Records and Registration Office the semester before completing degree requirements.** Purchase caps, gowns, and diplomas in March (Spring Graduation) or June (Summer 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.
6. Be present for graduation and attired in the proper academic robe. (Students who do not attend the graduation ceremony must submit to the President a written request to be excused at least two weeks prior to graduation.)

## 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.

College transfer courses satisfactorily completed with a grade of "C" or better in the Associate in Fine Arts program 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 four-year 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. 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 advisor in Student Services 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.

# College Services And Information

## College Services

**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 ADA Coordinator.

**Child Care.** A-B Tech offers child care services for children of College students. Faculty, staff, and the general public may also apply for the service. The Center, operated by Buncombe County Child Development, is open during daytime hours.

The program accepts children from two months to five years. Individuals who meet State and Federal income guidelines may apply for financial assistance. Arrangements can be made by calling either 255-5725 or 255-5111 from 8:30 a.m. to 5 p.m. Monday through Friday.

**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 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.

**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, 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.

**Dental Clinic.** Throughout the year the Allied Dental Department provides oral health services, such as patient education, dental X-rays, cleaning the 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 and the Virtual Campus.** Students who cannot fit a traditional classroom course into their schedules or who prefer to try something new have several alternatives, including Web-based classes on the Internet, telecourses on videocassette, and interactive television classes between campuses or on the North Carolina Information Highway (NCIH). All alternative instructional formats require student workloads and outcomes comparable to a traditional class.

The Virtual Campus may be accessed through A-B Tech's Web page. For current offerings, times, and locations of courses, as well as phone numbers, alternative orientation formats, and specific course requirements, go to [www.asheville.cc.nc.us](http://www.asheville.cc.nc.us) and click on the Virtual Campus link (or access the page directly at [www.asheville.cc.nc.us/vcampus](http://www.asheville.cc.nc.us/vcampus)). The Virtual Campus may be accessed from a home computer or from several computers on campus.

**A-B Tech Cafe.** The Cafe is located in the Coman Student Activity Center. Breakfast, lunch and dinner meals, including sandwiches, salads, and soups, are prepared daily. Hours of operation are from 7 a.m. to 7 p.m. Monday - Thursday and 7 a.m. to 3 p.m. on Fridays. Vending machines dispensing soft drinks, coffee, and snacks are located 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 newspaper, *Voices*, for times, dates, and reservation information.

**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.

**Learning Resource Center.** The Learning Resources Center (LRC) includes the Library and Audiovisual Services. Together, they provide

information, guidance, and instruction in a wide range of resource material. In addition, the LRC provides a variety of A-V equipment to supplement classroom, laboratory, and shop experiences. The LRC provides a variety of services and resources to support high-tech, information-dependent curriculum programs. The LRC serves a variety of informational needs of students and faculty, including those who are utilizing distance education technology. All routine library functions such as catalog, circulation, and reserves are automated to provide electronic access within the main campus, Madison campus, and remotely to users who have home computers. These resources include interlibrary loans, electronic and print indexes, online full-text databases, Internet and Web-based products (including NCLIVE and NCLIVE@home.) These resources are available through the College's Web site and the LRC's homepage.

The LRC is open Monday through Friday. Special needs clientele will be assisted by the LRC staff in utilization of resources. In addition, the LRC has many traditional print and non-print resources, with coin-operated copiers and microform reader/printers for use by all patrons. Audiovisual services and a computer lab are available for use by currently employed faculty and staff and by currently enrolled students.

The library makes available all of the LRC's collection of materials, both print and non-print formats. The collection is well organized for easy use. Automated catalogs, circulation, electronic indexes, and reference services provide the user with state-of-the-art access to research and recreational materials. The primary objectives of the library are to provide information services and assist the user with utilization of the collection in an attractive, well-equipped facility that is open to the College and the community.

HOURS:	Monday-Thursday	8 a.m. - 8:45 p.m.
	Friday	8 a.m. - 4:15 p.m.

Audiovisual services are available to the College faculty, staff, and students. These services include production, materials, and equipment to support the instructional program and related activities, including satellite reception for seminars and teleconferences. The LRC maintains an inventory of audiovisual equipment to support College sponsored activities, along with an extensive collection of audiovisual materials. A staffed computer lab is available for student use.

**Parking Locations.** 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.

**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.



**Recreation Center.** A recreation center is located in the Coman Student Activity Center for those students with spare time and who wish to play coin-operated video games or billiards.

**Security.** Security personnel are on duty 24 hours a day, seven days a week. Each security officer is certified to respond to medical emergencies.

**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 Azalea Building or the Coman Student Activity Center.





## Allied Health and Public Service Education

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The Allied Health and Public Service Education Division provides students with opportunities at the postsecondary level to acquire knowledge, skills, and attitudes that will enable them to become effective and safe members of the health care and public service teams.

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	<b>Associate Degree Nursing*</b>	<b>Criminal Justice Technology</b>	<b>Dental Assisting*</b>
Allied Health and Public Service Education	<b>Recommended High School Courses</b>		
	Algebra II Advanced Biology Chemistry Composition Courses in Health Occupations Anatomy/Physiology Keyboarding	English courses, particularly those with emphasis on writing skills	Chemistry Advanced Biology Courses in Health Occupations Keyboarding
	<b>A-B Tech Entrance Requirements</b>		
	Chemistry Biology English (4 units) Mathematics (2 units)  Competitive selection after acceptable scores on Reading Compre- hension Sentence Skills, and Arithmetic Skills, College Board Computerized Place- ment Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Comput- erized Placement Tests (CPT).	High school diploma or GED  Competitive selection after acceptable scores on Reading Compre- hension, Sentence Skills, Arithmetic Skills, College Board Comput- erized Placement Tests (CPT).
	<b>Program Schedule</b>		
	Day, Night/Weekend Begin Fall ADN Bridge Begins Spring	Day/Night Begin Fall. Can take single courses any semester.	Day Begins Fall
	<b>Degree</b>		
	Associate in Applied Science	Associate in Applied Science	Diploma
	<b>Employment Opportunities</b>		
	Hospitals Long Term Care Facilities Clinics Physicians' Offices Industry Community Health Agencies	Law Enforcement Highway Patrol Deputy Sheriff Private Security Magistrate Correctional Officer Surveillance Officer Alcohol Law Enforce- ment Wildlife Enforcement	V.A. Clinics Health Departments State Clinics Dental Schools Private and Group Practices Clinics
* See Selection Criteria and Procedures for Allied Health Programs brochure for full details.			



Dental Hygiene*	Early Childhood Associate	Early Childhood Teacher Associate	
<b>Recommended High School Courses</b>			Allied Health
Anatomy/Physiology Plane Geometry (or Algebra II) Advanced Biology Courses in Health Occupations Keyboarding	Composition Literature Keyboarding Courses in Childcare Occupations	Composition Literature Keyboarding	and Public Service Education
<b>A-B Tech Entrance Requirements</b>			
Chemistry, Biology English (4 units) Mathematics (2 units, one must be Algebra)  Competitive selection after acceptable scores on Reading Comprehension, Sentence Skills, and Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, and Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, and Arithmetic Skills, College Board Computerized Placement Tests (CPT).	
<b>Program Schedule</b>			
Day Begins Fall	Day/Night Enter program at the start of any semester.	Day/Night	
<b>Degree</b>			
Associate in Applied Science	Associate in Applied Science	Associate in Applied Science	
<b>Employment Opportunities</b>			
Dental Offices Education Local, State, and Federal Government Agencies Private Industry	Child Care Worker Child Care Assistant Director, Child Care Director, Preschool	Public Schools Private Schools Child Development Programs Headstart School Age Programs	* See Selection Criteria and Procedures for Allied Health Programs brochure for full details.

	<b>Emergency Medical Science</b>	<b>Fire Protection Technology</b>	<b>Medical Laboratory Technology *</b>
Allied Health and Public Service Education	<b>Recommended High School Courses</b>		
	Anatomy, Biology Mathematics Chemistry Composition Courses in Health Occupations Keyboarding	Mathematics Chemistry Keyboarding	Anatomy Biology Applied Math Chemistry (strongly recommended) Geometry (strongly recommended) Keyboarding
	<b>A-B Tech Entrance Requirements</b>		
	Acceptable scores on Reading Comprehension, Sentence Skills, Arithmetic Skills, and College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and College Board Computerized Placement Tests (CPT).	Biology Algebra I English (4 units)  Acceptable scores on Reading Comprehension, Sentence Skills, Arithmetic Skills, Elementary Algebra, and College Board Computerized Placement Tests (CPT).
	<b>Program Schedule</b>		
	Day Begins Fall	Day/Night Begins Fall	Day Begins Fall
	<b>Degree</b>		
	Associate in Applied Science	Associate in Applied Science	Associate in Applied Science
	<b>Employment Opportunities</b>		
	Emergency Medical Services Hospitals Urgent Care Clinics Physicians' Offices Private Ambulance Companies	Municipal Fire Departments Government Agencies Industrial Firms Insurance Rating Organizations Educational Organizations	Hospitals Emergency Care Clinics Health Departments Physicians' Offices General Clinics
* See Selection Criteria and Procedures for Allied Health Programs brochure for full details.			



Medical Sonography*	Phlebotomy	Practical Nursing*	
<b>Recommended High School Courses</b>			Allied Health
Anatomy Advanced Biology Applied Math Physics Keyboarding	High School Transcript or GED	Anatomy/Physiology Advanced Biology English Composition Courses in Health Occupations Keyboarding	and Public Service Education
<b>A-B Tech Entrance Requirements</b>			
Biology Algebra I  Competitive selection after acceptable scores on Reading Compre- hension, Sentence Skills, Arithmetic Skills, Elementary Algebra, and College Board Computerized Place- ment Tests (CPT).	Acceptable score on reading placement test.	English (4 units) Mathematics Biology  Competitive selection after acceptable scores on Reading Compre- hension, Sentence Skills, Arithmetic Skills, and College Board Computerized Place- ment Tests (CPT)	
<b>Program Schedule</b>			
Day Begins Fall	Day Fall Day Spring	Day Begins Fall	
<b>Degree</b>			
Associate in Applied Science	Certificate	Diploma	
<b>Employment Opportunities</b>			
Hospitals Health Departments Physician's Offices Imaging Centers Mobile /Traveling Services	Hospitals Physician's Offices General Clinics	Hospitals Long-Term Care Facilities Physician's Offices Industry Community Health Agencies	* See Selection Criteria and Procedures for Allied Health Programs brochure for full details.

	<b>Radiography*</b>	<b>Social Services</b>	<b>Surgical Technology*</b>
Allied Health and Public Service Education	<b>Recommended High School Courses</b>		
	Anatomy Advanced Biology Applied Math Physics (strongly recommended) Keyboarding	Composition Literature Keyboarding Courses in Sociology and Psychology	Anatomy Biology Mathematics Chemistry Composition Health Occupations Keyboarding
	<b>A-B Tech Entrance Requirements</b>		
	Biology Algebra I  Competitive Selection after acceptable scores on Reading Compre- hension, Science Skills, Elementary Algebra, and College Board Computerized Place- ment Test (CPT)	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and College Board Comput- erized Placement Tests (CPT).	Biology Algebra I  Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, and College Board Comput- erized Placement Tests (CPT).
	<b>Program Schedule</b>		
	Day Begins Fall	Day/Night Begins Fall	Day
	<b>Degree</b>		
	Associate in Applied Science	Associate in Applied Science	Diploma
	<b>Employment Opportunities</b>		
	Hospitals Health Departments Physician's Offices Emergency Care Clinics Industry Imaging Centers	Case Aide Social Service Social Worker Aide	Hospitals Surgery Centers Physician's Offices
* See Selection Criteria and Procedures for Allied Health Programs brochure for full details.			



# 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 a helping 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, or employment may be denied to anyone who has been convicted of a felony or other crime involving moral turpitude.

## **A.A.S. DEGREE CONFERRED**

- Associate Degree Nursing
- Criminal Justice Technology
- Dental Hygiene
- Early Childhood Associate
- Early Childhood/Teacher Associate
- Emergency Medical Science
- Fire Protection Technology
- Medical Laboratory Technology
- Medical Sonography
- Radiography
- Social Services

## **DIPLOMA AWARDED**

- Dental Assisting
- Practical Nursing
- Surgical Technology

## **CERTIFICATE AWARDED**

- Basic Law Enforcement Training
- Early Childhood Associate
- Fire Protection Technology
- Phlebotomy

## Associate Degree Nursing

Allied Health  
and Public  
Service  
Education

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.

Courses will include content related to the nurse's role as provider of nursing care, as manager of care, as member of the discipline of nursing, and as a member of the interdisciplinary team.

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.

### Admission Requirements

1. 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.
2. Satisfactory completion of required immunizations.
3. Current CPR for the Professional Rescuer certification is a prerequisite to admission and must be maintained throughout the program.
4. Students applying to the Associate Degree Nursing program are encouraged to have successfully completed: BIO 168, BIO 169, CIS 110, ENG 111, ENG 114, SOC 215, and a Humanities elective prior to program admission due to the rigorous nature of the A.D.N. curriculum.
5. North Carolina Board of Nursing requires criminal background checks on all applicants for initial licensure.

## Associate Degree Nursing - Associate in Applied Science Degree – Day Option

<b>This program consists of:</b>			<b>Credit Hrs.</b>			
<b>Major courses (BIO, NUR prefix)</b>			<b>52</b>			
<b>Related and general education courses including:</b>			<b>23</b>			
		<i>English/Oral Communications</i>				6
		<i>Humanities/Fine Arts</i>				3
		<i>Natural Science/Mathematics</i>				8
		<i>Social Sciences</i>				3
		<i>Other</i>				3
<b>PROGRAM TOTAL</b>			<b>75</b>			
			<b>WeeklyWeeklyWeekly</b>			
			<b>Class Lab Clinic Credit</b>			
			<b>Hrs. Hrs. Hrs. Hrs.</b>			
<b>First Semester (Fall)</b>						
BIO	168	Anatomy and Physiology I	3	3	0	4
ENG	111	Expository Writing	3	0	0	3
NUR	115	Fundamentals of Nursing	2	3	6	5
NUR	117	Pharmacology	1	3	0	2
NUR	133	Nursing Assessment	2	3	0	3
			<b>11</b>	<b>12</b>	<b>6</b>	<b>17</b>



**Second Semester (Spring)**

BIO	169	Anatomy and Physiology II	3	3	0	4	
CIS	110	Introduction to Computers	2	2	0	3	Allied Health
NUR	135	Adult Nursing I	5	3	9	9	
			<b>10</b>	<b>8</b>	<b>9</b>	<b>16</b>	and Public

**Third Semester (Summer)**

NUR	185	Mental Health Nursing	3	0	6	5	Service
NUR	188	Nursing in the Community	1	0	6	3	
SOC	215	Group Processes	3	0	0	3	Education
			<b>7</b>	<b>0</b>	<b>12</b>	<b>11</b>	

**Fourth Semester (Fall)**

ENG	114	Professional Research and Reporting	3	0	0	3	
NUR	125	Maternal-Child Nursing	5	3	6	8	
NUR	255	Professional Issues	3	0	0	3	
		Humanities Elective	3	0	0	3	
			<b>14</b>	<b>3</b>	<b>6</b>	<b>17</b>	

**Fifth Semester (Spring)**

NUR	116	Nursing of Older Adults	2	3	3	4	
NUR	235	Adult Nursing II	4	3	15	10	
			<b>6</b>	<b>6</b>	<b>18</b>	<b>14</b>	
<b>Program Totals</b>			<b>48</b>	<b>29</b>	<b>51</b>	<b>75</b>	

**Associate Degree Nursing – Evening and Weekend 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.

Courses will include content related to the nurse's role as provider of nursing care, as manager of care, as member of the discipline of nursing, and as a member of the interdisciplinary team.

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.

**Admission Requirements**

1. 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.
2. Satisfactory completion of required immunizations.
3. Current CPR for the Professional Rescuer certification is a prerequisite to admission and must be maintained throughout the program.
4. Students applying to the Associate Degree Nursing program are encouraged to have successfully completed: BIO 168, BIO 169, CIS 110, ENG 111, ENG 114, SOC 215, and a Humanities elective prior to program admission due to the rigorous nature of the A.D.N. curriculum.
5. North Carolina Board of Nursing requires criminal background checks on all applicants for initial licensure.

## Associate Degree Nursing - Associate in Applied Science Degree - Evening and Weekend Option

Allied Health and Public Service Education	<b>This program consists of:</b> <b>Major Courses (BIO, NUR Prefix)</b> <b>Related and General Education Courses</b> <b>including:</b> <i>English/Oral Communication</i> <i>Humanities/Fine Arts</i> <i>Natural Science/Mathematics</i> <i>Social Sciences</i> <i>Other</i>	<b>Credit Hrs.</b> <b>52</b> <b>23</b>  <b>6</b> <b>3</b> <b>8</b> <b>3</b> <b>3</b> <b>75</b>
	<b>PROGRAM TOTAL</b>	<b>75</b>

				Weekly	Weekly	Weekly	Weekly
				Class	Lab	Clinic	Credit
				Hrs.	Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>							
BIO	168	Anatomy and Physiology		3	3	0	4
ENG	111	Expository Writing		3	0	0	3
NUR	115	Fundamentals of Nursing		2	3	6	5
NUR	133	Nursing Assessment		2	3	0	3
				<b>10</b>	<b>9</b>	<b>6</b>	<b>15</b>
<b>Second Semester (Spring)</b>							
BIO	169	Anatomy and Physiology II		3	3	0	4
CIS	110	Intro to Computers		2	2	0	3
NUR	117	Pharmacology		1	3	0	2
NUR	135	Adult Nursing I		5	3	9	9
				<b>11</b>	<b>11</b>	<b>9</b>	<b>18</b>
<b>Third Semester (Summer)</b>							
NUR	188	Nursing in the Community		1	0	6	3
SOC	215	Group Processes		3	0	0	3
				<b>4</b>	<b>0</b>	<b>6</b>	<b>6</b>
<b>Fourth Semester (Fall)</b>							
NUR	185	Mental Health Nursing		3	0	6	5
NUR	255	Professional Issues		3	0	0	3
		Humanities Elective		3	0	0	3
				<b>9</b>	<b>0</b>	<b>6</b>	<b>11</b>
<b>Fifth Semester (Spring)</b>							
NUR	125	Maternal Child Nursing		5	3	6	8
<b>Sixth Semester (Summer)</b>							
NUR	235(A)	Adult Nursing II		2	2	7	5
<b>Seventh Semester (Fall)</b>							
NUR	116	Nursing of Older Adults		2	3	3	4
NUR	235(B)	Adult Nursing II		2	1	8	5
				<b>4</b>	<b>4</b>	<b>11</b>	<b>9</b>
<b>Program Totals</b>				<b>48</b>	<b>29</b>	<b>51</b>	<b>75</b>



# Associate Degree Nursing Bridge Option

## Admission Requirements

1. 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.
2. Satisfactory completion of required immunizations.
3. Current CPR for the Professional Rescuer certification is a prerequisite to admission and must be maintained throughout the program.
4. Current, unrestricted license to practice as an LPN in the state of North Carolina is a prerequisite to admission and must be maintained throughout the program.
5. The North Carolina Board of Nursing requires criminal background checks on all applicants.

Allied Health  
and Public  
Service  
Education

*Licensed Practical Nurses in the bridge program will receive credit for NUR 115 Fundamentals of Nursing, NUR 117 Pharmacology, and NUR 135 Adult Nursing I upon successful completion of NUR 189 Nursing Transition. Licensed Practical Nurses in the Bridge Program must complete all general education courses required in the generic Associate Degree Nursing program prior to application deadline. These courses include: BIO 168, BIO 169, CIS 110, ENG 111, ENG 114, SOC 215, and one 3 hour Humanities elective.*

*\* Applicants must obtain nursing department chair approval to enroll in ENG 114.*

*\*\* Licensed Practical Nurses completing BIO 168, BIO 169, CIS 110, ENG 111, ENG 114, SOC 215 and a Humanities elective and receiving credit for NUR 115, NUR 117, and NUR 135 must complete the additional 38 credit hours listed to receive the Associate in Applied Science degree in nursing.*

# Associate Degree Nursing Bridge Option

<b>This program consists of:</b>	<b>Credit Hrs.</b>
<b>Major courses (BIO, NUR prefix)</b>	<b>52</b>
<b>Related and general education courses including:</b>	<b>23</b>
<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	8
<i>Social Sciences</i>	3
<i>Other</i>	3
<b>PROGRAM TOTAL</b>	<b>75*</b>

<b>Weekly</b>			
<b>Class</b>	<b>Lab</b>	<b>Clinic</b>	<b>Credit</b>
<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
2	3	0	3
1	3	0	2
<b>3</b>	<b>6</b>	<b>0</b>	<b>5</b>

## Second Semester (Spring)

NUR 133 Nursing Assessment  
NUR 189 Nursing Transition

**Third Semester (Summer)**

Allied Health	NUR 185	Mental Health Nursing	3	0	6	5
	NUR 188	Nursing in the Community	1	0	6	3
			<b>4</b>	<b>0</b>	<b>12</b>	<b>8</b>
and Public	<b>Fourth Semester (Fall)</b>					
Service	NUR 125	Maternal-Child Nursing	5	3	6	8
	NUR 255	Professional Issues	3	0	0	3
Education			<b>8</b>	<b>3</b>	<b>6</b>	<b>11</b>
	<b>Fifth Semester (Spring)</b>					
	NUR 116	Nursing of Older Adults	2	3	3	4
	NUR 235	Adult Nursing II	4	3	15	10
			<b>6</b>	<b>6</b>	<b>18</b>	<b>14</b>
	<b>Program Totals</b>		<b>21</b>	<b>15</b>	<b>36</b>	<b>38*</b>

## Associate Degree Nursing Bridge Option- Evening and Weekend Option

This program consists of:

Major courses (BIO, NUR prefix)

Related and general education courses

including:

*English/Communications*

*Humanities/Fine Arts*

*Natural Science/Mathematics*

*Social Sciences*

*Other*

**PROGRAM TOTAL**

**Credit Hrs.**

**52**

**23**

**6**

**3**

**8**

**3**

**3**

**75\***

**WeeklyWeeklyWeekly**

**Class Lab Clinic Credit  
Hrs. Hrs. Hrs. Hrs.**

### Second Semester (Spring)

NUR 133	Nursing Assessment	2	3	0	3
NUR 189	Nursing Transition	1	3	0	2
		<b>3</b>	<b>6</b>	<b>0</b>	<b>5</b>

### Third Semester (Summer)

NUR 188	Nursing in the Community	1	0	6	3
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### Fourth Semester (Fall)

NUR 185	Mental Health Nursing	3	0	6	5
NUR 255	Professional Issues	3	0	0	3
		<b>6</b>	<b>0</b>	<b>6</b>	<b>8</b>

### Fifth Semester (Spring)

NUR 125	Maternal Child Nursing	5	3	6	8
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### Sixth Semester (Summer)

NUR 235(A)	Adult Nursing II	2	2	7	5
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### Seventh Semester (Fall)

NUR 116	Nursing of Older Adults	2	3	3	4
NUR 235(B)	Adult Nursing II	2	1	8	5
		<b>4</b>	<b>4</b>	<b>11</b>	<b>9</b>

**Program Totals:**

**21 15 36 38**



## Basic Law Enforcement Training

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.

Allied Health  
and Public  
Service  
Education

### Specific Entrance Requirements

1. General college admission requirements.
2. Individuals must meet the Minimum Standard for Employment Criteria outlined 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. 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.
6. 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. The testing is done in the Azalea Building Monday through Thursdays: 8:30 am, 10:30 am, 1:30 pm, 3:30 pm, and 5:30 pm and Fridays: 8:30 am, 10:30 am, and 1:30 pm. Arrive 20 minutes early; no appointment is necessary.

## Basic Law Enforcement Training – Certificate Program Day and Evening Schedule

Allied Health  
and Public  
Service  
Education

This program consists of:  
One major course

Credit Hrs.  
18

Weekly		Weekly
Class	Lab	Credit
Hrs.	Hrs.	Hrs.
8	30	18

## 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

This program consists of:

Credit Hrs.

Major courses (CJC prefix)

51

Related and general education courses  
including:

25

*English/Communications*

6

*Humanities/Fine Arts*

3

*Natural Science/Mathematics*

3

*Social Sciences*

6

*Other*

7

**PROGRAM TOTAL**

76

Weekly		Weekly
Class	Lab	Credit
Hrs.	Hrs.	Hrs.

### First Semester (Fall)

ACA	115	First-Year Seminar	0	2	1
CIS	110	Introduction to Computers	2	2	3
CJC	111	Introduction to Criminal Justice	3	0	3
CJC	121	Law Enforcement Operations	3	0	3
CJC	231	Constitutional Law	3	0	3
ENG	111	Expository Writing	3	0	3
			<b>14</b>	<b>4</b>	<b>16</b>



**Second Semester (Spring)**

CJC	112	Criminology	3	0	3
CJC	132	Court Procedure	3	0	3
CJC	222	Criminalistics	3	0	3
HUM	115	Critical Thinking	3	0	3
		Major Elective*	3	0	3
			<b>15</b>	<b>0</b>	<b>15</b>

Allied Health  
and Public  
Service  
Education

**Third Semester (Summer)**

CJC	113	Juvenile Justice	3	0	3
CJC	114	Investigative Photography	1	2	2
CJC	131	Criminal Law	3	0	3
PSY	150	General Psychology	3	0	3
		Major Elective*	3	0	3
			<b>13</b>	<b>2</b>	<b>14</b>

**Fourth Semester (Fall)**

CJC	213	Substance Abuse	3	0	3
CJC	221	Investigative Principles	3	2	4
ENG	114	Professional Research & Reporting	3	0	3
SOC	225	Social Diversity (Or PSY 281)	3	0	3
		Major Elective*	3	0	3
			<b>15</b>	<b>2</b>	<b>16</b>

**Fifth Semester (Spring)**

CJC	122	Community Policing	3	0	3
CJC	212	Ethics and Community Relations	3	0	3
MAT	115	Mathematical Models (or MAT 161)	2	2	3
SPA	120	Spanish for the Workplace	3	0	3
		Major Elective*	3	0	3
			<b>14</b>	<b>2</b>	<b>15</b>

**Program Totals**

**71      10      76\***

\*Totals include a minimum of twelve credit hours of major electives to be selected from: CJC 120, CJC 151, CJC 211, CJC 214, CJC 215, CJC 216, CJC 217, CJC 225, CJC 232, CJC 240, CJC 245, CJC 251, CJC 252, CCT 110, CCT 121, or CCT 231.

## Criminal Justice Technology – Associate in Applied Science Degree – Evening Schedule

			Weekly Weekly Credit		
			Class	Lab	Hrs.
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
ACA	115	First-Year Seminar	0	2	1
CIS	110	Basic PC Literacy	2	2	3
CJC	111	Introduction to Criminal Justice	3	0	3
CJC	121	Law Enforcement Operations	3	0	3
CJC	231	Constitutional Law	3	0	3
			<b>11</b>	<b>4</b>	<b>13</b>
<b>Second Semester (Spring)</b>					
CJC	112	Criminology	3	0	3
CJC	132	Court Procedure and Evidence	3	0	3
ENG	111	Expository Writing	3	0	3
		Major Elective*	3	0	3
			<b>12</b>	<b>0</b>	<b>12</b>

		<b>Third Semester (Summer)</b>			
Allied Health	CJC 131	Criminal Law	3	0	3
	ENG 114	Professional Research and Reporting	3	0	3
			<b>6</b>	<b>0</b>	<b>6</b>
		<b>Fourth Semester (Fall)</b>			
and Public	CJC 113	Juvenile Justice	3	0	3
	CJC 114	Investigative Photography	1	2	2
Service	CJC 221	Investigative Principles	3	2	4
			<b>7</b>	<b>4</b>	<b>9</b>
		<b>Fifth Semester (Spring)</b>			
Education	CJC 122	Community Policing	3	0	3
	CJC 213	Substance Abuse	3	0	3
	MAT 115	Mathematical Models (or MAT 161)	2	2	3
			<b>8</b>	<b>2</b>	<b>9</b>
		<b>Sixth Semester (Summer)</b>			
	CJC 222	Criminalistics	3	0	3
	HUM 115	Critical Thinking	3	0	3
			<b>6</b>	<b>0</b>	<b>6</b>
		<b>Seventh Semester (Fall)</b>			
	SOC 225	Social Diversity (Or PSY 281)	3	0	3
		Major Elective*	3	0	3
		Major Elective*	3	0	3
			<b>9</b>	<b>0</b>	<b>9</b>
		<b>Eighth Semester (Spring)</b>			
	CJC 212	Ethics and Community Relations	3	0	3
	PSY 150	General Psychology	3	0	3
	SPA 120	Spanish for the Workplace	3	0	3
		Major Elective*	3	0	3
			<b>12</b>	<b>0</b>	<b>12</b>
<b>Program Totals</b>			<b>71</b>	<b>10</b>	<b>76</b>

\* Totals include a minimum of twelve credit hours of major electives to be selected from: CJC 120, CJC 151, CJC 211, CJC 214, CJC 215, CJC 216, CJC 217, CJC 225, CJC 232, CJC 240, CJC 245, CJC 251, CJC 252, CCT 110, CCT 121, or CCT 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 chairside and related office and laboratory procedures.

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

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

### Specific Entrance Requirements

1. General college admission requirements.
2. Acceptable report of medical examination by first day of class.



3. Completion of required immunizations by first day of class, including first two doses of Hepatitis B vaccine.

4. Certification in Community CPR within three months before entering program. Allied Health

and Public

Service

Education

## Dental Assisting Diploma

This program consists of:

Major courses (DEN prefix)

Related and general education courses including:

*English/Communications*

*Natural Science/Mathematics*

*Social Science*

*Other*

**PROGRAM TOTAL**

**Credit Hrs.**

**37**

**11**

3

3

3

2

**48**

**Weekly Weekly Weekly**

**Class Lab Clinic Credit  
Hrs. Hrs. Hrs. Hrs.**

### First Semester (Fall)

BIO	106	Introduction to Anatomy/ Physiology/Microbiology	2	2	0	3
DEN	101	Preclinical Procedures	4	6	0	7
DEN	103	Dental Sciences	2	0	0	2
DEN	110	Orofacial Anatomy	2	2	0	3
DEN	111	Infection/Hazard Control	2	0	0	2
DEN	112	Dental Radiography	2	3	0	3
			<b>14</b>	<b>13</b>	<b>0</b>	<b>20</b>

### Second Semester (Spring)

DEN	102	Dental Materials	3	4	0	5
DEN	104	Dental Health Education	2	2	0	3
DEN	105	Practice Management	2	0	0	2
DEN	106	Clinical Practice I	1	0	12	5
			<b>8</b>	<b>6</b>	<b>12</b>	<b>15</b>

### Third Semester (Summer)

CIS	111	Basic PC Literacy	1	2	0	2
DEN	107	Clinical Practice II	1	0	12	5
ENG	102	Applied Communication II	3	0	0	3
PSY	150	General Psychology	3	0	0	3
			<b>8</b>	<b>2</b>	<b>12</b>	<b>13</b>
<b>Program Totals</b>			<b>30</b>	<b>21</b>	<b>24</b>	<b>48</b>

## 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.

Allied Health **Specific Entrance Requirements**

and Public

Service

Education

1. General college admission requirements.
2. 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.
3. Acceptable report of medical examination by the first day of class.
4. Completion of required immunizations by first day of class, including first two doses of Hepatitis B vaccine.
5. Certification in Community CPR within three months before entering program.
6. 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

This program consists of:

Major courses (DEN prefix)

Credit Hrs.

49

Related and general education courses

25

including:

*English/Communications*

6

*Humanities/Fine Arts*

3

*Natural Science/Mathematics*

11

*Social Sciences*

3

*Other*

2

**PROGRAM TOTAL**

**74**

Weekly Weekly Weekly

Class Lab Clinic Credit  
Hrs. Hrs. Hrs. Hrs.

### First Semester (Fall)

BIO	168	Anatomy and Physiology I	3	3	0	4
DEN	110	Orofacial Anatomy	2	2	0	3
DEN	111	Infection/Hazard Control	2	0	0	2
DEN	112	Dental Radiography	2	3	0	3
DEN	120	Dental Hygiene Preclinic Lecture	2	0	0	2
DEN	121	Dental Hygiene Preclinic Laboratory	0	6	0	2
			<b>11</b>	<b>14</b>	<b>0</b>	<b>16</b>

### Second Semester (Spring)

BIO	169	Anatomy and Physiology II	3	3	0	4
DEN	124	Periodontology	2	0	0	2
DEN	125	Dental Office Emergencies	0	2	0	1
DEN	130	Dental Hygiene Theory I	2	0	0	2
DEN	131	Dental Hygiene Clinic I	0	0	9	3
DEN	222	General and Oral Pathology	2	0	0	2
ENG	111	Expository Writing	3	0	0	3
			<b>12</b>	<b>5</b>	<b>9</b>	<b>17</b>



**Third Semester (Summer)**

BIO	175	General Microbiology	2	2	0	3
CIS	111	Basic PC Literacy	1	2	0	2
DEN	140	Dental Hygiene Theory II	1	0	0	1
DEN	141	Dental Hygiene Clinic II	0	0	6	2
DEN	223	Dental Pharmacology	2	0	0	2
			<b>6</b>	<b>4</b>	<b>6</b>	<b>10</b>

Allied Health  
and Public  
Service  
Education

**Fourth Semester (Fall)**

COM	231	Public Speaking	3	0	0	3
DEN	123	Nutrition/Dental Health	2	0	0	2
DEN	220	Dental Hygiene Theory III	2	0	0	2
DEN	221	Dental Hygiene Clinic III	0	0	12	4
DEN	224	Materials and Procedures	1	3	0	2
SOC	240	Social Psychology	3	0	0	3
			<b>11</b>	<b>3</b>	<b>12</b>	<b>16</b>

**Fifth Semester (Spring)**

DEN	230	Dental Hygiene Theory IV	1	0	0	1
DEN	231	Dental Hygiene Clinic IV	0	0	12	4
DEN	232	Community Dental Health	2	0	3	3
DEN	233	Professional Development	2	0	0	2
DEN	292	Selected Topics in Dental Hygiene	2	0	0	2
HUM	115	Critical Thinking	3	0	0	3
			<b>10</b>	<b>0</b>	<b>15</b>	<b>15</b>
<b>Program Totals</b>			<b>50</b>	<b>26</b>	<b>42</b>	<b>74</b>

**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 programs in early childhood settings. Employment opportunities include child development and child care programs, preschools, public and private schools, recreational centers, Head Start Programs, and school age programs.

**Specific Entrance 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 an employee in a day care facility who has been convicted of a crime involving child neglect, child abuse, or moral turpitude, or who is a habitually excessive user of alcohol or who illegally uses narcotics or other impairing drugs, or who is mentally retarded or mentally ill to an extent that may be injurious to children."

## Early Childhood Associate Associate in Applied Science Degree

Allied Health  
and Public  
Service  
Education

This program consists of:

Major courses (COE, EDU prefix)

Related and general education courses  
including:

*English/Communication*

*Humanities/Fine Arts*

*Natural Science/Mathematics*

*Social Sciences*

*Other*

**PROGRAM TOTAL**

**Credit Hrs**

**48 (47)**

**26**

9

3

4

6

4

**74 (73)**

**Weekly Weekly Weekly**

**Class Lab Clinic Credit  
Hrs. Hrs. Hrs. Hrs.**

### First Semester (Fall)

ACA	115	First-Year Seminar	0	2	0	1
CIS	110	Introduction to Computers	2	2	0	3
EDU	111	Early Childhood Credential I	2	0	0	2
EDU	112	Early Childhood Credential II (or EDU 113)	2	0	0	2
EDU	131	Child, Family, and Community	3	0	0	3
EDU	144	Child Development I	3	0	0	3
EDU	162	Early Experience/Prospective Teachers (or EDU 261)	1 (2)	2 0	0 0	2 (2)
ENG	111	Expository Writing	3	0	0	3
			<b>16(17)</b>	<b>6</b>	<b>0</b>	<b>19</b>

### Second Semester (Spring)

COE	111EC	Work Experience I	0	0	10	1
COE	115EC	Work Experience I Seminar	1	0	0	1
EDU	145	Child Development II	3	0	0	3
EDU	151	Creative Activities	3	0	0	3
EDU	151A	Creative Activities Lab	0	2	0	1
EDU	153	Health, Safety, and Nutrition	3	0	0	3
EDU	153A	Health, Safety, and Nutrition Lab	0	2	0	1
PSY	150	General Psychology	3	0	0	3
			<b>13</b>	<b>4</b>	<b>10</b>	<b>16</b>

### Third Semester (Summer)

BIO	143	Field Biology Minicourse	1	2	0	2
EDU	251	Exploration Activities	3	0	0	3
EDU	251A	Exploration Activities Lab	0	2	0	1
		Humanities Elective	3	0	0	3
			<b>7</b>	<b>4</b>	<b>0</b>	<b>9</b>

### Fourth Semester (Fall)

BIO	226	Local Flora Fall	1	2	0	2
COE	121E	Work Experience II	0	0	10	1
COE	125E	Work Experience II Seminar	1	0	0	1
EDU	146	Child Guidance	3	0	0	3
EDU	234	Infants/Toddlers/Two's	3	0	0	3
EDU	280	Literacy Experiences (or EDU 262)	3 (2)	0 0	0 0	3 (2)
PSY	237	Social Psychology	3	0	0	3
			<b>14(13)</b>	<b>2</b>	<b>10</b>	<b>16(15)</b>



**Fifth Semester (Spring)**

COE	131E	Work Experience III	0	0	10	1	
COE	135E	Work Experience III Seminar	1	0	0	1	Allied Health
COM	231	Public Speaking	3	0	0	3	
EDU	221	Special Needs	3	0	0	3	and Public
EDU	259	Curriculum Planning (or EDU 235)	3 (2)	0	0	0 (2)	Service
ENG	114	Professional Research and Reporting	3	0	0	3	
			<b>13(12)</b>	<b>0</b>	<b>10</b>	<b>14(13)</b>	
<b>Program Totals</b>			<b>63(64)</b>	<b>16</b>	<b>30</b>	<b>74(73)</b>	Education

Total credit hours required for certificate: 14.

Required courses for certificate program: EDU 111, EDU 112, EDU 144, EDU 146, EDU 151, and EDU 151A. The certificate program is also offered in the evening schedule.

**Early Childhood Certificate**

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 Entrance Requirements**

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

**Early Childhood Certificate Program**

This program consists of:  
Major courses (EDU)

Credit Hrs.  
14

Weekly Class Hrs.	Weekly Lab Hrs.	Weekly Clinic Hrs.	Weekly Credit Hrs.
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**First Semester (Fall)**

EDU	111	Early Childhood Credential I	2	0	0	2
EDU	112	Early Childhood Credential II	2	0	0	2
EDU	144	Child Development I	3	0	0	3
EDU	146	Child Guidance	3	0	0	3
			<b>10</b>	<b>0</b>	<b>0</b>	<b>10</b>

**Second Semester (Spring)**

EDU	151	Creative Activities	3	0	0	3
EDU	151A	Creative Activities Lab	0	2	0	1
			<b>3</b>	<b>2</b>	<b>0</b>	<b>4</b>
<b>Program Totals</b>			<b>13</b>	<b>2</b>	<b>0</b>	<b>14</b>

## Early Childhood / Teacher Associate

Allied Health  
and Public  
Service  
Education

Teacher Associate is a concentration under the curriculum title of Early Childhood Associate. This curriculum prepares individuals to work with children from infancy through middle childhood. Students will combine the theories learned in class with practice in elementary school settings under the supervision of certified teachers. Courses include childhood growth and development, physical/nutritional needs of children, guidance of children, professional responsibilities and ethics, and curriculum principles and practices.

Graduates are prepared to work in any elementary school setting, whether public or private. Employment opportunities include teacher assistants in elementary schools, lead teachers in child development programs, Head Start Programs and school age programs.

### Specific Entrance 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.

## Early Childhood/Teacher Associate Associate in Applied Science Degree

This program consists of:

Major Courses (COE, EDU prefix)

Related and General Education courses

including:

*English/Oral Communications*

*Humanities/Fine Arts*

*Natural Sciences/Mathematics*

*Social Sciences*

*Other*

**PROGRAM TOTAL**

**Credit Hours**

**51**

**24**

9

3

5

3

4

**75**

**WeeklyWeeklyWeekly**

**Class Lab Clinic Credit  
Hrs. Hrs. Hrs. Hrs.**

### First Semester (Fall)

ACA 115	First Year Experience	0	2	0	1
CIS 110	Introduction to Computers	2	2	0	3
EDU 119	Early Childhood Education	4	0	0	4
EDU 131	Child, Family & Community	3	0	0	3
EDU 144	Child Development I	3	0	0	3
EDU 186	Reading and Writing Methods	3	0	0	3
ENG 111	Expository Writing	3	0	0	3
		<b>18</b>	<b>4</b>	<b>0</b>	<b>20</b>

### Second Semester (Spring)

COE 111E	Work Experience I	0	0	10	1
COE 115	Work Experience I Seminar	1	0	0	1
EDU 118	Teacher Associate Principles	3	0	0	3
EDU 145	Child Development II	3	0	0	3
EDU 151	Creative Activities	3	0	0	3
EDU 151A	Creative Activities Lab	0	2	0	1
PSY 150	General Psychology	3	0	0	3
		<b>13</b>	<b>2</b>	<b>10</b>	<b>15</b>



**Third Semester (Summer)**

BIO 143	Field Biology Minicourse	1	2	0	2	
EDU 251	Exploration Activities	3	0	0	3	Allied Health
EDU 251A	Exploration Activities Lab	0	2	0	1	
	Humanities Elective	3	0	0	3	and Public
		<b>7</b>	<b>4</b>	<b>0</b>	<b>9</b>	Service

**Fourth Semester (Fall)**

BIO 226	Local Fall Flora	2	2	0	3	
EDU 146	Child Guidance	3	0	0	3	Education
EDU 153	Health, Safety & Nutrition	3	0	0	3	
EDU 153A	Health, Safety & Nutrition Lab	0	2	0	1	
EDU 275	Effective Teacher Training	2	0	0	2	
EDU 280	Literacy Experiences	3	0	0	3	
		<b>13</b>	<b>4</b>	<b>0</b>	<b>15</b>	

**Fifth Semester (Spring)**

COE 121E	Coop Seminar	0	0	10	1	
COM 231	Oral Communications	3	0	0	3	
EDU 221	Special Needs	3	0	0	3	
EDU 235	School Age Programming	2	0	0	2	
EDU 285	Internship Experience-School Age	1	0	0	1	
ENG 114	Research & Report Writing	3	0	0	3	
PSY 237	Social Psychology	3	0	0	3	
		<b>15</b>	<b>0</b>	<b>10</b>	<b>16</b>	
<b>Program Totals</b>		<b>66</b>	<b>14</b>	<b>20</b>	<b>75</b>	

**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 Entrance Requirements**

1. General college admission requirements.
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.

## Emergency Medical Science Associate in Applied Science Degree

Allied Health  
and Public  
Service  
Education

**This program consists of:**

**Major courses (EMS prefix)**

**Related and general education courses  
including:**

*English/Communications*

*Humanities/Fine Arts*

*Natural Science/Mathematics*

*Social Sciences*

*Other*

**PROGRAM TOTAL**

**Credit Hrs.**

**53**

**23**

*6*

*3*

*8*

*3*

*3*

**76**

**WeeklyWeeklyWeekly**

**Class Lab Clinic Credit  
Hrs. Hrs. Hrs. Hrs.**

### First Semester (Fall)

ACA	115	First-Year Seminar	0	2	0	1
BIO	168	Anatomy and Physiology I	3	3	0	4
CIS	111	Basic PC Literacy (or CIS 110)	1	2	0	2
EMS	110	EMT-Basic	5	6	0	7
EMS	111	Prehospital Environment	2	2	0	3
EMS	150	Emergency Vehicles and EMS Communication	1	3	0	2
			<b>12</b>	<b>18</b>	<b>0</b>	<b>19</b>

### Second Semester (Spring)

BIO	169	Anatomy and Physiology II	3	3	0	4
EMS	120	Intermediate Interventions	2	3	0	3
EMS	121	EMS Clinical Practicum I	0	0	6	2
EMS	130	Pharmacology I for EMS	1	3	0	2
EMS	131	Advanced Airway Management	1	2	0	2
ENG	111	Expository Writing	3	0	0	3
			<b>10</b>	<b>11</b>	<b>6</b>	<b>16</b>

### Third Semester (Summer)

EMS	210	Advanced Patient Assessment	1	3	0	2
EMS	220	Cardiology	2	6	0	4
EMS	221	Clinical Practicum II	0	0	9	3
			<b>3</b>	<b>9</b>	<b>9</b>	<b>9</b>

### Fourth Semester (Fall)

EMS	140	Rescue Scene Management	1	3	0	2
EMS	140A	Rescue Skills Lab	0	3	0	1
EMS	231	Clinical Practicum III	0	0	9	3
EMS	250	Advanced Medical Emergencies	2	3	0	3
EMS	260	Advanced Trauma Emergencies	1	3	0	2
ENG	114	Professional Research and Reporting	3	0	0	3
SOC	225	Social Diversity	3	0	0	3
			<b>10</b>	<b>12</b>	<b>9</b>	<b>17</b>



**Fifth Semester (Spring)**

EMS	230	Pharmacology II For EMS	1	3	0	2	
EMS	240	Special Needs Patients	1	2	0	2	Allied Health
EMS	241	Clinical Practicum IV	0	0	9	3	
EMS	270	Life Span Emergencies	2	2	0	3	and Public
EMS	285	EMS Capstone	1	3	0	2	Service
PHI	240	Introduction to Ethics	3	0	0	3	
			<b>8</b>	<b>10</b>	<b>9</b>	<b>15</b>	
<b>Program Totals</b>			<b>43</b>	<b>60</b>	<b>33</b>	<b>76</b>	Education

**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 Entrance 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.\*

\* Copies of all current certifications must be on file in the EMS Department.

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.

# Emergency Medical Science Bridge Program

## Associate in Applied Science Degree

### Day and Evening Schedule

Allied Health  
and Public  
Service  
Education

<b>This program consists of:</b>	<b>Credit Hrs.</b>
<b>Major courses (EMS prefix)</b>	<b>53</b>
<b>Related and general education courses including:</b>	<b>22</b>
<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	8
<i>Social Sciences</i>	3
<i>Other</i>	2
<b>PROGRAM TOTAL</b>	<b>75</b>

			Weekly			
			Class	Lab	Clinic	Credit
			Hrs.	Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>						
BIO	168	Human Anatomy and Physiology I	3	3	0	4
CIS	111	Basic PC Literacy (or CIS 110)	1	2	0	2
EMS	140	Rescue Scene Management	1	3	0	2
EMS	140A	Rescue Skills Lab	0	3	0	1
EMS	150	Emergency Vehicles and EMS Communications	1	3	0	2
ENG	111	Expository Writing	3	0	0	3
			<b>9</b>	<b>14</b>	<b>0</b>	<b>14</b>
<b>Second Semester (Spring)</b>						
BIO	169	Human Anatomy and Physiology II	3	3	0	4
EMS	230	Pharmacology II For EMS	1	3	0	2
EMS	280	EMS Bridge Course	2	2	0	3
EMS	285	EMS Capstone	1	3	0	2
			<b>7</b>	<b>11</b>	<b>0</b>	<b>11</b>
<b>Third Semester (Summer)</b>						
ENG	114	Professional Research and Reporting	3	0	0	3
PHI	240	Introduction to Ethics	3	0	0	3
SOC	225	Social Diversity	3	0	0	3
			<b>9</b>	<b>0</b>	<b>0</b>	<b>9</b>
<b>Program Totals</b>			<b>25</b>	<b>25</b>	<b>0</b>	<b>34*</b>

\* 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 supervisory-level positions with their current organizations.

Allied Health  
and Public  
Service  
Education

## Fire Protection Technology – Associate in Applied Science Degree – Day and Evening Schedule

This program consists of:	<b>Credit Hrs.</b>
<b>Major courses (FIP prefix)</b>	<b>51</b>
<b>Minimum of 15 semester hours in Related and general education courses including:</b>	<b>22</b>
<i>English/Oral Communications</i>	9
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	3
<i>Computer Literacy</i>	3
<i>Social Sciences</i>	3
<i>Other</i>	1
<b>PROGRAM TOTAL</b>	<b>73</b>

				<b>Weekly</b>		
				<b>Class</b>	<b>Lab</b>	<b>Credit</b>
				<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
<b>First Semester (Fall)</b>						
ACA	115	First-Year Seminar	0	2	1	
CIS	110	Introduction to Computers	2	2	3	
ENG	111	Expository Writing	3	0	3	
FIP	120	Introduction to Fire Protection	3	0	3	
			<b>8</b>	<b>4</b>	<b>10</b>	
<b>Second Semester (Spring)</b>						
ENG	114	Professional Research and Reporting	3	0	3	
FIP	124	Fire Prevention and Public Education	3	0	3	
FIP	128	Detection and Investigation	3	0	3	
			<b>9</b>	<b>0</b>	<b>9</b>	
<b>Third Semester (Summer)</b>						
FIP	140	Industrial Fire Protection	3	0	3	
FIP	228	Local Government Finance	3	0	3	
			<b>6</b>	<b>0</b>	<b>6</b>	
<b>Fourth Semester (Fall)</b>						
FIP	132	Building Construction	3	0	3	
FIP	230	Chemistry of Hazardous Materials I	5	0	5	
MAT	115	Mathematical Models	2	2	3	
			<b>10</b>	<b>2</b>	<b>11</b>	
<b>Fifth Semester (Spring)</b>						
COM	231	Public Speaking	3	0	3	
FIP	136	Inspections and Codes	3	0	3	
FIP	152	Fire Protection Law	3	0	3	
FIP	220	Fire Fighting Strategies	3	0	3	
			<b>12</b>	<b>0</b>	<b>12</b>	

		<b>Sixth Semester (Summer)</b>			
Allied Health	FIP 236	Emergency Management	3	0	3
	FIP 240	Fire Service Supervision	3	0	3
			<b>6</b>	<b>0</b>	<b>6</b>
		<b>Seventh Semester (Fall)</b>			
and Public	FIP 224	Instructional Methodology	4	0	4
	FIP 276	Managing Fire Services	3	0	3
Service	PSY 118	Interpersonal Psychology (or PSY 150)	3	0	3
Education			<b>10</b>	<b>0</b>	<b>10</b>
		<b>Eighth Semester (Spring)</b>			
	FIP 232	Hydraulics and Water Distribution	2	2	3
	FIP 260	Fire Protection Planning	3	0	3
		Humanities Elective	3	0	3
			<b>8</b>	<b>2</b>	<b>9</b>
<b>Program Totals</b>			<b>69</b>	<b>8</b>	<b>73</b>

## Fire Protection Technology Certificate - Day and Evening Schedule

The certificate in Fire Protection Technology provides recognition of the accomplishments 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.

<b>This program consists of:</b>	<b>Credit Hrs.</b>
<b>Major courses (FIP prefix)</b>	<b>15</b>
<b>Related general education courses</b>	<b>3</b>
<b>PROGRAM TOTAL</b>	<b>18</b>

		<b>Weekly</b>		
		<b>Class</b>	<b>Lab</b>	<b>Credit</b>
		<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
<b>First Semester (Fall)</b>				
ENG 111	Expository Writing	3	0	3
FIP 132	Building Construction	3	0	3
FIP 276	Managing Fire Services	3	0	3
		<b>9</b>	<b>0</b>	<b>9</b>
<b>Second Semester (Spring)</b>				
FIP 152	Fire Protection Law	3	0	3
FIP 220	Fire Fighting Strategies	3	0	3
		<b>6</b>	<b>0</b>	<b>6</b>
<b>Third Semester (Summer)</b>				
FIP 240	Fire Service Supervision	3	0	3
		<b>3</b>	<b>0</b>	<b>3</b>
<b>Certificate Totals</b>		<b>18</b>	<b>0</b>	<b>18</b>



## 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 take examinations given by the Board of Registry of Medical Technologists of the American Society of Clinical Pathologists or the National Certifying Agency. Employment opportunities include laboratories in hospitals, medical offices, industry and research facilities.

Allied Health  
and Public  
Service  
Education

### Specific Entrance Requirements

1. General college admission requirements.
2. High School units:
  - a. Algebra required.
  - b. Biology, chemistry, and geometry strongly recommended.
3. Three character references.
4. Acceptable reports of medical examinations by first day of Practicum MLT 252.
5. Completion of required immunizations including one dose of Hepatitis B vaccine.

## Medical Laboratory Technology – Associate in Applied Science Degree

<b>This program consists of:</b>	<b>Credit Hrs.</b>
<b>Major courses (BIO, CHM, MLT prefix)</b>	<b>56</b>
<b>Related and general education courses including:</b>	<b>20</b>
<i>English/Communications</i>	9
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	3
<i>Social Sciences</i>	3
<i>Other</i>	2
<b>PROGRAM TOTAL</b>	<b>76</b>

			Weekly	Weekly	Weekly	
			Class	Lab	Clinic	Credit
			Hrs.	Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>						
BIO	163	Basic Anatomy and Physiology	4	2	0	5
CHM	130	General, Organic and Biochemistry	3	0	0	3
CHM	130A	General, Organic and Biochemistry Lab	0	2	0	1
ENG	111	Expository Writing	3	0	0	3
MLT	110	Introduction to MLT	2	3	0	3
MLT	140	Introduction to Microbiology	2	3	0	3
			<b>14</b>	<b>10</b>	<b>0</b>	<b>18</b>

		<b>Second Semester (Spring)</b>				
Allied Health and Public Service Education	MLT 120	Hematology/Hemostasis	3	3	0	4
	MLT 126	Immunology and Serology	1	2	0	2
	MLT 130	Clinical Chemistry	3	3	0	4
	MLT 240	Special Clinical Microbiology	2	3	0	3
	PHI 240	Introduction to Ethics	3	0	0	3
			<b>12</b>	<b>11</b>	<b>0</b>	<b>16</b>
		<b>Third Semester (Summer)</b>				
	MAT 151	Statistics I	3	0	0	3
	MLT 111	Urinalysis and Body Fluids	1	3	0	2
	MLT 127	Transfusion Medicine	2	3	0	3
	MLT 252	MLT Practicum I	0	0	6	2
			<b>6</b>	<b>6</b>	<b>6</b>	<b>10</b>
		<b>Fourth Semester (Fall)</b>				
	CIS 111	Basic PC Literacy	1	2	0	2
	COM 231	Public Speaking	3	0	0	3
	MLT 254	MLT Practicum I	0	0	12	4
	MLT 255	MLT Practicum I	0	0	15	5
	MLT 261	MLT Practicum II	0	0	3	1
			<b>4</b>	<b>2</b>	<b>30</b>	<b>15</b>
		<b>Fifth Semester (Spring)</b>				
	ENG 114	Professional Research and Reporting	3	0	0	3
	MLT 215	Professional Issues	1	0	0	1
	MLT 265	MLT Practicum II	0	0	15	5
	MLT 275	MLT Practicum III	0	0	15	5
	PSY 150	General Psychology	3	0	0	3
			<b>7</b>	<b>0</b>	<b>30</b>	<b>17</b>
<b>Program Totals</b>			<b>43</b>	<b>29</b>	<b>66</b>	<b>76</b>

## 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 ultrasound physics and instrumentation and specialty examinations administered by the American Registry of Diagnostic Medical Sonographers and find employment in clinics, physicians' offices, mobile services, hospitals, and educational institutions.

### Specific Entrance Requirements

1. General college admission requirements.
2. High school biology and one unit of high school algebra.
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 renewed annually.
7. Completion of an observation in an approved sonography area. Details are available from the medical sonography faculty.
8. Completion of all requirements for sonography published in the current admissions criteria, which is available in the Admissions Office or online at [www.abtech.edu](http://www.abtech.edu).

Allied Health  
and Public  
Service  
Education

## Medical Sonography Associate in Applied Science Degree

<b>This program consists of:</b>	<b>Credit Hrs.</b>
<b>Major courses (SON prefix)</b>	<b>54</b>
<b>Related and general education courses including:</b>	<b>22</b>
<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Sciences/Mathematics</i>	3
<i>Social Science</i>	3
<i>Other</i>	7
<b>PROGRAM TOTAL</b>	<b>76</b>

				<b>Weekly</b>	<b>Weekly</b>	<b>Weekly</b>	
				<b>Class</b>	<b>Lab</b>	<b>Clinic</b>	<b>Credit</b>
				<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
<b>First Semester (Fall)</b>							
BIO	163	Basic Anatomy and Physiology		4	2	0	5
ENG	111	Expository Writing		3	0	0	3
PHY	125	Health Sciences Physics		3	2	0	4
SON	110	Intro to Sonography		1	3	3	3
SON	130	Abdominal Sonography I		2	3	0	3
				<b>13</b>	<b>10</b>	<b>3</b>	<b>18</b>
<b>Second Semester (Spring)</b>							
MAT	115	Mathematical Models		2	2	0	3
SON	111	Sonographic Physics		3	3	0	4
SON	120	SON Clinical Ed I		0	0	15	5
SON	131	Abdominal Sonography II		1	3	0	2
SON	140	Gynecological Sonography		2	0	0	2
				<b>8</b>	<b>8</b>	<b>15</b>	<b>16</b>
<b>Third Semester (Summer)</b>							
SON	121	SON Clinical Ed II		0	0	15	5
SON	241	Obstetrical Sonography I		2	0	0	2
				<b>2</b>	<b>0</b>	<b>15</b>	<b>7</b>
<b>Fourth Semester (Fall)</b>							
CIS	110	Introduction to Computers		2	2	0	3
COM	231	Public Speaking		3	0	0	3
SON	220	SON Clinical Ed III		0	0	24	8
SON	225	Case Studies		0	3	0	1
SON	242	Obstetrical Sonography II		2	0	0	2
				<b>7</b>	<b>5</b>	<b>24</b>	<b>17</b>

**Fifth Semester (Spring)**

	SON 221	SON Clinical Ed IV	0	0	24	8
Allied Health	SON 250	Vascular Sonography	1	3	0	2
	SON 289	Sonographic Topics	2	0	0	2
and Public		Humanities Elective	3	0	0	3
		Social Science Elective	3	0	0	3
Service			<b>9</b>	<b>3</b>	<b>24</b>	<b>18</b>
Education		<b>Program Totals</b>	<b>39</b>	<b>26</b>	<b>81</b>	<b>76</b>

**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 qualify for employment in hospitals, clinics, physician's offices, and other health care settings, and may be eligible to test for national certification as phlebotomy technicians.

**Specific Entrance Requirements**

- General college admission requirements.
  - Application
  - High school transcript
  - Acceptable reading score on placement test
- Acceptable reports of medical examinations by first day of class.
- Completion of required immunizations including one dose of Hepatitis B vaccine.

**Phlebotomy Certificate**

			Weekly	Weekly	Weekly	Weekly
			Class	Lab	Clinic	Credit
			Hrs.	Hrs.	Hrs.	Hrs.
<b>Program offered Fall or Spring</b>						
PBT	100	Phlebotomy Technology	5	2	0	6
PBT	101	Phlebotomy Practicum	0	0	9	3
PSY	118	Interpersonal Psychology	3	0	0	3
<b>Program Totals</b>			<b>8</b>	<b>2</b>	<b>9</b>	<b>12</b>

**Practical Nursing**

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.

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.

**Admission Requirements**

- 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.



2. Satisfactory completion of required immunizations.
3. Current CPR for the Professional Rescuer certification is a prerequisite to admission and must be maintained throughout the program.
4. The North Carolina Board of Nursing requires criminal background checks on all applicants.

\*\* If your goal is to eventually enroll in the Associate Degree nursing Program, consider the following course substitutions.

Allied Health  
and Public  
Service  
Education

Required Course for Practical Nursing	Course Substitution
BIO 163	BIO 168 and BIO 169
ENG 102	ENG 111 and ENG 114 or ENG 111 and COM 231
PSY 110	PSY 241

## Practical Nursing – Diploma

This program consists of:

Major courses (BIO, NUR prefix)

Related and general education courses  
including:

*English/Communications*

*Other*

**PROGRAM TOTAL**

**Credit Hrs.**

**41**

**6**

**3**

**3**

**47**

### WeeklyWeeklyWeekly

Class Hrs.	Lab Hrs.	Clinic Hrs.	Credit Hrs.
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#### First Semester (Fall)

BIO 163	Basic Anatomy and Physiology	4	2	0	5
NUR 101	Practical Nursing I	7	6	6	11
PSY 110	Life Span Development	3	0	0	3

**14      8      6      19**

#### Second Semester (Spring)

CIS 110	Introduction to Computers	2	2	0	3
ENG 102	Applied Communications II	3	0	0	3
NUR 102	Practical Nursing II	8	0	12	12

**13      2      12      18**

#### Third Semester (Summer)

NUR 103	Practical Nursing III	6	0	12	10
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**6      0      12      10**

#### Program Totals

**33      10      30      47**

## Radiography

Allied Health  
and Public  
Service  
Education

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 Entrance Requirements

1. General college admission requirements.
2. High school biology and one unit of high school algebra.
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 renewed annually.
7. Completion of a 12-hour observation in the radiology department at one of the clinical affiliates. Details are available in the Admissions Office.
8. Completion of all requirements for radiography published in the current admissions criteria for Radiography which is available in the admissions office or online at [www.abtech.edu](http://www.abtech.edu).

### 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.rrt.org](http://www.rrt.org).

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, and Marion. All radiography students will complete a four to eight week rotation during the late afternoon-early evening hours (3:30 - 10 p.m.) at some time during their clinic education.



# Radiography – Associate in Applied Science Degree

This program consists of:

Major courses (RAD prefix)

Related and general education courses including:

*English/Communications*

*Humanities/Fine Arts*

*Natural Science/Mathematics*

*Social Sciences*

*Other*

**PROGRAM TOTAL**

**Credit Hrs.**

**53**

**23**

**6**

**3**

**5**

**3**

**6**

**76**

Allied Health

and Public

Service

Education

**WeeklyWeeklyWeekly**

**Class Lab Clinic Credit  
Hrs. Hrs. Hrs. Hrs.**

## First Semester (Fall)

BIO	163	Basic Anatomy and Physiology	4	2	0	5
ENG	111	Expository Writing	3	0	0	3
RAD	110	Radiography Introduction and Patient Care	2	3	0	3
RAD	111	RAD Procedures I	3	3	0	4
RAD	151	RAD Clinical Education I	0	0	6	2
RAD	182	RAD Clinical Elective	0	0	6	2
			<b>12</b>	<b>8</b>	<b>12</b>	<b>19</b>

## Second Semester (Spring)

CIS	110	Introduction to Computers	2	2	0	3
COM	231	Public Speaking	3	0	0	3
RAD	112	RAD Procedures II	3	3	0	4
RAD	121	Radiographic Imaging I	2	3	0	3
RAD	161	RAD Clinical Education II	0	0	15	5
			<b>10</b>	<b>8</b>	<b>15</b>	<b>18</b>

## Third Semester (Summer)

RAD	122	Radiographic Imaging II	1	3	0	2
RAD	131	Radiographic Physics I	1	3	0	2
RAD	171	RAD Clinical Education III	0	0	12	4
			<b>2</b>	<b>6</b>	<b>12</b>	<b>8</b>

## Fourth Semester (Fall)

PSY	118	Interpersonal Psychology	3	0	0	3
RAD	211	RAD Procedures III	2	3	0	3
RAD	231	Radiographic Physics II	1	3	0	2
RAD	241	Radiation Protection	2	0	0	2
RAD	251	RAD Clinical Education IV	0	0	21	7
			<b>8</b>	<b>6</b>	<b>21</b>	<b>17</b>

## Fifth Semester (Spring)

PHI	240	Introduction to Ethics	3	0	0	3
RAD	245	Radiographic Analysis	2	3	0	3
RAD	261	RAD Clinical Education V	0	0	21	7
RAD	291	Selected Topics in Radiography	0	3	0	1
			<b>5</b>	<b>6</b>	<b>21</b>	<b>14</b>
<b>Program Totals</b>			<b>37</b>	<b>34</b>	<b>81</b>	<b>76</b>

## Social Services

Allied Health  
and Public  
Service  
Education

The Human Services Technology/Social Services concentration prepares students for direct service delivery work in social service agencies. The curriculum enables students to link theory and practice through interactive classroom activities developing a skill-based academic foundation.

Course work includes the history of the social service movement, ethical issues, case management, diversity issues, law in the practice of social work, and community resources. Students also gain skills in interviewing and counseling techniques.

Graduates should qualify for employment with local, county, state, and federal government social service agencies. Employment includes family and child assistance, rehabilitation health services, medical assistance, youth services, aging, and developmentally disabled programs in public and private settings.

### Specific Entrance Requirements

1. General college admission requirements.
2. Acceptable reports of medical examinations and immunizations by the end of the first semester of enrollment in the Social Services program.
3. Three character/employment references by the end of the first semester of enrollment in this program.

## Human Services Technology — Social Services Associate in Applied Science Degree

<b>This program consists of:</b>	<b>Credit Hrs.</b>
<b>Major courses (COE, DDT, HSE, SAB, SWK prefix)</b>	<b>53</b>
<b>Related and general education courses including:</b>	<b>19</b>
<i>English/Communications</i>	<i>6</i>
<i>Humanities/Fine Arts</i>	<i>3</i>
<i>Natural Sciences/Mathematics</i>	<i>3</i>
<i>Social Science</i>	<i>3</i>
<i>Other</i>	<i>4</i>
<b>PROGRAM TOTAL</b>	<b>72</b>

			<b>WeeklyWeeklyWeekly</b>			
			<b>Class</b>	<b>Lab</b>	<b>Clinic</b>	<b>Credit</b>
			<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
<b>First Semester (Fall)</b>						
ACA	115	First-Year Seminar	0	2	0	1
CIS	110	Introduction to Computers	2	2	0	3
ENG	111	Expository Writing	3	0	0	3
HSE	110	Introduction to Human Services	2	2	0	3
HSE	112	Group Process I	1	2	0	2
PSY	150	General Psychology	3	0	0	3
			<b>11</b>	<b>8</b>	<b>0</b>	<b>15</b>



**Second Semester (Spring)**

HSE	123	Interview Techniques	2	2	0	3
HSE	220	Case Management	2	2	0	3
MAT	115	Mathematical Models	2	2	0	3
SOC	210	Introduction to Sociology	3	0	0	3
SWK	110	Introduction to Social Work	3	0	0	3
			<b>12</b>	<b>6</b>	<b>0</b>	<b>15</b>

Allied Health  
and Public  
Service  
Education

**Third Semester (Summer)**

ENG	114	Professional Research and Reporting	3	0	0	3
HSE	225	Crisis Intervention	3	0	0	3
HUM	115	Critical Thinking	3	0	0	3
PSY	281	Abnormal Psychology	3	0	0	3
SWK	115	Community Resources	2	2	0	3
			<b>14</b>	<b>2</b>	<b>0</b>	<b>15</b>

**Fourth Semester (Fall)**

COE	111SS	Co-op Work Experience I	0	0	10	1
COE	115SS	Work Experience Seminar I	1	0	0	1
HSE	125	Counseling	2	2	0	3
SOC	213	Sociology of the Family	3	0	0	3
SWK	113	Working with Diversity	3	0	0	3
SWK	214	Social Work Law	3	0	0	3
			<b>12</b>	<b>2</b>	<b>10</b>	<b>14</b>

**Fifth Semester (Spring)**

COE	121SS	Co-op Work Experience II	0	0	10	1
COE	125SS	Work Experience Seminar II	1	0	0	1
DDT	110	Developmental Disabilities	3	0	0	3
HSE	210	Human Services Issues	2	0	0	2
SAB	110	Substance Abuse Overview	3	0	0	3
SWK	220	Social Work in Client Services	3	0	0	3
			<b>12</b>	<b>0</b>	<b>10</b>	<b>13</b>
<b>Program Totals</b>			<b>61</b>	<b>18</b>	<b>20</b>	<b>72</b>

## Human Services Technology — Social Services Associate in Applied Science Degree – Evening Schedule

**WeeklyWeeklyWeekly**

			<b>Class</b>	<b>Lab</b>	<b>Clinic</b>	<b>Credit</b>
			<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
<b>First Semester (Fall)</b>						
ACA	115	First-Year Seminar	0	2	0	1
CIS	110	Introduction to Computers	2	2	0	3
HSE	110	Introduction to Human Services	2	2	0	3
HSE	112	Group Process I	1	2	0	2
PSY	150	General Psychology	3	0	0	3
			<b>8</b>	<b>8</b>	<b>0</b>	<b>12</b>
<b>Second Semester (Spring)</b>						
ENG	111	Expository Writing	3	0	0	3
HUM	115	Critical Thinking	3	0	0	3
SOC	210	Introduction to Sociology	3	0	0	3
SWK	110	Introduction to Social Work	3	0	0	3
			<b>12</b>	<b>0</b>	<b>0</b>	<b>12</b>

**Third Semester (Summer)**

Allied Health and Public Service Education	PSY 281	Abnormal Psychology	3	0	0	3
	SWK 115	Community Resources	2	2	0	3
			<b>5</b>	<b>2</b>	<b>0</b>	<b>6</b>

**Fourth Semester (Fall)**

Allied Health and Public Service Education	HSE 123	Interviewing Techniques	2	2	0	3
	SOC 213	Sociology of the Family	3	0	0	3
	SWK 113	Working with Diversity	3	0	0	3
			<b>8</b>	<b>2</b>	<b>0</b>	<b>9</b>

**Fifth Semester (Spring)**

HSE 225	Crisis Intervention	3	0	0	3	
MAT 115	Mathematical Models	2	2	0	3	
SWK 220	Social Work in Client Services	3	0	0	3	
			<b>8</b>	<b>2</b>	<b>0</b>	<b>9</b>

**Sixth Semester (Summer)**

ENG 114	Professional Research and Reporting	3	0	0	3	
HSE 125	Counseling	2	2	0	3	
			<b>5</b>	<b>2</b>	<b>0</b>	<b>6</b>

**Seventh Semester (Fall)**

DDT 110	Developmental Disability	3	0	0	3	
HSE 220	Case Management	2	2	0	3	
SAB 110	Substance Abuse Overview	3	0	0	3	
			<b>8</b>	<b>2</b>	<b>0</b>	<b>9</b>

**Eighth Semester (Spring)**

*COE 111SS	Co-op Work Experience I	0	0	10	1	
*COE 115SS	Work Experience Seminar I	1	0	0	1	
HSE 210	Human Services Issues	2	0	0	2	
			<b>3</b>	<b>0</b>	<b>10</b>	<b>4</b>

**Ninth Semester (Summer)**

*COE 121SS	Co-op Work Experience II	0	0	10	1	
*COE 125SS	Work Experience Seminar II	1	0	0	1	
SWK 214	Social Work Law	3	0	0	3	
			<b>4</b>	<b>0</b>	<b>10</b>	<b>5</b>
<b>Program Totals</b>			<b>61</b>	<b>18</b>	<b>20</b>	<b>72</b>

\*COE courses must be taken during the day schedule.

## 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 this program will be eligible to apply to take the Liaison Council's Certification Examination for Surgical Technologists. Employment opportunities include labor/delivery/emergency departments, inpatient/outpatient surgery centers, dialysis units/facilities, physicians' offices, and central supply processing units.



**Specific Entrance Requirements**

1. 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.
2. Satisfactory completion of required immunizations.
3. Current CPR for the Professional Rescuer certification is a prerequisite to admission and must be maintained throughout the program.

Allied Health  
and Public  
Service  
Education

**Surgical Technology Diploma**

<b>This program consists of:</b>	<b>Credit Hrs.</b>
<b>Major courses (BIO, SUR)</b>	<b>41</b>
<b>Related and general education courses including:</b>	<b>6</b>
<i>English/Communications</i>	3
<i>Humanities/Fine Arts</i>	0
<i>Natural Science/Mathematics</i>	3
<i>Social Sciences</i>	0
<i>Other</i>	0
<b>PROGRAM TOTAL</b>	<b>47</b>

**Weekly Weekly Weekly**  
**Class Lab Clinic Credit**  
**Hrs. Hrs. Hrs. Hrs.**

**First Semester (Fall)**

BIO 163	Basic Anatomy and Physiology	4	2	0	5
ENG 111	Expository Writing	3	0	0	3
MAT 115	Mathematical Models	2	2	0	3
SUR 110	Introduction to Surgical Technology	3	0	0	3
SUR 111	Perioperative Patient Care	5	6	0	7
		<b>17</b>	<b>10</b>	<b>0</b>	<b>21</b>

**Second Semester (Spring)**

BIO 175	General Microbiology	2	2	0	3
SUR 122	Surgical Procedures I	5	3	0	6
SUR 123	Surgical Clinical I	0	0	21	7
		<b>7</b>	<b>5</b>	<b>21</b>	<b>16</b>

**Third Semester (Summer)**

SUR 134	Surgical Procedures II	5	0	0	5
SUR 135	Surgical Clinical II	0	0	12	4
SUR 137	Professional Success Preparation	1	0	0	1
		<b>6</b>	<b>0</b>	<b>12</b>	<b>10</b>

<b>Program Totals</b>		<b>30</b>	<b>15</b>	<b>33</b>	<b>47</b>
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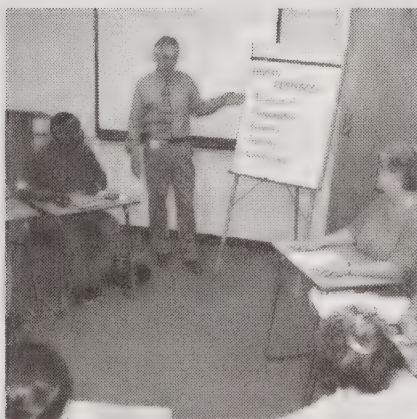
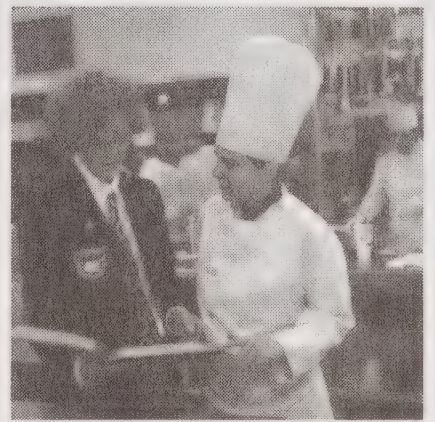


## Business and Hospitality Education

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The Business and Hospitality Education Division provides technical postsecondary education for students of business programs, computer technologies, and hospitality education. Programs of study emphasize critical skill development for successful entry into the job market.

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	<b>Accounting*</b>	<b>Baking and Pastry Arts</b>	<b>Business Administration*</b>
	<b>Recommended High School Courses</b>		
Business and Hospitality Education	Keyboarding Accounting English Business electives Algebra	Keyboarding Computer Applications Algebra English Nutrition Food Science Food Service Commercial Foods Sanitation Art	Keyboarding Accounting plus any other Business electives
	<b>A-B Tech Entrance Requirements</b>		
	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and College Board Comput- erized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Comput- erized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Comput- erized Placement Tests (CPT).
	<b>Program Schedule</b>		
	Day/Night begins Fall Can take single courses any semester.	Day begins Fall. Can take single courses any semester.	Day/Night begin Fall. Can take single courses any semester.
	<b>Degree</b>		
	Associate in Applied Science	Associate in Applied Science	Associate in Applied Science
	<b>Employment Opportunities</b>		
	Accountant Estimator Bookkeeper I	Pastry/Bakery Assistant Assistant Pastry Chef Cake Decorator Baker	Purchasing Agent Sales Manager General Supervisor Operations Officer Loan Officer Office Manager

\* Tech Prep  
agreements  
with regional  
high schools.



Computer Programming	Culinary Technology	Hotel and Restaurant Management*	
<b>Recommended High School Courses</b>			
Keyboarding Computer Applications English	Computer Applications Keyboarding Algebra English Nutrition Food Services Food Science Commercial Foods	Computer Applications Keyboarding Algebra Oral Communication English Food Services Accounting Marketing	Business and Hospitality Education
<b>A-B Tech Entrance Requirements</b>			
Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT).	
<b>Program Schedule</b>			
Day/Night begins Fall. Night begins in even years only. Can take single courses any semester.	Day begins Fall. Can take single courses any semester.	Day begins Fall. Can take single courses any semester.	
<b>Degree</b>			
Associate in Applied Science	Associate in Applied Science	Associate in Applied Science	
<b>Employment Opportunities</b>			
Computer Operator Programmer Software Developer	Saute Chef Grill Chef Gardemanger Chef Soup/Sauce Chef Kitchen Manager Catering Banquet Manager Dining Room Manager Food/Beverage Manager Purchasing Agent Steward Food, Beverage and Equipment Purveyor	Catering Manager Management Trainee Restaurant Manager Director of Food Services Reservations Manager Front Office Manager Country Club Manager Food/Beverage Manager	* Tech Prep agreements with regional high schools.

	Human Resources Management	Information Systems	Marketing and Retailing*
	<b>Recommended High School Courses</b>		
Business and Hospitality Education	Keyboarding Accounting English Business Electives	Keyboarding Computer Applications Algebra English	Keyboarding Accounting Plus any other business electives
	<b>A-B Tech Entrance Requirements</b>		
	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Computerized Placement Tests (CPT).
	<b>Program Schedule</b>		
	Day/Night begins Fall. Can take single courses any semester.	Day/Night begins Fall. Night begins in even years only. Can take single courses any semester.	Day/Night begins Fall. Can take single courses any semester.
	<b>Degree</b>		
	Associate in Applied Science	Associate in Applied Science	Associate in Applied Science
	<b>Employment Opportunities</b>		
	HR Technician HR Specialist HR Manager Payroll Officer Benefits Administrator Team Leadership Training and Development Facilitator General Supervisor	PC Support Network Support Computer Trainer	Assistant Manager Department Manager Sales Representative Salesperson Retail Buyer

\* Tech Prep agreements with regional high schools.



Medical Office Administration	Medical Transcription	Networking Technology
<b>Recommended High School Courses</b>		
Advanced Keyboarding Computer Applications Courses in Health Occupations	Advanced Keyboarding Computer Applications Courses in Health Occupations Anatomy/Physiology	Keyboarding Computer Applications Algebra English
<b>A-B Tech Entrance Requirements</b>		
Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Comput- erized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, College Board Comput- erized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and College Board Comput- erized Placement Tests (CPT).
<b>Program Schedule</b>		
Day/Night begins Fall. Night begins in even years only. Can take single courses any semester.	Day/Night begins Fall. Night begins in even years only. Can take single courses any semester.	Day/Night begins Fall. Night begins in even years only. Can take single courses any semester.
<b>Degree</b>		
Diploma	Diploma	Associate in Applied Science
<b>Employment Opportunities</b>		
Medical Office Adminis- tration in: Medical and Dental Offices Hospitals Insurance Companies	Medical Transcription in: Medical Office, Critical Care Facility, or for Transportation Service Provider	Network: Managers Operators Analysis Technicians

Business and  
Hospitality  
Education

\* Tech Prep  
agreements  
with regional  
high schools.

## Office Systems Technology\*

### Recommended High School Courses

Business and  
Hospitality  
Education

Keyboarding  
Computer Applications  
Accounting plus any  
other Business  
electives

### A-B Tech Entrance Requirements

Acceptable scores on  
SAT, ACT, or Reading  
Comprehension,  
Sentence Skills,  
Arithmetic Skills, and  
College Board Comput-  
erized Placement Tests  
(CPT).

### Program Schedule

Day begins Fall.  
Can take single courses  
any semester.

### Degree

Associate in Applied  
Science or Diploma

### Employment Opportunities

Administrative Assis-  
tant  
Office Manager  
Word Processor  
Information Processing  
Specialist  
Administrative Support

\* Tech Prep  
agreements  
with regional  
high schools.



# Business and Hospitality Education

The Business and Hospitality Education Division provides technical postsecondary education in the academic departments of Hospitality Education, Business Administration and Computer Technologies. 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 technology-related 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.

## 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 Programming
- Culinary Technology
- Hotel and Restaurant Management
- Human Resources Management
- Information Systems
- Marketing and Retailing
- Networking Technology
- Office Systems Technology

All degree programs in the Division of Business and Hospitality Education are five 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**

Medical Office Administration  
 Medical Transcription  
 Office Systems Technology

Business and

**Certificates Awarded**

Hospitality

Accounting  
 Bed and Breakfast/Inn Management

Education

Cake Designs  
 Cisco Academy  
 Database Management  
 Hospitality Management  
 Medical Coding  
 Medical Terminology  
 Microcomputer Applications  
 Networking  
 Networking Security  
 Open Source Operating Systems  
 PC Installation and Maintenance  
 Real Estate  
 Real Estate Appraisal  
 Restaurant Desserts  
 Word Processing and Desktop Publishing

**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" and technology resources, accountants assemble, analyze, process, and communicate 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**

This program consists of	Credit Hrs.
<b>Major courses (ACC, BUS, ECO, MKT prefix)</b>	<b>52</b>
<b>Related and general education courses</b>	<b>22</b>
<b>including:</b>	
<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Sciences/Mathematics</i>	3
<i>Social/Behavioral Science</i>	3
<i>Other</i>	7
<b>PROGRAM TOTAL</b>	<b>74</b>



			Weekly			
			Class	Lab	Credit	
			Hrs.	Hrs.	Hrs.	
<b>First Semester (Fall)</b>						
ACA	115	First-Year Seminar	0	2	1	Business and
ACC	120	Principles of Financial Accounting	3	2	4	
CIS	110	Introduction to Computers	2	2	3	Hospitality
ENG	111	Expository Writing	3	0	3	
MAT	115	Mathematical Models	2	2	3	Education
			<b>10</b>	<b>8</b>	<b>14</b>	
<b>Second Semester (Spring)</b>						
ACC	121	Principles of Managerial Accounting	3	2	4	
BUS	137	Principles of Management	3	0	3	
CIS	120	Spreadsheet I	2	2	3	
MKT	120	Principles of Marketing	3	0	3	
		Humanities Elective	3	0	3	
			<b>14</b>	<b>4</b>	<b>16</b>	
<b>Third Semester (Summer)</b>						
ACC	150	Accounting Software Applications	1	2	2	
BUS	115	Business Law I	3	0	3	
COM	231	Public Speaking	3	0	3	
ECO	251	Principles of Microeconomics	3	0	3	
		Related Elective*	3	0	3	
			<b>13</b>	<b>2</b>	<b>14</b>	
<b>Fourth Semester (Fall)</b>						
ACC	129	Individual Income Taxes	2	2	3	
ACC	140	Payroll Accounting	1	2	2	
ACC	220	Intermediate Accounting I	3	2	4	
BUS	225	Business Finance	2	2	3	
ECO	252	Principles of Macroeconomics	3	0	3	
			<b>11</b>	<b>8</b>	<b>15</b>	
<b>Fifth Semester (Spring)</b>						
ACC	130	Business Income Taxes	2	2	3	
ACC	180	Practices in Bookkeeping	3	0	3	
ACC	240	Government and Not-for-Profit Accounting	3	0	3	
ACC	269	Auditing	3	0	3	
BUS	147	Business Insurance	3	0	3	
			<b>14</b>	<b>2</b>	<b>15</b>	
<b>Program Totals</b>			<b>62</b>	<b>24</b>	<b>74</b>	

\*Related Electives: ACC 131, BUS 151, BUS 240, BUS 260.

## Accounting – Associate in Applied Science Degree – Evening Schedule

			Weekly			
			Class	Lab	Credit	
			Hrs.	Hrs.	Hrs.	
<b>First Semester (Fall)</b>						
ACA	115	First-Year Seminar	0	2	1	
ACC	120	Principles of Financial Accounting	3	2	4	
ENG	111	Expository Writing	3	0	3	
			<b>6</b>	<b>4</b>	<b>8</b>	

		<b>Second Semester (Spring)</b>			
	ACC 121	Principles of Managerial Accounting	3	2	4
	CIS 110	Introduction to Computers	2	2	3
	MAT 115	Mathematical Models	2	2	3
Business and			<b>7</b>	<b>6</b>	<b>10</b>
		<b>Third Semester (Summer)</b>			
Hospitality	ACC 240	Government and Not-for-Profit Accounting	3	0	3
Education	BUS 137	Principles of Management Humanities Elective	3	0	3
			<b>9</b>	<b>0</b>	<b>9</b>
		<b>Fourth Semester (Fall)</b>			
	ACC 129	Individual Income Taxes	2	2	3
	BUS 115	Business Law I	3	0	3
	ECO 251	Principles of Microeconomics	3	0	3
	MKT 120	Principles of Marketing	3	0	3
			<b>11</b>	<b>2</b>	<b>12</b>
		<b>Fifth Semester (Spring)</b>			
	ACC 130	Business Income Taxes	2	2	3
	CIS 120	Spreadsheet I	2	2	3
	ECO 252	Principles of Macroeconomics Related Elective*	3	0	3
			<b>10</b>	<b>4</b>	<b>12</b>
		<b>Sixth Semester (Summer)</b>			
	ACC 150	Accounting Software Applications	1	2	2
	BUS 225	Business Finance	2	2	3
			<b>3</b>	<b>4</b>	<b>5</b>
		<b>Seventh Semester (Fall)</b>			
	ACC 140	Payroll Accounting	1	2	2
	ACC 220	Intermediate Accounting I	3	2	4
	BUS 147	Business Insurance	3	0	3
			<b>7</b>	<b>4</b>	<b>9</b>
		<b>Eighth Semester (Spring)</b>			
	ACC 180	Practices in Bookkeeping	3	0	3
	ACC 269	Auditing	3	0	3
	COM 231	Public Speaking	3	0	3
			<b>9</b>	<b>0</b>	<b>9</b>
<b>Program Totals</b>			<b>62</b>	<b>24</b>	<b>74</b>

\*Related Electives: ACC 131, BUS 151, BUS 240, BUS 260.

## Accounting – Certificate

There are two levels of Accounting Certificates. Level I provides introductory training in the field of accounting, while Level II takes students to an advanced level including the specialized area of government and not-for-profit accounting. Applicants must have earned a high school diploma or GED to apply for these certificates.



## Level I

			Weekly			
			Class	Lab	Credit	
			Hrs.	Hrs.	Hrs.	
<b>First Semester (Fall)</b>						
ACC	120	Principles of Financial Accounting	3	2	4	Business and Hospitality
<b>Second Semester (Spring)</b>						
ACC	121	Principles of Managerial Accounting	3	2	4	Education
<b>Third Semester (Summer)</b>						
BUS	115	Business Law I	3	0	3	
<b>Fourth Semester (Fall)</b>						
ACC	140	Payroll Accounting	1	2	2	
<b>Program Totals</b>			<b>10</b>	<b>6</b>	<b>13</b>	

## Level II

			Weekly			
			Class	Lab	Credit	
			Hrs.	Hrs.	Hrs.	
<b>First Semester (Fall)</b>						
ACC	129	Individual Income Taxes	2	2	3	
ACC	220	Intermediate Accounting I	3	2	4	
			<b>5</b>	<b>4</b>	<b>7</b>	
<b>Second Semester (Spring)</b>						
ACC	180	Practices in Bookkeeping	3	0	3	
ACC	240	Government and Not-for-Profit Accounting	3	0	3	
			<b>6</b>	<b>0</b>	<b>6</b>	
<b>Program Totals</b>			<b>11</b>	<b>4</b>	<b>13</b>	

## Baking and Pastry Arts

The Baking and Pastry Arts curriculum provides the training required to prepare students to assume positions as baking/pastry professionals in a variety of foodservice settings including restaurants, hotels, independent bakeries/pastry shops, wholesale/retail markets, and high-volume bakeries.

Course offerings emphasizing practical application, a strong theoretical knowledge base, and professionalism provide the critical competencies to meet industry demands. Course work includes specialty/artisan breads, desserts, pastries, candies, 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 is available to graduates.

# Baking and Pastry Arts – Associate in Applied Science Degree

	<b>This program consists of:</b>	<b>Credit Hrs.</b>
Business and	<b>Major courses (BPA, CUL, HRM, COE prefix)</b>	<b>55</b>
Hospitality	<b>Related and general education courses</b>	<b>19</b>
Education	<b>including:</b>	
	<i>English/Communications</i>	6
	<i>Humanities/Fine Arts</i>	3
	<i>Natural Sciences/Mathematics</i>	3
	<i>Social Science</i>	3
	<i>Other</i>	4
	<b>PROGRAM TOTAL</b>	<b>74</b>

				<b>Weekly</b>	<b>Weekly</b>	<b>Weekly</b>	<b>Weekly</b>
				<b>Class</b>	<b>Lab</b>	<b>Work</b>	<b>Credit</b>
				<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
<b>First Semester (Fall)</b>							
ACA	115	First-Year Seminar		0	2	0	1
BPA	165	Hot and Cold Desserts		1	4	0	3
CIS	110	Introduction to Computers		2	2	0	3
CUL	110	Sanitation and Safety		2	0	0	2
CUL	110A	Sanitation and Safety Lab		0	2	0	1
CUL	150	Food Science		1	2	0	2
CUL	160	Baking I		1	4	0	3
MAT	115	Mathematical Models		2	2	0	3
				<b>9</b>	<b>18</b>	<b>0</b>	<b>18</b>
<b>Second Semester (Spring)</b>							
BPA	120	Petit Fours and Pastries		1	4	0	3
BPA	130	European Cakes and Tortes		1	4	0	3
BPA	150	Artisan and Specialty Breads		1	6	0	4
COM	231	Public Speaking		3	0	0	3
CUL	120	Purchasing		2	0	0	2
HRM	220	Food and Beverage Controls		3	0	0	3
				<b>11</b>	<b>14</b>	<b>0</b>	<b>18</b>
<b>Third Semester (Summer)</b>							
COE	112BP	Co-op Work Experience		0	0	20	2
<b>Fourth Semester (Fall)</b>							
BPA	210	Cake Design and Decorating		1	4	0	3
BPA	240	Plated Desserts		1	4	0	3
BPA	250	Dessert and Bread Production		1	8	0	5
ENG	111	Expository Writing		3	0	0	3
HRM	145	Hospitality Supervision		3	0	0	3
				<b>9</b>	<b>16</b>	<b>0</b>	<b>17</b>
<b>Fifth Semester (Spring)</b>							
BPA	220	Confection Artistry		1	6	0	4
BPA	230	Chocolate Artistry		1	4	0	3
BPA	260	Pastry and Baking Marketing		2	2	0	3
CUL	112	Nutrition for Foodservice		3	0	0	3
PSY	150	General Psychology		3	0	0	3
		Humanities Elective		3	0	0	3
				<b>13</b>	<b>12</b>	<b>0</b>	<b>19</b>
<b>Program Totals</b>				<b>42</b>	<b>60</b>	<b>20</b>	<b>74</b>



## Bed and Breakfast/Inn Management – Certificate\*

The B&B/Inn Management certificate program addresses the essential skills and concepts required to manage small lodging facilities, prepares individuals to enter the profession, and provides additional education to meet professional development needs. Courses cover lodging operations, preparation of basic pastries and breakfast items, business and financial issues, sales and marketing, and federal, state and local regulations and standards.

Business and  
Hospitality  
Education

\* Offered day with some evening opportunities.

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
ACC	120	Principles of Accounting I	3	2	4
CUL	110	Sanitation and Safety	2	0	2
CUL	160	Baking I	1	4	3
			<b>6</b>	<b>6</b>	<b>9</b>
<b>Second Semester (Spring)</b>					
HRM	120	Front Office	3	0	3
HRM	120A	Front Office Lab	0	2	1
HRM	130	Bed and Breakfast Management	2	0	2
HRM	140	Hospitality Tourism Law	3	0	3
(OR HRM 210 Meetings and Conventions)					
(OR HRM 240 Hospitality Marketing)					
			<b>8</b>	<b>2</b>	<b>9</b>
<b>Certificate Totals</b>			<b>14</b>	<b>8</b>	<b>18</b>

## 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 lifelong 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

	<b>This program consists of:</b>	<b>Credit Hrs.</b>
	<b>Major courses (ACC, BUS, ECO, MKT prefix)</b>	<b>52</b>
	<b>Related and general education courses</b>	<b>24</b>
Business and	<b>including:</b>	
	<i>English/Communications</i>	6
Hospitality	<i>Humanities/Fine Arts</i>	3
	<i>Natural Sciences/Mathematic</i>	3
Education	<i>Social/Behavioral Science</i>	3
	<i>Other</i>	9
	<b>PROGRAM TOTAL</b>	<b>76</b>

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
ACA	115	First-Year Seminar	0	2	1
ACC	120	Principles of Accounting I	3	2	4
BUS	110	Introduction to Business	3	0	3
CIS	110	Introduction to Computers	2	2	3
MAT	115	Mathematical Models	2	2	3
			<b>10</b>	<b>8</b>	<b>14</b>
<b>Second Semester (Spring)</b>					
ACC	121	Principles of Accounting II	3	2	4
BUS	137	Principles of Management	3	0	3
ENG	111	Expository Writing	3	0	3
MKT	120	Principles of Marketing	3	0	3
OST	136	Word Processing	1	2	2
			<b>13</b>	<b>4</b>	<b>15</b>
<b>Third Semester (Summer)</b>					
BUS	115	Business Law I	3	0	3
BUS	153	Human Resource Management	3	0	3
ECO	251	Principles of Microeconomics	3	0	3
		Humanities Elective	3	0	3
		Related Elective*	3	0	3
			<b>15</b>	<b>0</b>	<b>15</b>
<b>Fourth Semester (Fall)</b>					
ACC	129	Individual Income Taxes	2	2	3
BUS	135	Principles of Supervision	3	0	3
BUS	225	Business Finance	2	2	3
CIS	120	Spreadsheet I	2	2	3
ECO	252	Principles of Macroeconomics	3	0	3
			<b>12</b>	<b>6</b>	<b>15</b>
<b>Fifth Semester (Spring)</b>					
BUS	147	Business Insurance	3	0	3
BUS	230	Small Business Management	3	0	3
BUS	239	Business Applications Seminar	1	2	2
COM	231	Public Speaking	3	0	3
		Related Electives*	6	0	6
			<b>16</b>	<b>2</b>	<b>17</b>
<b>Program Totals</b>			<b>66</b>	<b>20</b>	<b>76</b>

\*Related Electives: BUS 116, BUS 240, BUS 260, BUS 270, MKT 121, MKT 123, MKT 220, MKT 221, MKT 224.



# Business Administration – Associate in Applied Science – Evening Schedule

			Weekly	Weekly	
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
ACA	115	First-Year Seminar	0	2	1
ACC	120	Principles of Accounting I	3	2	4
BUS	110	Introduction to Business	3	0	3
			<b>6</b>	<b>4</b>	<b>8</b>
<b>Second Semester (Spring)</b>					
ACC	121	Principles of Accounting II	3	2	4
CIS	110	Introduction to Computers	2	2	3
ENG	111	Expository Writing	3	0	3
			<b>8</b>	<b>4</b>	<b>10</b>
<b>Third Semester (Summer)</b>					
BUS	137	Principles of Management	3	0	3
OST	136	Word Processing	1	2	2
		Humanities Elective	3	0	3
			<b>7</b>	<b>2</b>	<b>8</b>
<b>Fourth Semester (Fall)</b>					
BUS	115	Business Law I	3	0	3
ECO	251	Principles of Microeconomics	3	0	3
MAT	115	Mathematical Models	2	2	3
MKT	120	Principles of Marketing	3	0	3
			<b>11</b>	<b>2</b>	<b>12</b>
<b>Fifth Semester (Spring)</b>					
BUS	135	Principles of Supervision	3	0	3
BUS	153	Human Resource Management	3	0	3
CIS	120	Spreadsheet I	2	2	3
ECO	252	Principles of Macroeconomics	3	0	3
			<b>11</b>	<b>2</b>	<b>12</b>
<b>Sixth Semester (Summer)</b>					
BUS	225	Business Finance	2	2	3
		Related Elective*	3	0	3
			<b>5</b>	<b>2</b>	<b>6</b>
<b>Seventh Semester (Fall)</b>					
ACC	129	Individual Income Taxes	2	2	3
BUS	147	Business Insurance	3	0	3
BUS	230	Small Business Management	3	0	3
		Related Elective*	3	0	3
			<b>11</b>	<b>2</b>	<b>12</b>
<b>Eighth Semester (Spring)</b>					
BUS	239	Business Applications Seminar I	1	2	2
COM	231	Public Speaking	3	0	3
		Related Elective*	3	0	3
			<b>7</b>	<b>2</b>	<b>8</b>
<b>Program Totals</b>			<b>66</b>	<b>20</b>	<b>76</b>

\*Related Electives: BUS 116, BUS 240, BUS 260, BUS 270, MKT 121, MKT 123, MKT 220, MKT 221, MKT 224.

Business and  
Hospitality  
Education

## Cake Designs – Certificate – Day Schedule

The Cake Designs certificate program focuses on the techniques of cake preparation and decoration. Through extensive hands-on training, students will learn fundamental and advanced skills associated with high quality, European and specialty cakes/tortes. Many restaurants, pastry shops and high volume foodservice facilities require the expertise of cake designers for weddings and other special occasion events.

Business and  
Hospitality  
Education

			<b>Weekly</b>		
			<b>Class</b>	<b>Lab</b>	<b>Credit</b>
			<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
<b>First Semester (Fall)</b>					
BPA	210	Cake Design and Decorating	1	4	3
CUL	110	Sanitation and Safety	2	0	2
CUL	160	Baking I	1	4	3
			<b>4</b>	<b>8</b>	<b>8</b>
<b>Second Semester (Spring)</b>					
BPA	130	European Cakes and Tortes	1	4	3
BPA	220	Confection Artistry	1	6	4
BPA	230	Chocolate Artistry	1	4	3
			<b>3</b>	<b>14</b>	<b>10</b>
<b>Certificate Totals</b>			<b>7</b>	<b>22</b>	<b>18</b>

## Cisco Certified Network Associate

This certificate is designed to prepare students for the Cisco Certified Network Association (CCNA) examination. Topics include network topologies and design, router configuration and protocols, switching theory, virtual LANS and threaded case studies. Upon completion of the four course sequence, students will have the experience they need to pass the test required to achieve CCNA status. Applicants must have earned a high school diploma or GED or receive permission from the department chairperson. Satisfactory score on a placement examination may also be required.

			<b>Weekly</b>		
			<b>Class</b>	<b>Lab</b>	<b>Credit</b>
			<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
NET	125	Routing and Switching I	1	4	3
NET	126	Routing and Switching II	1	4	3
NET	225	Advanced Routing and Switching I	1	4	3
NET	226	Advanced Routing and Switching II	1	4	3
			<b>4</b>	<b>16</b>	<b>12</b>
<b>Certificate Totals</b>			<b>4</b>	<b>16</b>	<b>12</b>



## Cisco Certified Network Professional Certificate

Students will learn advanced internetworking concepts. Topics will include multi-layer switching, fault tolerance, remote access, controlling overhead, advanced routed protocols, WAN troubleshooting. Upon completion students should be able to work in an advanced internetworking environment. Students will also gain knowledge necessary for the CCNP certification exam. Applicants must have earned a high school diploma or GED and currently be certified as a CCNA or have the permission of the department chairperson. Satisfactory score on a placement exam may also be required.

Business and  
Hospitality  
Education

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
NET	270	Scalable Networks Design	1	4	3
NET	271	Multi-Layer Networks	1	4	3
NET	272	Remote Access Networks	1	4	3
NET	273	Internetworking Support	1	4	3
<b>Certificate Totals</b>			<b>4</b>	<b>16</b>	<b>12</b>

## Computer Programming

This curriculum prepares individuals for employment as computer programmers and related positions through study and applications in computer concepts, logic, programming procedures, languages, generators, operating systems, networking, data management, and business operations.

Students will solve business computer problems through programming techniques and procedures, using appropriate languages and software. The primary emphasis of the curriculum is hands-on training in programming and related computer areas that provide the ability to adapt as systems evolve.

Graduates should qualify for employment in business, industry, and government organizations as programmers, programmer trainees, programmer/analysts, software developers, computer operators, systems technicians, database specialists, computer specialists, software specialists, or information systems managers.

## Computer Programming – Associate in Applied Science Degree — Day Schedule

<b>This program consists of:</b>	<b>Credit Hrs.</b>
<b>Major courses (CIS, COE, CSC, ITN, NET prefix)</b>	<b>57</b>
<b>Related and general education courses including:</b>	<b>16</b>
<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Sciences/Mathematics</i>	3
<i>Social Science</i>	3
<i>Other</i>	1
<b>PROGRAM TOTAL</b>	<b>73</b>

			Weekly			
			Class	Lab	Credit	
			Hrs.	Hrs.	Hrs.	
<b>First Semester (Fall)</b>						
Business and	ACA	115	First-Year Seminar	0	2	1
	CIS	110	Introduction to Computers	2	2	3
Hospitality	CIS	115	Introduction to Programming and Logic	2	2	3
	ENG	111	Expository Writing	3	0	3
Education	MAT	121	Algebra/Trigonometry I	2	2	3
			Social/Behavioral Sciences Elective	3	0	3
			<b>12</b>	<b>8</b>	<b>16</b>	
<b>Second Semester (Spring)</b>						
	CIS	130	Survey of Operating Systems	2	3	3
	CIS	152	Database Concepts and Applications	2	2	3
	CSC	139	Visual Basic Programming	2	3	3
	NET	110	Data Communications and Networking	2	2	3
			Humanities Elective	3	0	3
			<b>11</b>	<b>10</b>	<b>15</b>	
<b>Third Semester (Summer)</b>						
	CIS	155	Database Theory/Analysis	2	2	3
	COM	231	Public Speaking	3	0	3
	CSC	239	Advanced Visual Basic	2	3	3
	ITN	160	Principles of Web Design	2	2	3
			<b>9</b>	<b>7</b>	<b>12</b>	
<b>Fourth Semester (Fall)</b>						
	CIS	143	XML Technology	2	2	3
	CIS	157	Database Programming I	2	2	3
	CIS	286	Systems Analysis and Design	3	0	3
	CSC	148	JAVA Programming	2	3	3
			Major Elective 1*	2	2	3
			<b>11</b>	<b>9</b>	<b>15</b>	
<b>Fifth Semester (Spring)</b>						
	CSC	248	Advanced Internet Programming	2	3	3
	CSC	285	Programming Project	2	2	3
	CSC	293	Selected Topics in Computer Programming	1	3	3
	ITN	170	Introduction to Internet Database	2	2	3
			Major Elective 2*	2	2	3
			<b>9</b>	<b>12</b>	<b>15</b>	
<b>Program Totals</b>			<b>52</b>	<b>46</b>	<b>73</b>	

*Major Elective 1*

\*The hour totals include a minimum of three credit hours of major electives to be selected from: CIS 125, CIS 145, CIS 170, CIS 236, CIS 254, CIS 256, COE 212IS, COE 215IS, ITN 120, NET 112.

*Major Elective 2*

\*The hour totals include a minimum of three credit hours of major electives to be selected from: CIS 215, CSC 120, CSC 130, CSC 134.



# Computer Programming – Associate in Applied Science Degree – Evening Schedule

(Begins in even years only)

			Weekly			Business and Hospitality Education
			Class Hrs.	Lab Hrs.	Credit Hrs.	
<b>First Semester (Fall)</b>						
ACA	115	First-Year Seminar	0	2	1	
CIS	110	Introduction to Computers	2	2	3	
ENG	111	Expository Writing	3	0	3	
MAT	121	Algebra/Trigonometry I	2	2	3	
			<b>7</b>	<b>6</b>	<b>10</b>	
<b>Second Semester (Spring)</b>						
CIS	115	Introduction to Programming and Logic	2	2	3	
CIS	152	Database Concepts and Applications	2	2	3	
COM	231	Public Speaking	3	0	3	
			<b>7</b>	<b>4</b>	<b>9</b>	
<b>Third Semester (Summer)</b>						
CIS	130	Survey of Operating Systems	2	3	3	
CSC	139	Visual Basic Programming	2	3	3	
			<b>4</b>	<b>6</b>	<b>6</b>	
<b>Fourth Semester (Fall)</b>						
CSC	239	Advanced Visual Basic	2	3	3	
		Humanities Elective	3	0	3	
		Social/Behavioral Sciences Elective	3	0	3	
			<b>8</b>	<b>3</b>	<b>9</b>	
<b>Fifth Semester (Spring)</b>						
CIS	143	XML Technology	2	2	3	
ITN	160	Principles of Web Design	2	2	3	
		Major Elective 2*	2	2	3	
			<b>6</b>	<b>6</b>	<b>9</b>	
<b>Sixth Semester (Summer)</b>						
CIS	155	Database Theory/Analysis	2	2	3	
ITN	170	Introduction to Internet Database	2	2	3	
			<b>4</b>	<b>4</b>	<b>6</b>	
<b>Seventh Semester (Fall)</b>						
CIS	157	Database Programming I	2	2	3	
CSC	148	JAVA Programming	2	3	3	
NET	110	Data Communications and Networking	2	2	3	
			<b>6</b>	<b>7</b>	<b>9</b>	
<b>Eighth Semester (Spring)</b>						
CIS	286	Systems Analysis and Design	3	0	3	
CSC	248	Advanced Internet Programming	2	3	3	
		Major Elective 1*	2	2	3	
			<b>7</b>	<b>5</b>	<b>9</b>	
<b>Ninth Semester (Summer)</b>						
CSC	285	Programming Project	2	2	3	
CSC	293	Selected Topics in Computer Programming	1	3	3	
			<b>3</b>	<b>5</b>	<b>6</b>	
<b>Program Totals</b>			<b>52</b>	<b>46</b>	<b>73</b>	

*Major Elective 1*

\*The hour totals include a minimum of three credit hours of major electives to be selected from: CIS 125, CIS 145, CIS 170, CIS 236, CIS 254, CIS 256, COE 212IS, COE 215IS, ITN 120, NET 112.

Business and

*Major Elective 2*

Hospitality

\*The hour totals include a minimum of three credit hours of major electives to be selected from: CIS 215, CSC 120, CSC 130, CSC 134.

Education

## Culinary Technology

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

Course offerings emphasizing practical application, a strong theoretical knowledge base, and professionalism provide the critical competencies to successfully meet industry demands. Courses include sanitation, food/beverage service and control, baking, garde-manger, American/international cuisines, food production, and hospitality supervision.

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

## Culinary Technology – Associate in Applied Science Degree

<b>This program consists of:</b>	<b>Credit Hrs.</b>
<b>Major courses (COE, CUL, and HRM prefix)</b>	<b>58</b>
<b>Related and general education courses including:</b>	<b>18</b>
<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Sciences/Mathematics</i>	3
<i>Social Science</i>	3
<i>Other</i>	3
<b>PROGRAM TOTAL</b>	<b>76</b>

				<b>Weekly</b>			
				<b>Class</b>	<b>Lab</b>	<b>Work</b>	<b>Credit</b>
				<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
<b>First Semester (Fall)</b>							
CIS	110	Introduction to Computers		2	2	0	3
CUL	110	Sanitation and Safety		2	0	0	2
CUL	110A	Sanitation and Safety Lab		0	2	0	1
CUL	140	Basic Culinary Skills		2	6	0	5
CUL	150	Food Science		1	2	0	2
ENG	111	Expository Writing		3	0	0	3
MAT	115	Mathematical Models		2	2	0	3
				<b>12</b>	<b>14</b>	<b>0</b>	<b>19</b>



**Second Semester (Spring)**

CUL	120	Purchasing	2	0	0	2	
CUL	160	Baking I	1	4	0	3	
CUL	170	Gardemanger I	1	4	0	3	
CUL	240	Advanced Culinary Skills	1	8	0	5	Business and
CUL	240A	Advanced Culinary Skills Lab	0	3	0	1	
HRM	220	Food and Beverage Controls	3	0	0	3	Hospitality
			<b>8</b>	<b>19</b>	<b>0</b>	<b>17</b>	Education

**Third Semester (Summer)**

COE	112CU	Co-op Work Experience I	0	0	20	2	
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**Fourth Semester (Fall)**

COM	231	Public Speaking	3	0	0	3	
CUL	130	Menu Design	2	0	0	2	
CUL	180	International/American Regional Cuisine	1	8	0	5	
CUL	260	Baking II	1	4	0	3	
CUL	270	Gardemanger II	1	4	0	3	
HRM	145	Hospitality Supervision	3	0	0	3	
			<b>11</b>	<b>16</b>	<b>0</b>	<b>19</b>	

**Fifth Semester (Spring)**

CUL	112	Nutrition for Food Service	3	0	0	3	
CUL	135	Food and Beverage Service	2	0	0	2	
CUL	135A	Food and Beverage Service Lab	0	2	0	1	
CUL	214	Wine Appreciation	1	2	0	2	
CUL	250	Classical Cuisine	1	8	0	5	
PSY	150	General Psychology	3	0	0	3	
		Humanities Elective	3	0	0	3	
			<b>13</b>	<b>12</b>	<b>0</b>	<b>19</b>	
<b>Program Totals</b>			<b>44</b>	<b>61</b>	<b>20</b>	<b>76</b>	

**Database Management Certificate**

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.

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.

			<b>Weekly</b>		
			<b>Class</b>	<b>Lab</b>	<b>Credit</b>
			<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
CIS	152	Database Concepts and Applications	2	2	3
CIS	155	Database Theory/Analysis	2	2	3
CIS	157	Database Programming I	2	2	3
CIS	254	Database Administrative Issues	2	2	3
<b>Certificate Totals</b>			<b>8</b>	<b>8</b>	<b>12</b>

## Digital Media Technology\*

Business and  
Hospitality  
Education

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.

Through a combination of technical and general education courses, 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 Digital Media program develops technical skills through practical applications that employ current and emerging standards and technologies.

Graduates of the Digital Media program will be prepared for employment in business, industry, and government organizations as web designers, graphic artists, graphic designers, multimedia consultants, multimedia specialists, web developers, web application developers, web content engineers, web content specialists, media specialists, new media specialists, information specialists, digital media specialists, web architect/designers, animation specialists, interface designers, and many new jobs yet to be defined in this expanding field.

*\*This program will begin Fall 2004 pending State Board of Community Colleges approval.*

## Hospitality Management Certificate – Day and Evening Schedule

The Hospitality Management 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.

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
CUL	110	Sanitation and Safety	2	0	2
HRM	140	Hospitality Tourism Law	3	0	3
HRM	145	Hospitality Supervision	3	0	3
HRM	220	Food and Beverage Controls	3	0	3
HRM	240	Hospitality Marketing	3	0	3
<b>Certificate Totals</b>			<b>14</b>	<b>0</b>	<b>14</b>



# Hotel and Restaurant Management

The Hotel and Restaurant Management curriculum prepares students to understand and apply the administrative and practical skills needed for supervisory and managerial positions in hotels, motels, resorts, inns, restaurants, institutions, and clubs.

Business and  
Hospitality  
Education

Course work includes front office management, food preparation, guest services, sanitation, menu writing, quality management, purchasing, and other areas critical to the success of hospitality professionals.

Upon completion, graduates should qualify for supervisory or entry-level management positions in food and lodging, including front office, reservations, housekeeping, purchasing, dining room, and marketing. Opportunities are also available in the support areas of food and equipment sales.

## Mountain Tech Lodge

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

# Hotel and Restaurant Management – Associate in Applied Science Degree

<b>This program consists of:</b>	<b>Credit Hrs.</b>
<b>Major courses (ACC, COE, CUL, and HRM prefix)</b>	<b>55</b>
<b>Related and general education courses including:</b>	<b>19</b>
<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Sciences/Mathematics</i>	3
<i>Social Science</i>	3
<i>Other</i>	4
<b>PROGRAM TOTAL</b>	<b>74</b>

				<b>Weekly</b>	<b>Weekly</b>	<b>Weekly</b>	<b>Weekly</b>
				<b>Class</b>	<b>Lab</b>	<b>Work</b>	<b>Credit</b>
				<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
<b>First Semester (Fall)</b>							
ACA	115	First-Year Seminar		0	2	0	1
CUL	110	Sanitation and Safety		2	0	0	2
CUL	110A	Sanitation and Safety Lab		0	2	0	1
CUL	142	Fundamentals of Food		2	6	0	5
HRM	110	Introduction to Hospitality		2	0	0	2
HRM	192	Selected Topics in Dining Room Management		1	2	0	2
MAT	115	Mathematical Models		2	2	0	3
				<b>9</b>	<b>14</b>	<b>0</b>	<b>16</b>
<b>Second Semester (Spring)</b>							
ACC	120	Principles of Financial Accounting		3	2	0	4
CUL	135	Food and Beverage Service		2	0	0	2
CUL	135A	Food and Beverage Service Lab		0	2	0	1
ENG	111	Expository Writing		3	0	0	3
HRM	120	Front Office		3	0	0	3
HRM	120A	Front Office Lab		0	2	0	1
HRM	130	Bed and Breakfast Management		2	0	0	2
HRM	220	Food and Beverage Controls		3	0	0	3
				<b>16</b>	<b>6</b>	<b>0</b>	<b>19</b>

**Third Semester (Summer)**

COE 112HR	Co-op Work Experience I	0	0	20	2
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**Fourth Semester (Fall)**

Business and	CIS 110	Introduction to Computers	2	2	0	3
	CUL 130	Menu Design	2	0	0	2
Hospitality	HRM 135	Facilities Management	2	0	0	2
	HRM 145	Hospitality Supervision	3	0	0	3
Education	HRM 215	Restaurant Management	3	0	0	3
	HRM 215A	Restaurant Management Lab	0	2	0	1
	HRM 225	Beverage Management	2	0	0	2
	HRM 240	Hospitality Marketing	3	0	0	3
			<b>17</b>	<b>4</b>	<b>0</b>	<b>19</b>

**Fifth Semester (Spring)**

COM 231	Public Speaking	3	0	0	3	
HRM 140	Hospitality Tourism Law	3	0	0	3	
HRM 210	Meetings and Conventions	3	0	0	3	
HRM 280	Hospitality Management Problems	3	0	0	3	
PSY 150	General Psychology	3	0	0	3	
	Humanities Elective	3	0	0	3	
			<b>18</b>	<b>0</b>	<b>0</b>	<b>18</b>
<b>Program Totals</b>			<b>60</b>	<b>24</b>	<b>20</b>	<b>74</b>

**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 lifelong 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 – Day Schedule**

<b>This program consists of</b>	<b>Credit Hrs.</b>
<b>Major courses (ACC, BUS, CIS, ECO, MKT prefix)</b>	<b>60</b>
<b>Related and general education courses</b>	<b>16</b>
<b>including:</b>	
<i>English/Communications</i>	<i>6</i>
<i>Humanities/Fine Arts</i>	<i>3</i>
<i>Natural Sciences/Mathematics</i>	<i>3</i>
<i>Social/Behavioral Sciences</i>	<i>3</i>
<i>Other</i>	<i>1</i>
<b>PROGRAM TOTAL</b>	<b>76</b>



			Weekly			
			Class	Lab	Credit	
			Hrs.	Hrs.	Hrs.	
<b>First Semester (Fall)</b>						
ACA	115	First-Year Seminar	0	2	1	Business and
ACC	120	Principles of Financial Accounting	3	2	4	
BUS	151	People Skills	3	0	3	Hospitality
CIS	110	Introduction to Computers	2	2	3	
MAT	115	Mathematical Models	2	2	3	Education
			<b>10</b>	<b>8</b>	<b>14</b>	
<b>Second Semester (Spring)</b>						
ACC	121	Principles of Managerial Accounting	3	2	4	
BUS	137	Principles of Management	3	0	3	
BUS	256	Recruitment, Selection, and Personnel Planning	3	0	3	
ENG	111	Expository Writing	3	0	3	
MKT	120	Principles of Marketing	3	0	3	
			<b>15</b>	<b>2</b>	<b>16</b>	
<b>Third Semester (Summer)</b>						
ACC	140	Payroll Accounting	1	2	2	
BUS	115	Business Law I	3	0	3	
BUS	135	Principles of Supervision	3	0	3	
OST	136	Word Processing	1	2	2	
			<b>8</b>	<b>4</b>	<b>10</b>	
<b>Fourth Semester (Fall)</b>						
BUS	217	Employment Laws and Regulations	3	0	3	
BUS	234	Training and Development	3	0	3	
BUS	240	Business Ethics	3	0	3	
BUS	258	Compensation and Benefits	3	0	3	
ECO	251	Principles of Microeconomics	3	0	3	
		Related Elective*	3	0	3	
			<b>18</b>	<b>0</b>	<b>18</b>	
<b>Fifth Semester (Spring)</b>						
BUS	147	Business Insurance	3	0	3	
BUS	259	HRM Applications	3	0	3	
CIS	120	Spreadsheet I	2	2	3	
COM	231	Public Speaking	3	0	3	
ECO	252	Principles of Macroeconomics	3	0	3	
		Humanities Elective	3	0	3	
			<b>17</b>	<b>2</b>	<b>18</b>	
<b>Program Totals</b>			<b>68</b>	<b>16</b>	<b>76</b>	

\*Related Electives: BUS 110, BUS 116, BUS 260, BUS 270.

## Human Resources Management – Associate in Applied Science Degree – Evening Schedule

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
Business and					
Hospitality					
Education					
<b>First Semester (Fall)</b>					
ACA	115	First-Year Seminar	0	2	1
ACC	120	Principles of Financial Accounting	3	2	4
BUS	151	People Skills	3	0	3
			<b>6</b>	<b>4</b>	<b>8</b>
<b>Second Semester (Spring)</b>					
ACC	121	Principles of Managerial Accounting	3	2	4
CIS	110	Introduction to Computers	2	2	3
ENG	111	Expository Writing	3	0	3
			<b>8</b>	<b>4</b>	<b>10</b>
<b>Third Semester (Summer)</b>					
ACC	140	Payroll Accounting	1	2	2
BUS	137	Principles of Management	3	0	3
OST	136	Word Processing	1	2	2
			<b>5</b>	<b>4</b>	<b>7</b>
<b>Fourth Semester (Fall)</b>					
BUS	115	Business Law I	3	0	3
BUS	256	Recruitment, Selection, and Personnel Planning	3	0	3
MAT	115	Mathematical Models	2	2	3
MKT	120	Principles of Marketing	3	0	3
			<b>11</b>	<b>2</b>	<b>12</b>
<b>Fifth Semester (Spring)</b>					
BUS	135	Principles of Supervision	3	0	3
BUS	217	Employment Laws and Regulations	3	0	3
BUS	240	Business Ethics	3	0	3
CIS	120	Spreadsheet I	2	2	3
			<b>11</b>	<b>2</b>	<b>12</b>
<b>Sixth Semester (Summer)</b>					
COM	231	Public Speaking	3	0	3
		Humanities Elective	3	0	3
		Related Elective*	3	0	3
			<b>9</b>	<b>0</b>	<b>9</b>
<b>Seventh Semester (Fall)</b>					
ECO	251	Principles of Microeconomics	3	0	3
BUS	234	Training and Development	3	0	3
BUS	258	Compensation and Benefits	3	0	3
			<b>9</b>	<b>0</b>	<b>9</b>
<b>Eighth Semester (Spring)</b>					
BUS	147	Business Insurance	3	0	3
BUS	259	HRM Applications	3	0	3
ECO	252	Principles of Macroeconomics	3	0	3
			<b>9</b>	<b>0</b>	<b>9</b>
<b>Program Totals</b>			<b>67</b>	<b>14</b>	<b>76</b>

\*Related Electives: BUS 116, BUS 260, BUS 270.



## Information Systems

The Information Systems curriculum is designed to prepare graduates for employment with organizations that use computers to process, manage, and communicate information. This is a flexible program, designed to meet community information systems needs.

Course work includes computer systems terminology and operations, logic, operating systems, database, data communications/networking, and related business topics. Studies will provide experience for students to implement, support, and customize industry-standard information systems.

Graduates should qualify for a wide variety of computer-related, entry-level positions that provide opportunities for advancement with increasing experience and ongoing training. Duties may include systems maintenance and troubleshooting, support and training, and business applications design and implementation.

Students have the opportunity to pursue different tracks within the Information Systems curriculum: Web Technologies, Database Management, Technology Services, and Multimedia. Due to the sequencing of courses, it is *critical* for students to meet regularly with their advisor in the Business Computer Technologies department to ensure that prerequisites are met for each track.

Business and  
Hospitality  
Education

## Information Systems – Associate in Applied Science Degree- Day Schedule

This program consists of	<b>Credit Hrs.</b>
<b>Major courses (BUS, CIS, ITN, NET prefix)</b>	<b>59</b>
<b>Related and general education courses including:</b>	<b>16</b>
<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Sciences/Mathematics</i>	3
<i>Social Sciences</i>	3
<i>Other</i>	1
<b>PROGRAM TOTAL</b>	<b>75</b>

			<b>Weekly</b>		
			<b>Class</b>	<b>Lab</b>	<b>Credit</b>
			<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
<b>First Semester (Fall)</b>					
ACA	115	First-Year Seminar	0	2	1
BUS	110	Introduction to Business	3	0	3
CIS	110	Introduction to Computers	2	2	3
ENG	111	Expository Writing	3	0	3
MAT	115	Mathematical Models	2	2	3
		Humanities Elective*	3	0	3
			<b>13</b>	<b>6</b>	<b>16</b>

**Second Semester (Spring)**

	CIS	115	Introduction to Programming and Logic	2	2	3
	CIS	125	CORE Integrated Software	2	2	3
Business and	CIS	130	Survey of Operating Systems	2	3	3
Hospitality	CIS	152	Database Concepts and Applications	2	2	3
Education	ITN	160	Principles of Web Design	2	2	3
				<b>10</b>	<b>11</b>	<b>15</b>

**Third Semester (Summer)**

	CIS	143	XML Technology	2	2	3
	CIS	165	Desktop Publishing I	2	2	3
	COM	231	Public Speaking	3	0	3
			Social/Behavioral Science Elective	3	0	3
			Major Elective 1	2	2	3
				<b>12</b>	<b>6</b>	<b>15</b>

**Fourth Semester (Fall)**

	CIS	215	Hardware Installation and Maintenance	2	3	3
	CIS	286	Systems Analysis and Design	3	0	3
	NET	110	Data Communications and Networking	2	2	3
			Major Elective 2	2	2	3
			Major Elective 3	2	2	3
				<b>11</b>	<b>9</b>	<b>15</b>

**Fifth Semester (Spring)**

	CIS	288	Systems Project	1	4	3
	CIS	292	Selected Topics in Information Systems	1	3	2
	NET	112	Security Fundamentals and Policies	2	2	3
			Major Elective 4	2	2	3
			Major Elective 5	2	2	3
				<b>8</b>	<b>13</b>	<b>14</b>
				<b>54</b>	<b>45</b>	<b>75</b>

**Program Totals**

*Major Elective 1 – CIS 155, ITN 110*

*Major Elective 2 – CIS 157, CIS 217, ITN 120*

*Major Elective 3 – CIS 170, ITN 170*

*Major Elective 4 – CIS 236, CIS 254, ITN 220, ITN 260*

*Major Elective 5 – CIS 256, COE 212IS, COE 215IS, ITN 270, ITN 285, NET 120*

*\* If you are interested in the Multimedia track of the IS curriculum, it is highly recommended that you take an ART class recommended by your advisor as your Humanities elective.*



# Information Systems – Associate in Applied Science Degree – Evening Schedule

*(Begins in even years only)*

			Weekly			Business and Hospitality Education
			Class Hrs.	Lab Hrs.	Credit Hrs.	
<b>First Semester (Fall)</b>						
ACA	115	First-Year Seminar	0	2	1	
CIS	110	Introduction to Computers	2	2	3	
ENG	111	Expository Writing	3	0	3	
MAT	115	Mathematical Models	2	2	3	
			<b>7</b>	<b>6</b>	<b>10</b>	
<b>Second Semester (Spring)</b>						
CIS	115	Introduction to Programming and Logic	2	2	3	
CIS	130	Survey of Operating Systems	2	3	3	
ITN	160	Principles of Web Design	2	2	3	
			<b>6</b>	<b>7</b>	<b>9</b>	
<b>Third Semester (Summer)</b>						
CIS	152	Database Concepts and Applications	2	2	3	
COM	231	Public Speaking	3	0	3	
		Humanities Elective*	3	0	3	
			<b>8</b>	<b>2</b>	<b>9</b>	
<b>Fourth Semester (Fall)</b>						
CIS	125	CORE Integrated Software	2	2	3	
CIS	143	XML Technology	2	2	3	
		Major Elective 1	2	2	3	
			<b>6</b>	<b>6</b>	<b>9</b>	
<b>Fifth Semester (Spring)</b>						
CIS	165	Desktop Publishing I	2	2	3	
		Major Elective 2	2	2	3	
		Major Elective 3	2	2	3	
			<b>6</b>	<b>6</b>	<b>9</b>	
<b>Sixth Semester (Summer)</b>						
BUS	110	Introduction to Business	3	0	3	
CIS	215	Hardware Installation and Maintenance	2	3	3	
		Social/Behavioral Science Elective	3	0	3	
			<b>8</b>	<b>3</b>	<b>9</b>	
<b>Seventh Semester (Fall)</b>						
CIS	292	Selected Topics in Information Systems	1	3	2	
NET	110	Data Communications and Networking	2	2	3	
NET	112	Security Fundamentals and Policies	2	2	3	
			<b>5</b>	<b>7</b>	<b>8</b>	

**Eighth Semester (Spring)**

CIS	286	Systems Analysis and Design	3	0	3
		Major Elective 4	2	2	3
		Major Elective 5	2	2	3

Business and

**7      4      9****Ninth Semester (Summer)**

CIS	288	Systems Project	1	4	3
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Hospitality

Education

**1      4      3****Program Totals****54      45      75***Major Elective 1 – CIS 155, ITN 110**Major Elective 2 – CIS 157, CIS 217, ITN 120**Major Elective 3 – CIS 170, ITN 170**Major Elective 4 – CIS 236, CIS 254, ITN 220, ITN 260**Major Elective 5 – CIS 256, COE 212IS, COE 215IS, ITN 270, ITN 285, NET 120*

*\* If you are interested in the Multimedia track of the IS curriculum, it is highly recommended that you take an ART class recommended by your advisor as your Humanities elective.*

**Java Programming Certificate**

Students completing this certificate will receive a strong grounding in Java Programming (applications and applets), object oriented programming and design, online application development and XML technologies. 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.

			<b>Weekly</b>		
			<b>Class</b>	<b>Lab</b>	<b>Credit</b>
			<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
CIS	115	Introduction to Programming and Logic	2	2	3
CIS	143	XML Technology	2	2	3
CSC	148	Java Programming	2	3	3
CSC	248	Advanced Internet Programming	2	3	3
<b>Certificate Totals</b>			<b>8</b>	<b>10</b>	<b>12</b>

**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

This program consists of

Major courses (ACC, BUS, ECO, MKT prefix)

Related and general education courses

including:

*English/Communications*

*Humanities/Fine Arts*

*Natural Sciences/Mathematics*

*Social/Behavioral Science*

*Other*

**PROGRAM TOTAL**

**Credit Hrs.**

**53**

Business and

**23**

Hospitality

6

3

Education

3

3

8

**76**

**WeeklyWeekly**

**Class Lab Credit  
Hrs. Hrs. Hrs.**

## First Semester (Fall)

ACC	120	Principles of Accounting I	3	2	4
BUS	110	Introduction to Business	3	0	3
CIS	110	Introduction to Computers	2	2	3
ENG	111	Expository Writing	3	0	3
MAT	115	Mathematical Models	2	2	3
			<b>13</b>	<b>6</b>	<b>16</b>

## Second Semester (Spring)

ACC	121	Principles of Accounting II	3	2	4
BUS	137	Principles of Management	3	0	3
MKT	120	Principles of Marketing	3	0	3
OST	136	Word Processing	1	2	2
		Humanities Elective	3	0	3
			<b>13</b>	<b>4</b>	<b>15</b>

## Third Semester (Summer)

BUS	115	Business Law I	3	0	3
ECO	251	Principles of Microeconomics	3	0	3
MKT	122	Visual Merchandising	3	0	3
MKT	221	Consumer Behavior	3	0	3
		Related Elective*	3	0	3
			<b>15</b>	<b>0</b>	<b>15</b>

## Fourth Semester (Fall)

CIS	120	Spreadsheet I	2	2	3
ECO	252	Principles of Macroeconomics	3	0	3
MKT	121	Retailing	3	0	3
MKT	123	Fundamentals of Selling	3	0	3
MKT	224	International Marketing	3	0	3
			<b>14</b>	<b>2</b>	<b>15</b>

## Fifth Semester (Spring)

COM	231	Public Speaking	3	0	3
MKT	220	Advertising and Sales Promotion	3	0	3
MKT	225	Marketing Research	3	0	3
MKT	227	Marketing Applications	3	0	3
		Related Elective*	3	0	3
			<b>15</b>	<b>0</b>	<b>15</b>

## Program Totals

**70 12 76**

\*Related Electives: BUS 116, BUS 135, BUS 147, BUS 153, BUS 225, BUS 230, BUS 240, BUS 260, BUS 270, CIS 165.

## Marketing and Retailing – Associate in Applied Science Degree – Evening Schedule

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
Business and					
Hospitality					
Education					
<b>First Semester (Fall)</b>					
ACC	120	Principles of Accounting I	3	2	4
BUS	110	Introduction to Business	3	0	3
ENG	111	Expository Writing	3	0	3
			<b>9</b>	<b>2</b>	<b>10</b>
<b>Second Semester (Spring)</b>					
ACC	121	Principles of Accounting II	3	2	4
CIS	110	Introduction to Computers	2	2	3
MAT	115	Mathematical Models	2	2	3
			<b>7</b>	<b>6</b>	<b>10</b>
<b>Third Semester (Summer)</b>					
BUS	137	Principles of Management	3	0	3
OST	136	Word Processing	1	2	2
		Humanities Elective	3	0	3
			<b>7</b>	<b>2</b>	<b>8</b>
<b>Fourth Semester (Fall)</b>					
BUS	115	Business Law I	3	0	3
ECO	251	Principles of Microeconomics	3	0	3
MKT	120	Principles of Marketing	3	0	3
		Related Elective*	3	0	3
			<b>12</b>	<b>0</b>	<b>12</b>
<b>Fifth Semester (Spring)</b>					
CIS	120	Spreadsheet I	2	2	3
ECO	252	Principles of Macroeconomics	3	0	3
MKT	121	Retailing	3	0	3
MKT	220	Advertising and Sales Promotion	3	0	3
			<b>11</b>	<b>2</b>	<b>12</b>
<b>Sixth Semester (Summer)</b>					
MKT	122	Visual Merchandising	3	0	3
MKT	221	Consumer Behavior	3	0	3
			<b>6</b>	<b>0</b>	<b>6</b>
<b>Seventh Semester (Fall)</b>					
COM	231	Public Speaking	3	0	3
MKT	123	Fundamentals of Selling	3	0	3
		Related Elective*	3	0	3
			<b>9</b>	<b>0</b>	<b>9</b>
<b>Eighth Semester (Spring)</b>					
MKT	224	International Marketing	3	0	3
MKT	225	Marketing Research	3	0	3
MKT	227	Marketing Applications	3	0	3
			<b>9</b>	<b>0</b>	<b>9</b>
<b>Program Totals</b>			<b>71</b>	<b>10</b>	<b>76</b>

\*Related Electives: BUS 116, BUS 135, BUS 147, BUS 153, BUS 225, BUS 230, BUS 240, BUS 260, BUS 270, CIS 165.



## Medical Coding Certificate – Evening Schedule

*(Evening only)*

The Medical Coding Certificate program will prepare individuals for entry-level employment opportunities in the allied health specialty of medical coding. 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 98 with 80 percent accuracy (or CIS 110 or CIS 111.)

Business and  
Hospitality  
Education

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
BIO	163	Basic Anatomy and Physiology	4	2	5
MED	121	Medical Terminology I	3	0	3
			<b>7</b>	<b>2</b>	<b>8</b>
<b>Second Semester (Spring)</b>					
MED	122	Medical Terminology II	3	0	3
OST	148	Medical Coding, Billing, and Insurance	3	0	3
			<b>6</b>	<b>0</b>	<b>6</b>
<b>Third Semester (Summer)</b>					
OST	247	CPT Coding in the Medical Office	1	2	2
OST	248	Diagnostic Coding	1	2	2
			<b>2</b>	<b>4</b>	<b>4</b>
<b>Certificate Totals</b>			<b>15</b>	<b>6</b>	<b>18</b>

## 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

This program consists of	Credit Hrs.
Major courses (BUS, CIS, MED, OST prefix)	40
Related and general education courses including:	8
<i>English/Communications</i>	3
<i>Natural Sciences/Mathematics</i>	5
<b>PROGRAM TOTAL</b>	<b>48</b>

Entrance requirements: keyboarding placement test into OST 134 and college English placement test.

			Weekly	Weekly	
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
Business and	<b>First Semester (Fall)</b>				
Hospitality	BIO 163	Basic Anatomy and Physiology	4	2	5
	CIS 110	Introduction to Computers	2	2	3
Education	ENG 111	Expository Writing	3	0	3
	MED 121	Medical Terminology I	3	0	3
	OST 164	Text Editing Applications	3	0	3
			<b>15</b>	<b>4</b>	<b>17</b>
<b>Second Semester (Spring)</b>					
	MED 122	Medical Terminology II	3	0	3
	OST 134	Text Entry and Formatting	2	2	3
	OST 136	Word Processing	1	2	2
	OST 148	Medical Coding, Billing, and Insurance	3	0	3
	OST 184	Records Management	1	2	2
	OST 201	Medical Transcription I	3	2	4
			<b>13</b>	<b>8</b>	<b>17</b>
<b>Third Semester (Summer)</b>					
	BUS 135	Principles of Supervision	3	0	3
	OST 132	Keyboard Skill Building	1	2	2
	OST 149	Medical Legal Issues	3	0	3
		Major Electives*	6	0	6
			<b>13</b>	<b>2</b>	<b>14</b>
<b>Program Totals</b>			<b>41</b>	<b>14</b>	<b>48</b>

\*Major Electives: ACC 120, ACC 140, BUS 270, CIS 120, CIS 152, CIS 165, CIS 226, COE 211OS, COE 215OS, NET 110, OST 202, OST 247, OST 248, SPA 111.

## Medical Office Administration – Diploma – Evening Schedule

(Begins in even years only)

Entrance requirements: Keyboarding placement test into OST 134 and college English placement test.

			Weekly	Weekly	
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
	BIO 163	Basic Anatomy and Physiology	4	2	5
	CIS 110	Introduction to Computers	2	2	3
	OST 164	Text Editing Applications	3	0	3
			<b>9</b>	<b>4</b>	<b>11</b>
<b>Second Semester (Spring)</b>					
	MED 121	Medical Terminology I	3	0	3
	OST 134	Text Entry and Formatting	2	2	3
	OST 136	Word Processing	1	2	2
			<b>6</b>	<b>4</b>	<b>8</b>



**Third Semester (Summer)**

ENG	111	Expository Writing	3	0	3
MED	122	Medical Terminology II	3	0	3
OST	132	Keyboard Skill Building	1	2	2
			<b>7</b>	<b>2</b>	<b>8</b>

Business and

**Fourth Semester (Fall)**

OST	184	Records Management	1	2	2
OST	201	Medical Transcription I	3	2	4
		Major Elective*	3	0	3
			<b>7</b>	<b>4</b>	<b>9</b>

Hospitality

Education

**Fifth Semester (Spring)**

BUS	135	Principles of Supervision	3	0	3
OST	148	Medical Coding, Billing, and Insurance	3	0	3
OST	149	Medical Legal Issues	3	0	3
		Major Elective*	3	0	3
			<b>12</b>	<b>0</b>	<b>12</b>

**Program Totals****41      14      48**

\*Major Electives: ACC 120, ACC 140, BUS 270, CIS 120, CIS 165, CIS 226, COE 211OS, COE 215OS, NET 110, OST 202, OST 247, OST 248.

**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.

**Medical Transcription Diploma**

<b>This program consists of</b>	<b>Credit Hrs.</b>
<b>Major courses (CIS, COE, MED, OST prefix)</b>	<b>36</b>
<b>Related and general education courses including:</b>	<b>8</b>
<i>English/Communications</i>	3
<i>Natural Sciences/Mathematics</i>	5
<b>PROGRAM TOTAL</b>	<b>44</b>

				Weekly	Weekly	Weekly	
				Class	Lab	Work	Credit
				Hrs.	Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>							
Business and	BIO	163	Basic Anatomy and Physiology	4	2	0	5
	CIS	110	Introduction to Computers	2	2	0	3
Hospitality	MED	121	Medical Terminology I	3	0	0	3
	OST	134	Text Entry and Formatting	2	2	0	3
Education	OST	164	Text Editing Applications	3	0	0	3
				<b>14</b>	<b>6</b>	<b>0</b>	<b>17</b>
<b>Second Semester (Spring)</b>							
	ENG	111	Expository Writing	3	0	0	3
	MED	122	Medical Terminology II	3	0	0	3
	OST	132	Keyboard Skill Building	1	2	0	2
	OST	136	Word Processing	1	2	0	2
	OST	201	Medical Transcription I	3	2	0	4
				<b>11</b>	<b>6</b>	<b>0</b>	<b>14</b>
<b>Third Semester (Summer)</b>							
	OST	149	Medical Legal Issues	3	0	0	3
	OST	184	Records Management	1	2	0	2
	OST	202	Medical Transcription II	3	2	0	4
	OST	286	Professional Development	3	0	0	3
				<b>10</b>	<b>4</b>	<b>0</b>	<b>12</b>
<b>Fourth Semester (Fall)</b>							
	COE	111MT	Co-op Work Experience	0	0	10	1
<b>Program Totals</b>				<b>35</b>	<b>16</b>	<b>10</b>	<b>44</b>

## Medical Transcription Diploma - Evening Schedule

*(Begins in even years only)*

				Weekly	Weekly	Weekly	
				Class	Lab	Work	Credit
				Hrs.	Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>							
	BIO	163	Basic Anatomy and Physiology	4	2	0	5
	CIS	110	Introduction to Computers	2	2	0	3
	OST	164	Text Editing Applications	3	0	0	3
				<b>9</b>	<b>4</b>	<b>0</b>	<b>11</b>
<b>Second Semester (Spring)</b>							
	MED	121	Medical Terminology I	3	0	0	3
	OST	134	Text Entry and Formatting	2	2	0	3
	OST	136	Word Processing	1	2	0	2
				<b>6</b>	<b>4</b>	<b>0</b>	<b>8</b>
<b>Third Semester (Summer)</b>							
	MED	122	Medical Terminology II	3	0	0	3
	OST	132	Keyboard Skill Building	1	2	0	2
	OST	286	Professional Development	3	0	0	3
				<b>7</b>	<b>2</b>	<b>0</b>	<b>8</b>



**Fourth Semester (Fall)**

ENG	111	Expository Writing	3	0	0	3
OST	184	Records Management	1	2	0	2
OST	201	Medical Transcription I	3	2	0	4
			<b>7</b>	<b>4</b>	<b>0</b>	<b>9</b>

Business and

**Fifth Semester (Spring)**

OST	149	Medical Legal Issues	3	0	0	3
OST	202	Medical Transcription II	3	2	0	4
			<b>6</b>	<b>2</b>	<b>0</b>	<b>7</b>

Hospitality

Education

**Sixth Semester (Summer)**

COE	111MT	Co-op Work Experience	0	0	10	1
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**Program Totals****35    16    10    44****Microcomputer Applications Certificate**

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.

**WeeklyWeekly**

<b>Class</b>	<b>Lab</b>	<b>Credit</b>
<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>

**Required Courses:**

CIS	110	Introduction to Computers	2	2	3
CIS	120	Spreadsheet I	2	2	3
CIS	130	Survey of Operating Systems	2	3	3

Choose two electives:

CIS	152	Database Concepts and Applications	2	2	3
CIS	165	Desktop Publishing I	2	2	3
OST	136	Word Processing	1	2	2

**Certificate Totals****9/10    11    14/15****Networking Certificate**

Students learn the basics of computer networks including system administration and file management. Networking software such as Novell and Windows NT will be used. Internet usage will be presented. Applicants must have earned a high school diploma or GED to apply for this certificate program.

**WeeklyWeekly**

<b>Class</b>	<b>Lab</b>	<b>Credit</b>
<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>

**Required Courses:**

CIS	110	Introduction to Computers	2	2	3
NET	110	Data Communications/Networking	2	2	3
NET	120	Networking Installation & Administration I	2	2	3
NET	220	Networking Installation & Administration II	2	2	3

**Certificate Totals****8    8    12**

## Networking Security Certificate

Business and  
Hospitality  
Education

Students learn basic and advanced concepts in networking security. Issues related to networking operating systems, remote access, traffic analysis, attack patterns, and TCP/IP concepts will be presented. Upon completion students should have a fundamental knowledge of data network security and be able to implement a functional security plan. Applicants must have earned a high school diploma or GED. Applicants must have completed one year of Networking Technology or Information Systems or hold current industry certification or permission of department chairperson. Satisfactory score on a placement exam may also be required.

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
NET	112	Security Fundamentals and Policies	3	0	3
NET	145	Introduction to Linux	2	2	3
NET	222	Security Administration I	2	2	3
NET	232	Security Administration II	2	2	3
<b>Certificate Totals</b>			<b>9</b>	<b>6</b>	<b>12</b>

## Networking Technology

The Networking Technology curriculum prepares individuals for employment supporting local- and wide-area networks. Students will learn how to use technologies to provide for data, voice, image, and video communications in business, industry, and education.

Course work includes design, installation, configuration, and management of local- and wide-area network hardware and software. Emphasis is placed on developing proficiency in the use of network management software and the use of hardware such as bridges 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 products, depending on their local program.

## Networking Technology – Associate in Applied Science Degree

<b>This program consists of:</b>	<b>Credit Hrs.</b>
<b>Major courses (CIS, COE, CSC, NET prefix)</b>	<b>57</b>
<b>Related and general education courses including:</b>	<b>17</b>
<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Sciences/Mathematics</i>	4
<i>Social Science</i>	3
<i>Other</i>	1
<b>PROGRAM TOTAL</b>	<b>74</b>



			Weekly			
			Class	Lab	Credit	
			Hrs.	Hrs.	Hrs.	
<b>First Semester (Fall)</b>						
ACA	115	First-Year Seminar	0	2	1	Business and
CIS	110	Introduction to Computers	2	2	3	
CIS	245	Operating Systems/Multi-User	2	3	3	Hospitality
ENG	111	Expository Writing	3	0	3	
MAT	171	Pre-Calculus Algebra	3	0	3	Education
MAT	171A	Pre-Calculus Algebra Lab	0	2	1	
NET	110	Data Communications/Networking	2	2	3	
			<b>12</b>	<b>11</b>	<b>17</b>	
<b>Second Semester (Spring)</b>						
NET	112	Security Fundamentals and Policies	3	0	3	
NET	120	Network Install/Admin I	2	2	3	
NET	125	Routing and Switching I	1	4	3	
NET	145	Introduction to Linux	2	2	3	
		Social/Behavioral Science Elective	3	0	3	
			<b>11</b>	<b>8</b>	<b>15</b>	
<b>Third Semester (Summer)</b>						
NET	126	Routing and Switching II	1	4	3	
NET	220	Network Install/Admin II	2	2	3	
NET	230	Wide Area Networking	2	2	3	
		Humanities Elective	3	0	3	
			<b>8</b>	<b>8</b>	<b>12</b>	
<b>Fourth Semester (Fall)</b>						
CIS	115	Introduction to Programming and Logic	2	2	3	
COM	231	Public Speaking	3	0	3	
NET	240	Network Design	3	0	3	
NET	250	Advanced Networks I	2	2	3	
		Major Elective 1	2	2	3	
			<b>12</b>	<b>6</b>	<b>15</b>	
<b>Fifth Semester (Spring)</b>						
CIS	215	Hardware Installation and Maintenance	2	3	3	
NET	251	Advanced Networks II	2	2	3	
NET	260	Internet Development & Support	3	0	3	
NET	280	Network Project	1	4	3	
		Major Elective	2	2	3	
			<b>10</b>	<b>11</b>	<b>15</b>	
<b>Program Totals</b>			<b>53</b>	<b>44</b>	<b>74</b>	

\*The hour totals include a minimum of twelve credit hours of major electives to be selected from: NET 155, NET 165, NET 222, NET 225, NET 226, NET 232, NET 270, NET 271, NET 272, NET 273.

# Networking Technology – Associate in Applied Science Degree - Evening Schedule

*(Begins in even years only)*

Business and

Hospitality

Education

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
ACA	115	First-Year Seminar	0	2	1
CIS	110	Introduction to Computers	2	2	3
MAT	171	Pre-Calculus Algebra	3	0	3
MAT	171A	Pre-Calculus Algebra Lab	0	2	1
			<b>5</b>	<b>6</b>	<b>8</b>
<b>Second Semester (Spring)</b>					
CIS	245	Operating Systems/Multi-User	2	3	3
ENG	111	Expository Writing	3	0	3
NET	110	Data Communications/Networking	2	2	3
			<b>7</b>	<b>5</b>	<b>9</b>
<b>Third Semester (Summer)</b>					
COM	231	Public Speaking	3	0	3
NET	120	Network Install/Admin I	2	2	3
NET	145	Introduction to Linux	2	2	3
		Humanities Elective	3	0	3
			<b>10</b>	<b>4</b>	<b>12</b>
<b>Fourth Semester (Fall)</b>					
CIS	215	Hardware Installation and Maintenance	2	3	3
NET	112	Security Fundamentals and Policies	3	0	3
NET	220	Network Install/Admin II	2	2	3
			<b>7</b>	<b>5</b>	<b>9</b>
<b>Fifth Semester (Spring)</b>					
NET	125	Routing and Switching I	1	4	3
NET	230	Wide Area Networking	2	2	3
		Social/Behavioral Science Elective	3	0	3
			<b>6</b>	<b>6</b>	<b>9</b>
<b>Sixth Semester (Summer)</b>					
CIS	115	Introduction to Programming and Logic	2	2	3
NET	126	Routing and Switching II	1	4	3
			<b>3</b>	<b>6</b>	<b>6</b>
<b>Seventh Semester (Fall)</b>					
NET	240	Network Design	3	0	3
NET	250	Advanced Networks I	2	2	3
NET	260	Internet Development and Support	3	0	3
		Major Elective 1	2	2	3
			<b>10</b>	<b>4</b>	<b>12</b>



**Eighth Semester (Spring)**

NET 251	Advanced Networks II	2	2	3
NET 280	Network Project	1	4	3
	Major Elective 2	2	2	3
		<b>5</b>	<b>8</b>	<b>9</b>
<b>Program Totals</b>		<b>53</b>	<b>44</b>	<b>74</b>

Business and  
Hospitality  
Education

*\*The hour totals include a minimum of twelve credit hours of major electives to be selected from: NET 155, NET 165, NET 222, NET 225, NET 226, NET 232, NET 270, NET 271, NET 272, NET 273*

**Office Systems Technology**

The Office Systems Technology 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 Systems Technology Diploma**

<b>This program consists of:</b>	<b>Credit Hrs.</b>
<b>Major courses (BUS, CIS, OST prefix)</b>	<b>29</b>
<b>Related and general education courses including:</b>	<b>12</b>
<i>English/Communications</i>	<i>6</i>
<i>Other</i>	<i>6</i>
<b>PROGRAM TOTAL</b>	<b>41</b>

<b>Weekly</b>		
<b>Class</b>	<b>Lab</b>	<b>Credit</b>
<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>

**First Semester (Fall)**

ACC 120	Principles of Accounting I	3	2	4
BUS 270	Professional Development	3	0	3
CIS 110	Introduction to Computers	2	2	3
ENG 111	Expository Writing	3	0	3
OST 131	Keyboarding	1	2	2
		<b>12</b>	<b>6</b>	<b>15</b>

**Second Semester (Spring)**

CIS 120	Spreadsheet I	2	2	3
OST 134	Text Entry and Formatting	2	2	3
OST 136	Word Processing	1	2	2
OST 164	Text Editing Applications	3	0	3
OST 184	Records Management	1	2	2
		<b>9</b>	<b>8</b>	<b>13</b>

**Third Semester (Summer)**

	ACC	140	Payroll Accounting	1	2	2
	BUS	135	Principles of Supervision	3	0	3
	COM	231	Public Speaking	3	0	3
Business and	OST	132	Keyboard Skill Building	1	2	2
			Major Elective*	3	0	3
Hospitality				<b>11</b>	<b>4</b>	<b>13</b>
Education			<b>Program Totals</b>	<b>32</b>	<b>18</b>	<b>41*</b>

\*The hour totals include a minimum of three credit hours of major electives to be selected from: ACC 150, BUS 110, BUS 115, BUS 137, BUS 153, BUS 230, BUS 240, CIS 152, NET 110.

## Office Systems Technology – Associate in Applied Science Degree

This program consists of:

**Major courses (BUS, CIS, COE, ITN,  
NET, OST prefix)**

**Credit Hrs.**

**Related and general education courses  
including:**

*English/Communications*

6

*Humanities/Fine Arts*

3

*Natural Sciences/Mathematics*

3

*Social Science*

3

*Other*

7

**PROGRAM TOTAL**

**74**

### WeeklyWeekly

				<b>Class Hrs.</b>	<b>Lab Hrs.</b>	<b>Credit Hrs.</b>
<b>First Semester (Fall)</b>						
	ACA	115	First-Year Seminar	0	2	1
	ACC	120	Principles of Accounting I	3	2	4
	BUS	270	Professional Development	3	0	3
	CIS	110	Introduction to Computers	2	2	3
	ENG	111	Expository Writing	3	0	3
	OST	131	Keyboarding	1	2	2
				<b>12</b>	<b>8</b>	<b>16</b>
<b>Second Semester (Spring)</b>						
	CIS	120	Spreadsheet I	2	2	3
	MAT	115	Mathematical Models	2	2	3
	OST	134	Text Entry and Formatting	2	2	3
	OST	136	Word Processing	1	2	2
	OST	164	Text Editing Applications	3	0	3
	OST	184	Records Management	1	2	2
				<b>11</b>	<b>10</b>	<b>16</b>
<b>Third Semester (Summer)</b>						
	ACC	140	Payroll Accounting	1	2	2
	BUS	135	Principles of Supervision	3	0	3
	COM	231	Public Speaking	3	0	3
	OST	132	Keyboard Skill Building	1	2	2
	PSY	150	General Psychology	3	0	3
				<b>11</b>	<b>4</b>	<b>13</b>



**Fourth Semester (Fall)**

BUS	260	Business Communications	3	0	3
CIS	130	Survey of Operating Systems	2	3	3
CIS	165	Desktop Publishing I	2	2	3
ITN	160	Principles of Web Design	2	2	3
		Major Electives*	3	0	3
			<b>12</b>	<b>7</b>	<b>15</b>

Business and

Hospitality

Education

**Fifth Semester (Spring)**

CIS	152	Database Concepts and Application	1	2	3
CIS	292	Special Topics in Information Systems	1	3	2
NET	110	Data Communication Networking	2	2	3
		Humanities Elective	3	0	3
		Major Elective*	3	0	3
			<b>10</b>	<b>7</b>	<b>14</b>

**Program Totals****56      36      74\***

\*The hour totals include a minimum of six credit hours of major electives to be selected from: ACC 150, BUS 110, BUS 115, BUS 116, BUS 137, BUS 153, BUS 230, BUS 240, COE 211OS, MED 121.

**Open Source Operating Systems Certificate**

Students will learn concepts related to administration of open source operating systems. Sun UNIX and several versions of Linux will be used in this program. Topics will include hardware management, system configuration, client configuration, scripting, Gnome, KDE, server-side setup, and security administration. Upon completion students should be able to setup and administer a server or client machine utilizing an open source operating system. Applicants must have earned a high school diploma or GED and successfully completed NET 110 or have the permission of the department chairperson. Satisfactory score on a placement exam may also be required.

			<b>Weekly</b>		
			<b>Class</b>	<b>Lab</b>	<b>Credit</b>
			<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
NET	125	Routing and Switching I	1	4	3
NET	145	Introduction to Linux	2	2	3
NET	155	Linux System Administration	2	2	3
NET	165	Linux Networking/Security	2	2	3
<b>Certificate Totals</b>			<b>7</b>	<b>10</b>	<b>12</b>

**PC Installation and Maintenance Certificate**

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 the PC Installation and Maintenance Certificate program. Success as a PC technician requires essential knowledge and skills that may be tested by the internationally recognized A+ certification exam.

Many computer hardware and software vendors, distributors, and resellers who must manage and support large hardware and software inventories seek PC installation and maintenance specialists who are A+ certified. A+ certification is a measure of competency as defined by experts across the industry.

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.

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
CIS	110	Introduction to Computers	2	2	3
CIS	130	Survey of Operating Systems	2	3	3
CIS	215	Hardware Installation and Maintenance	2	3	3
CIS	236	A+ Certification Prep	2	2	3
<b>Certificate Totals</b>			<b>8</b>	<b>10</b>	<b>12</b>

## Real Estate

The Real Estate curriculum provides the prelicensing education required by the North Carolina Real Estate Commission, prepares individuals to enter the profession, and offers additional education to meet professional development needs.

Course work includes the practices and principles of real estate, emphasizing financial and legal applications, property development, and property values.

Graduates should qualify for North Carolina Real Estate Sales and Broker examinations. They should be able to enter apprenticeship training and to provide real estate services to consumers in a competent manner.

## Real Estate Certificate

*(Evening only)*

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
RLS	112	Real Estate Fundamentals	5	0	5
RLS	113	Real Estate Mathematics	2	0	2
			<b>7</b>	<b>0</b>	<b>7</b>
<b>Second Semester (Spring)</b>					
RLS	117	Real Estate Broker	4	0	4
RLS	192	Selected Topics in Real Estate	2	0	2
			<b>6</b>	<b>0</b>	<b>6</b>
<b>Certificate Totals</b>			<b>13</b>	<b>0</b>	<b>13</b>

## Real Estate Appraisal Certificate

The Real Estate Appraisal curriculum is designed to prepare individuals to enter the appraisal profession as a registered trainee and advance to licensed or certified appraiser levels. Course work includes appraisal theory and concepts with applications, the North Carolina Appraisal Board rules, and the Uniform Standards of Professional Appraisal



Practice. Graduates should be prepared to complete the North Carolina Registered Trainee Examinations and advance to licensure or certification levels as requirements are met.

## Real Estate Appraisal Certificate

(Evening only)

Business and  
Hospitality  
Education

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
REA	101	Introduction to Real Estate Appraisal R-1	2	0	2
REA	102	Valuation Principles and Practices R-2	2	0	2
			<b>4</b>	<b>0</b>	<b>4</b>
<b>Second Semester (Spring)</b>					
REA	103	Applied Residential Property Valuation R-3	1	0	1
REA	104	USPAP R-4	1	0	1
REA	201	Intro to Income Property Appraisal G-1	2	0	2
			<b>4</b>	<b>0</b>	<b>4</b>
<b>Third Semester (Fall)</b>					
REA	202	Adv. Income Capitalization Procedures G-2	2	0	2
REA	203	Applied Income Property Valuation G-3	2	0	2
			<b>4</b>	<b>0</b>	<b>4</b>
<b>Certificate Totals</b>			<b>12</b>	<b>0</b>	<b>12</b>

*Note: Courses must be taken in sequence. State licensure or certification requires an examination and a substantial experience component. Please contact the Real Estate Program Coordinator for additional information before enrolling.*

## Restaurant Desserts Certificate\*

The Restaurant Desserts certificate addresses the art of pastry and baking as it relates to the professional kitchen. Students will learn to prepare and plate various hot and cold desserts and pastries that can be utilized in restaurant kitchens, bake shops, and in high-volume facilities.

\* Offered day only.

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
BPA	165	Hot and Cold Desserts	1	4	3
CUL	110	Sanitation and Safety	2	0	2
CUL	160	Baking I	1	4	3
			<b>4</b>	<b>8</b>	<b>8</b>

**Second Semester (Spring)**

BPA	120	Petit Fours and Pastries	1	4	3
BPA	250	Dessert and Bread Production	1	8	5
			<b>2</b>	<b>12</b>	<b>8</b>
Business and	<b>Certificate Totals</b>		<b>6</b>	<b>20</b>	<b>16</b>

Hospitality

**Web Technologies Certificate**

Education

The Web Technologies Certificate provides training in multiple aspects of Internet-related technologies, including: Web site design, development, and maintenance; Internet-related programming/database accessibility; interactive multimedia; and multimedia and graphics.

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.

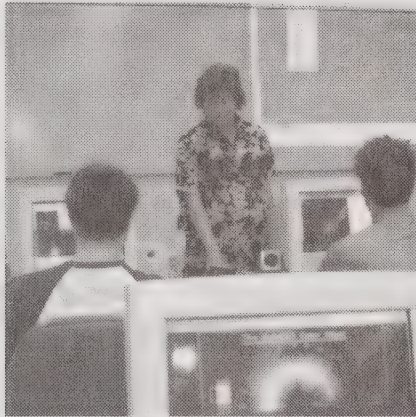
			<b>WeeklyWeekly</b>		
			<b>Class</b>	<b>Lab</b>	<b>Credit</b>
			<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
CIS	143	XML Technology	2	2	3
ITN	110	Introduction to Web Graphics	2	2	3
ITN	120	Introduction to Multimedia	2	2	3
ITN	160	Principles of Web Design	2	2	3
ITN	170	Introduction to Internet Database	2	2	3
<b>Certificate Totals</b>			<b>10</b>	<b>10</b>	<b>15</b>

**Word Processing/Desktop Publishing Certificate –  
Day and Evening Schedule**

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.

			<b>WeeklyWeekly</b>		
			<b>Class</b>	<b>Lab</b>	<b>Credit</b>
			<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
CIS	110	Introduction to Computers	2	2	3
CIS	165	Desktop Publishing I	2	2	3
OST	131	Keyboarding (or tested keyboarding proficiency)	1	2	2
OST	134	Text Entry and Formatting	2	2	3
OST	136	Word Processing	1	2	2
<b>Certificate Totals</b>			<b>8</b>	<b>10</b>	<b>13</b>





## Engineering and Applied Technology

The Engineering and Applied Technology Division offers a variety of Associate in Applied Science degree and diploma programs in engineering technologies and applied technologies. Degree-level students are provided an appropriate blend of engineering, scientific, and mathematical theories with applications. Diploma-level students are provided training that is closely related to the industrial work environments. Appropriate related and general education courses are provided in support of these programs.



	<b>Air Conditioning, Heating, and Refrigeration Technology</b>	<b>Automotive Systems Technology*</b>	<b>CAD Systems Management*</b>
	<b>Recommended High School Courses</b>		
Engineering and Applied Technology	Electricity Electronics	Applied Mathematics Physics Electronics	Algebra Geometry Drafting
	<b>A-B Tech Entrance Requirements</b>		
	Acceptable scores on SAT, ACT, or Reading Comprehension and Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Mathematics (2 units, including Algebra)  Acceptable scores on SAT, ACT or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	Algebra I & II or Algebra I and Plane Geometry  Acceptable scores on SAT, ACT or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).
	<b>Program Schedule</b>		
	Day/Night begins Fall. Can take some single courses any semester.	Day/Night begins Fall of even years and Spring of odd years.	Day/Night begins Fall. Night begins in odd numbered years only.
	<b>Degree</b>		
	Associate in Applied Science or Diploma	Associate in Applied Science or Diploma	Associate in Applied Science
	<b>Employment Opportunities</b>		
	Maintenance Technician Climate Control Technician Service Technician Systems Engineer Refrigeration Technician Estimator	General Automotive Technician Specialized Technician Shop Supervisor	Mechanical Design Product Design Manufacturing Design CAD Operator

\* Tech Prep agreements with regional high schools.



Carpentry	Civil Engineering Technology	Computer Engineering Technology	
<b>Recommended High School Courses</b>			
Practical Mathematics Drafting Woodworking courses	Trigonometry Drafting	Trigonometry	Engineering and Applied Technology
<b>A-B Tech Entrance Requirements</b>			
Acceptable scores on SAT, ACT, or Reading Comprehension and Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Algebra I & II or Algebra I and Plane Geometry  Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	Algebra I & II or Algebra I and Plane Geometry  Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	
<b>Program Schedule</b>			
Day/Night begins Fall.	Day/Night begins Fall. Night begins in odd numbered years. Can take single courses any semester	Day/Night begins Fall.	
<b>Degree</b>			
Diploma	Associate in Applied Science	Associate in Applied Science	
<b>Employment Opportunities</b>			
Contractors as Carpenters or Estimators In Cabinet Shop as Cabinetmakers or Installers	Construction Technician Materials Testing Technician Construction Inspector Engineering Technician	Computer and Network Service Technician Systems Integration Technician Automation Specialist Integrated Manufacturing Technician Systems Support Engineer Controls Engineer	* Tech Prep agreements with regional high schools.

	<b>Construction Management Technology</b>	<b>Electrical/Electronics Technology*</b>	<b>Electronics Engineering Technology*</b>
	<b>Recommended High School Courses</b>		
Engineering and Applied Technology	Trigonometry Drafting	Trigonometry	Trigonometry
	<b>A-B Tech Entrance Requirements</b>		
	Algebra I & II or Algebra I and Plane Geometry  Acceptable scores on SAT, ACT or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	Algebra I & II or Algebra I and Plane Geometry  Acceptable scores on SAT, ACT or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	Algebra I & II or Algebra I and Plane Geometry  Acceptable scores on SAT, ACT or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).
	<b>Program Schedule</b>		
	Night begins Fall.	Night begins Fall.	Day/Night begins Fall.
	<b>Degree</b>		
	Associate in Applied Science	Diploma	Associate in Applied Science
	<b>Employment Opportunities</b>		
	Entry level position in the field of Construction Management	Industrial Maintenance Technician Industrial Electrician Facilities Technician Electrical License Apprentice	Electronics Engineering Technician Electronics Maintenance Technician Control Systems Technician

\* Tech Prep agreements with regional high schools.



Heavy Equipment and Transport Technology	Machining Technology*	Mechanical Engineering Technology	
<b>Recommended High School Courses</b>			
Applied Mathematics Electronics Electricity	Applied Mathematics Drafting Blueprint Reading	Trigonometry Physics	Engineering and Applied Technology
<b>A-B Tech Entrance Requirements</b>			
Acceptable scores on SAT, ACT, or Reading Comprehension and Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Acceptable scores on SAT, ACT, or Reading Comprehension and Arithmetic Skills, College Board Computerized Placement Tests (CPT).	Algebra I & II or Algebra I and Plane Geometry  Acceptable scores on SAT, ACT or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	
<b>Program Schedule</b>			
Day begins Fall AAS Degree Night begins Fall.	Day/Night begins Fall. Will also offer afternoon schedule on demand.	Day begins Fall. Night begins in even numbered years. Can take single courses any semester.	
<b>Degree</b>			
Associate in Applied Science or Diploma	Associate in Applied Science or Diploma	Associate in Applied Science	
<b>Employment Opportunities</b>			
Diesel Mechanic Fuel Injection Servicer Repairer Heavy Tractor Mechanic Help	For Manufacturers as Machinist Machine or CNC Set-Up Operator Quality Control Technician	Manufacturing Engineer Quality Control Technician Mechanical Designer Maintenance Engineering Technician Controls Engineering Technician	
			* Tech Prep agreements with regional high schools.

	Surveying Technology	Tool, Die, and Mold Making	Welding Technology*
	<b>Recommended High School Courses</b>		
Engineering and Applied Technology	Trigonometry Drafting Algebra I & II and Plane Geometry	Applied Mathematics Geometry Trigonometry	Practical Arithmetic Blueprint Reading Drafting
	<b>A-B Tech Entrance Requirements</b>		
	Acceptable scores on SAT, ACT or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	Successful completion of the Machinist Program with grade of "B" or better in certain MAC and MAT courses.	Acceptable scores on SAT, ACT, or Reading Comprehension and Arithmetic Skills, College Board Computerized Placement Tests (CPT).
	<b>Program Schedule</b>		
	Day begins Fall. Night begins in odd numbered years. Can take single courses any semester.	Day/Night begins Fall.	Day/Night begins Fall. Can take single courses any semester.
	<b>Degree</b>		
	Associate in Applied Science	Associate in Applied Science	Diploma
	<b>Employment Opportunities</b>		
	Construction Layout Technician Land Surveyor Mapper	Positions with Tool, Die, and Mold Making Shops	Arc Welder Arc Welder-Machine Operator Gas Welder-Machine Operator Combination Welder Pipe Welder

\* Tech Prep agreements with regional high schools.



# 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.

## **A.A.S. Degrees Conferred**

- Air Conditioning, Heating, and Refrigeration Technology
- Automotive Systems Technology
- CAD Systems Management
- Civil Engineering Technology
- Computer Engineering Technology
- Construction Management Technology
- Electronics Engineering Technology
- Heavy Equipment and Transport Technology
- Machining Technology
- Mechanical Engineering Technology
- Surveying Technology
- Tool, Die, and Mold Making

## **Diplomas Awarded**

- Air Conditioning, Heating, and Refrigeration Technology
- Automotive Systems Technology
- Carpentry
- Electrical/Electronics Technology
- Heavy Equipment and Transport Technology
- Machining Technology
- Welding Technology

## **Certificates**

- Air Conditioning & Heating – Basic
- Air Conditioning & Heating – Intermediate
- Air Conditioning & Heating – Advanced
- Automotive
- Computer-Aided Drafting
- Mechanical Engineering Technology – Automation/Robotics
- Personal Computer and Network Maintenance
- Welding

## Air Conditioning and Heating – Basic Certificate

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.

Engineering  
and Applied  
Technology

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
AHR	112	Heating	2	4	4
AHR	120	HVACR Maintenance	1	3	2
ELC	111	Introduction to Electricity	2	2	3
ELC	132	Electrical Drawings	1	3	2
			<b>6</b>	<b>12</b>	<b>11</b>
<b>Second Semester (Spring)</b>					
AHR	110	Introduction to Refrigeration	2	6	5
<b>Certificate Totals</b>			<b>8</b>	<b>18</b>	<b>16</b>

## Air Conditioning and Heating – Basic Certificate – Evening Schedule

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.

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
AHR	112	Heating	2	4	4
ELC	111	Introduction to Electricity	2	2	3
			<b>4</b>	<b>6</b>	<b>7</b>
<b>Second Semester (Spring)</b>					
AHR	120	HVACR Maintenance	1	3	2
ELC	132	Electrical Drawings	1	3	2
			<b>2</b>	<b>6</b>	<b>4</b>
<b>Third Semester (Summer)</b>					
AHR	110	Introduction to Refrigeration	2	6	5
<b>Program Totals</b>			<b>8</b>	<b>18</b>	<b>16</b>



## Air Conditioning and Heating – Intermediate Certificate

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.

Engineering  
and Applied  
Technology

The Basic Air Conditioning and Heating certificate program must be completed before beginning this program.

			WeeklyWeekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>Second Semester (Spring)</b>					
AHR	113	Introduction to Cooling	2	4	4
AHR	125	HVAC Electronics	1	3	2
AHR	130	HVAC Controls	2	2	3
WLD	111	Oxy-Fuel Welding	1	3	2
			<b>6</b>	<b>12</b>	<b>11</b>
<b>Third Semester (Summer)</b>					
AHR	115	Refrigeration Systems	1	3	2
BPR	135	Schematics and Diagrams	2	0	2
			<b>3</b>	<b>3</b>	<b>4</b>
<b>Certificate Totals</b>			<b>9</b>	<b>15</b>	<b>15</b>

## Air Conditioning and Heating – Intermediate Certificate – Evening Schedule

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 E.P.A.'s C.F.C. license will be covered, and the exam for this will be given during the program.

The Basic Air Conditioning and Heating program must be completed before beginning this program.

			WeeklyWeekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
WLD	111	Oxy-Fuel Welding	1	3	2
<b>Second Semester (Spring)</b>					
AHR	130	HVAC Controls	2	2	3
<b>Fourth Semester (Fall)</b>					
AHR	113	Introduction to Cooling	2	4	4
AHR	125	HVAC Electronics	1	3	2
BPR	135	Schematics and Diagrams	2	0	2
			<b>5</b>	<b>7</b>	<b>8</b>

**Fifth Semester (Spring)**

AHR 115	Refrigeration Systems	1	3	2
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**Program Totals**

<b>9</b>	<b>15</b>	<b>15</b>
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Engineering  
and Applied  
Technology

## **Air Conditioning and Heating – Advanced Certificate – Evening Schedule**

*(Evening Program only)*

Students taking the Advanced Air Conditioning and Heating Certificate program will be able to perform accurate heat load and heat loss calculations for the correct sizing of furnaces and cooling units for homes. They will also be able to design and install air duct systems as to the manufacturer's and building code's specifications. Studies of hot water and steam heating systems, commercial cooling equipment, and ground source heat pumps will further help the students acquire technical knowledge and skills.

		<b>Weekly</b>		
		<b>Class</b>	<b>Lab</b>	<b>Credit</b>
		<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
<b>Sixth Semester (Summer)</b>				
AHR 114	Heat Pump Technology	2	4	4
<b>Seventh Semester (Fall)</b>				
AHR 211	Residential Systems Design	2	2	3
CIS 111	Basic PC Literacy	1	2	2
		<b>3</b>	<b>4</b>	<b>5</b>
<b>Eighth Semester (Spring)</b>				
AHR 212A	Advanced Comfort Systems I	1	3	2
<b>Ninth Semester (Summer)</b>				
AHR 210	Residential Building Code-HVAC	1	2	2
<b>Tenth Semester (Fall)</b>				
AHR 212B	Advanced Comfort Systems II	1	3	2
<b>Program Totals</b>		<b>8</b>	<b>16</b>	<b>15</b>

## **Industrial HVAC Maintenance Technology – Certificate – Evening Schedule**

A certificate in Industrial HVAC Maintenance Technology will prepare a student for a career in the maintenance departments of hospitals, education systems, hotels, and manufacturing plants. Local heating and cooling service companies that specialize in commercial and industrial maintenance will also have positions for technicians who have this certificate. This certificate requires completion of Air Conditioning and Heating Basic and Intermediate Certification as a prerequisite.



			Weekly			
			Class	Lab	Credit	
			Hrs.	Hrs.	Hrs.	
<b>First Semester (Summer)</b>						
AHR	114	Heat Pump Technology	2	2	4	Engineering
<b>Second Semester (Spring)</b>						
AHR	212A	Advanced Comfort Systems Pt. 1	1	3	2	and Applied
<b>Third Semester (Fall)</b>						
AHR	212B	Advanced Comfort Systems Pt. 2	1	3	2	Technology
CIS	111	Basic PC Literacy	1	2	2	
			<b>2</b>	<b>5</b>	<b>4</b>	
<b>Fourth Semester (Spring)</b>						
ELC	117	Motors and Controls	2	6	4	
ELC	128	Introduction to PLC (or ELC 113)	2	3	3	
			<b>4</b>	<b>9</b>	<b>7</b>	
<b>Certificate Totals</b>			<b>9</b>	<b>19</b>	<b>17</b>	

## 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 A.A.S. 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. A.A.S. degree graduates should be able to demonstrate an understanding of system selection and balance, and advanced systems.

## Air Conditioning, Heating and Refrigeration Technology Diploma

<b>This program consists of:</b>	<b>Credit Hrs.</b>
<b>Major courses (AHR prefix)</b>	<b>29</b>
<b>Related and general education courses including:</b>	<b>14</b>
<i>English/Communications</i>	3
<i>Natural Science/Mathematics</i>	4
<i>Other</i>	7
<b>PROGRAM TOTAL</b>	<b>43</b>

			WeeklyWeekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
Engineering	ACA 115	First-Year Seminar	0	2	1
	AHR 112	Heating	2	4	4
and Applied	AHR 120	HVACR Maintenance	1	3	2
	ELC 111	Introduction to Electricity	2	2	3
Technology	ELC 132	Electrical Drawings	1	3	2
	ENG 111	Expository Writing (or ENG 102)	3	0	3
	PHY 122	Applied Physics II	3	2	4
			<b>12</b>	<b>16</b>	<b>19</b>
<b>Second Semester (Spring)</b>					
	AHR 110	Introduction to Refrigeration	2	6	5
	AHR 113	Comfort Cooling	2	4	4
	AHR 125	HVAC Electronics	1	3	2
	AHR 130	HVAC Controls	2	2	3
	WLD 111	Oxy-Fuel Welding	1	3	2
			<b>8</b>	<b>18</b>	<b>16</b>
<b>Third Semester (Summer)</b>					
	AHR 114	Heat Pump Technology	2	4	4
	AHR 115	Refrigeration Systems	1	3	2
	BPR 135	Schematics and Diagrams	2	0	2
			<b>5</b>	<b>7</b>	<b>8</b>
<b>Program Totals</b>			<b>25</b>	<b>41</b>	<b>43</b>

*The Associate in Applied Science Degree program may be taken in the evening upon completion of day or evening Diploma program.*

## Air Conditioning, Heating and Refrigeration Technology Diploma – Evening Schedule

			WeeklyWeekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
	ACA 115	First-Year Seminar	0	2	1
	AHR 112	Heating Technology	2	4	4
	ELC 111	Introduction to Electricity	2	2	3
			<b>4</b>	<b>8</b>	<b>8</b>
<b>Second Semester (Spring)</b>					
	AHR 120	HVACR Maintenance	1	3	2
	AHR 130	HVAC Controls	2	2	3
	ELC 132	Electrical Drawings	1	3	2
	WLD 112	Basic Welding Processes	1	3	2
			<b>5</b>	<b>11</b>	<b>9</b>
<b>Third Semester (Summer)</b>					
	AHR 110	Introduction to Refrigeration	2	6	5
<b>Fourth Semester (Fall)</b>					
	AHR 113	Comfort Cooling	2	4	4
	AHR 125	HVAC Electronics	1	3	2
	BPR 135	Schematics and Diagrams	2	0	2
			<b>5</b>	<b>7</b>	<b>8</b>



**Fifth Semester (Spring)**

AHR 115	Refrigeration Systems	1	3	2
ENG 111	Expository Writing (or ENG 102)	3	0	3
PHY 122	Applied Physics II	3	2	4
		<b>7</b>	<b>5</b>	<b>9</b>

**Sixth Semester (Summer)**

AHR 114	Heat Pump Technology	2	4	4
<b>Program Totals</b>		<b>25</b>	<b>41</b>	<b>43</b>

Engineering  
and Applied  
Technology

*The Associate in Applied Science Degree program may be taken in the evening upon completion of day or evening Diploma program.*

## Air Conditioning, Heating and Refrigeration Technology – Associate in Applied Science Degree – Evening Schedule

*(Evening Program Only)*

<b>This program consists of:</b>	<b>Credit Hrs.</b>
<b>Major courses (AHR, ELC, WLD, BPR prefix)</b>	<b>51</b>
<b>Related and general education courses including:</b>	<b>19</b>
<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	4
<i>Social Science</i>	3
<i>Other</i>	14
<b>PROGRAM TOTAL</b>	<b>70</b>

<b>Weekly</b>	<b>Weekly</b>	
<b>Class</b>	<b>Lab</b>	<b>Credit</b>
<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>

**First Semester (Fall)**

ACA 115	First-Year Seminar	0	2	1
AHR 112	Heating Technology	2	4	4
ELC 111	Introduction to Electricity	2	2	3
		<b>4</b>	<b>8</b>	<b>8</b>

**Second Semester (Spring)**

AHR 120	HVACR Maintenance	1	3	2
AHR 130	HVAC Controls	2	2	3
ELC 132	Electrical Drawings	1	3	2
WLD 112	Basic Welding Processes	1	3	2
		<b>5</b>	<b>11</b>	<b>9</b>

**Third Semester (Summer)**

AHR 110	Introduction to Refrigeration	2	6	5
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**Fourth Semester (Fall)**

AHR 113	Comfort Cooling	2	4	4
AHR 125	HVAC Electronics	1	3	2
BPR 135	Schematics and Diagrams	2	0	2
		<b>5</b>	<b>7</b>	<b>8</b>

**Fifth Semester (Spring)**

AHR 115	Refrigeration Systems	1	3	2
ENG 111	Expository Writing	3	0	3
PHY 122	Applied Physics II	3	2	4
		<b>7</b>	<b>5</b>	<b>9</b>

**Sixth Semester (Summer)**

AHR 114	Heat Pump Technology	2	4	4
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**Seventh Semester (Fall)**

Engineering and Applied Technology	AHR 211	Residential Systems Design	2	2	3
	CIS 111	Basic PC Literacy	1	2	2
	COM 231	Public Speaking	3	0	3
		<b>6</b>	<b>4</b>	<b>8</b>	

**Eighth Semester (Spring)**

AHR 212A	Advanced Comfort Systems	1	3	2
ELC 128	Introduction to PLC (or ELC 113)	2	3	3
SOC 215	Group Processes	3	0	3
		<b>6</b>	<b>6</b>	<b>8</b>

**Ninth Semester (Summer)**

AHR 210	Residential Building Code/HVAC	1	2	2
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**Tenth Semester (Fall)**

AHR 212B	Advanced Comfort Systems	1	3	2
ELC 117	Motors and Controls	2	6	4
HUM 115	Critical Thinking	3	0	3
		<b>6</b>	<b>9</b>	<b>9</b>

**Program Totals**

<b>44</b>	<b>61</b>	<b>70</b>
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**Automotive Certificate**

The Automotive Certificate offers state-of-the-art automotive training in the repair of all automobiles. You will learn about the internal combustion engine, automotive fuel and electrical systems, chassis and suspension systems, braking systems, and automotive air conditioning and electronic control systems.

<b>Weekly</b>		
<b>Class</b>	<b>Lab</b>	<b>Credit</b>
<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>

**First Semester (Fall)**

AUT 115	Engine Fundamentals	2	3	3
AUT 151	Brake Systems	2	2	3
AUT 152	Brake Systems Lab	0	2	1
		<b>4</b>	<b>7</b>	<b>7</b>

**Second Semester (Fall)**

AUT 171	Heating and Air Conditioning Systems	2	3	3
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**Third Semester (Spring)**

AUT 141	Suspension and Steering Systems	2	4	4
AUT 181	Engine Performance Electrical	2	3	3
AUT 182	Engine Performance Electrical Lab	0	3	1
		<b>4</b>	<b>10</b>	<b>8</b>

**Certificate Totals**

<b>10</b>	<b>20</b>	<b>18</b>
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## 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 ever-changing 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.

Engineering  
and Applied  
Technology

## Automotive Systems Technology – Associate in Applied Science Degree

<b>This program consists of:</b>	<b>Credit Hrs.</b>
<b>Major courses (AUT, COE prefix)</b>	<b>41</b>
<b>Related and general education courses including:</b>	<b>25</b>
<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	3
<i>Social Science</i>	3
<i>Other</i>	10
<b>PROGRAM TOTAL</b>	<b>66</b>

				<b>Weekly</b>	<b>Weekly</b>	<b>Weekly</b>	<b>Weekly</b>
				<b>Class</b>	<b>Lab</b>	<b>Work</b>	<b>Credit</b>
				<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
<b>First Semester (Fall)</b>							
ACA	115	First-Year Seminar		0	2	0	1
AUT	110	Introduction to Automotive Technology		2	2	0	3
AUT	115	Engine Fundamentals		2	3	0	3
AUT	151	Brake Systems		2	2	0	3
AUT	152	Brake Systems Lab		0	2	0	1
AUT	161	Electrical Systems		2	6	0	4
				<b>8</b>	<b>17</b>	<b>0</b>	<b>15</b>
<b>Second Semester (Spring)</b>							
AUT	162A	Chassis Electrical/Electronics		1	1	0	1.5
AUT	163A	Chassis Electrical/Electronics Lab		0	1	0	0.5
AUT	183	Engine Performance Fuels		2	3	0	3
AUT	184	Engine Performance Fuels Lab		0	3	0	1
CIS	113	Computer Basics		0	2	0	1
COE	113A1	Co-op Work Experience II		0	0	15	1.5
ENG	111	Expository Writing		3	0	0	3
				<b>6</b>	<b>10</b>	<b>15</b>	<b>11.5</b>
<b>Third Semester (Summer)</b>							
COE	112A	Co-operative Work Experience		0	0	20	2

		<b>Fourth Semester (Fall)</b>				
Engineering and Applied Technology	AUT 162B	Chassis Electrical/Electronics	1	1	0	1.5
	AUT 163B	Chassis Electrical/Electronics Lab	0	1	0	0.5
	AUT 171	Heating and Air Conditioning Systems	2	3	0	3
	COE 113A2	Co-operative Work Experience	0	0	15	1.5
	COM 231	Public Speaking	3	0	0	3
			<b>6</b>	<b>5</b>	<b>15</b>	<b>9.5</b>
		<b>Fifth Semester (Spring)</b>				
Engineering and Applied Technology	AUT 141A	Suspension and Steering Systems	1	2	0	2
	AUT 181	Engine Performance Electrical	2	3	0	3
	AUT 182	Engine Performance Electronics Lab	0	3	0	1
	COE 123A1	Co-operative Work Experience	0	0	15	1.5
	HUM 115	Critical Thinking	3	0	0	3
			<b>6</b>	<b>8</b>	<b>15</b>	<b>10.5</b>
		<b>Sixth Semester (Summer)</b>				
Engineering and Applied Technology	AUT 141B	Suspension and Steering Systems	1	2	0	2
	AUT 231	Manual Drive Trans/Axles	2	3	0	3
	AUT 232	Manual Drive Trans/Axles Lab	0	3	0	1
	MAT 121	Algebra/Trigonometry I (or PHY 122)	2	2	0	3
			<b>5</b>	<b>10</b>	<b>0</b>	<b>9</b>
		<b>Seventh Semester (Fall)</b>				
Engineering and Applied Technology	AUT 221	Automotive Transmissions	2	6	0	4
	COE 123A2	Co-operative Work Experience	0	0	15	1.5
	SOC 215	Group Processes	3	0	0	3
			<b>5</b>	<b>6</b>	<b>15</b>	<b>8.5</b>
<b>Program Totals</b>			<b>36</b>	<b>56</b>	<b>80</b>	<b>66</b>

## Automotive Systems Technology Diploma\* – Evening Schedule

(Evening Program Only)

<b>This program consists of</b>	<b>Credit Hrs.</b>
<b>Major courses (AUT, COE prefix)</b>	<b>30</b>
<b>Related and general education courses including:</b>	<b>6</b>
<i>Communications</i>	3
<i>Natural Science/Mathematics</i>	3
<b>PROGRAM TOTAL</b>	<b>36</b>

		<b>Weekly</b>		
		<b>Class</b>	<b>Lab</b>	<b>Credit</b>
		<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
<b>First Semester (Fall)</b>				
AUT 115	Engine Fundamentals	2	3	3
ENG 102	Applied Communications II (or ENG 111)	3	0	3
MAT 101	Applied Math I (or MAT 121 or PHY 122)	2	2	3
		<b>7</b>	<b>5</b>	<b>9</b>
<b>Second Semester (Spring)</b>				
AUT 161	Electrical Systems	2	6	4
AUT 171	Heating and Air Conditioning	2	3	3
		<b>4</b>	<b>9</b>	<b>7</b>



**Third Semester (Summer)**

AUT 183	Engine Performance - Fuel	2	3	3
AUT 184	Engine Performance - Fuel Lab	0	3	1
		<b>2</b>	<b>6</b>	<b>4</b>

**Fourth Semester (Fall)**

AUT 151	Brakes	2	2	3
AUT 152	Brake Systems Lab	0	2	1
AUT 181A	Engine Performance - Electrical	1	1.5	1.5
AUT 182A	Engine Performance - Electrical Lab	0	1.5	0.5
		<b>3</b>	<b>7</b>	<b>6</b>

Engineering  
and Applied  
Technology

**Fifth Semester (Spring)**

AUT 141	Suspension and Steering	2	4	4
AUT 181B	Engine Performance - Electrical	1	1.5	1.5
AUT 182B	Engine Performance - Electrical Lab	0	1.5	0.5
		<b>3</b>	<b>7</b>	<b>6</b>

**Sixth Semester (Summer)**

AUT 231	Manual Drive Trains/Axles	2	3	3
AUT 232	Manual Drive Trains/Axles	0	3	1
		<b>2</b>	<b>6</b>	<b>4</b>

**Program Totals**

**21      40      36**

*\*Students may take Cooperative Work Experience, (COE 112A, COE 113A and COE 123A) during the day for transfer into the Degree program in Automotive Systems Technology.*

**Computer-Aided Drafting Technology\***

The Computer-Aided Drafting (CAD) Technology curriculum will prepare individuals for careers as CAD technicians in a wide variety of applications, primarily those related to architecture and construction. Emphasis is placed on developing the student's ability to interface with computer hardware and software in a CAD office.

Students will use CAD work stations to create and manage 2D drawings and 3D models for a wide variety of fields. Students will also link CAD documents to other applications such as a database, GIS maps, spreadsheets, and word processing. Course work includes the study of drafting, computer hardware and operating systems, 2D and 3D computer models, solid modeling, rendering, and engineering systems for construction and architecture.

Graduates of this program will 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/designer and detail drafter.

\* This program will begin Fall 2004 pending State Board of Community Colleges approval. If approved, it will replace Mechanical Drafting Technology – CAD Systems Management.

## Mechanical Drafting Technology – CAD Systems Management

Engineering  
and Applied  
Technology

The primary objective of the CAD Systems Management curriculum is to prepare individuals for employment as computer-aided drafting and design technicians. Graduates will be prepared for jobs that involve managing the engineering document process as well as the CAD system hardware and software.

Emphasis is placed on developing the student's ability to interface with computer hardware and software in an engineering design environment. Computer-aided Design systems will be used to create and manipulate 2D CAD drawings and 3D solid models. In addition, CAD drawing data will be linked to other applications such as data processing or CNC machining systems.

Coursework includes the study of technical drafting and design theory, computer hardware and operating systems, engineering document management, 2D and 3D computer-aided design, solid modeling, computer-aided manufacturing, rendering.

## Mechanical Drafting Technology – CAD Systems Management – Associate in Applied Science Degree

This program consists of:

Major courses (DDF, DFT prefix)

Related and general education courses

including:

*English/Communications*

*Humanities/Fine Arts*

*Natural Science/Mathematics*

*Social Science*

*Other*

**PROGRAM TOTAL**

**Credit Hrs.**

**37**

**35**

6

3

4

3

19

**72**

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
CIS	110	Introduction to Computers (or CIS 111)	2	2	3
DFT	111	Technical Drafting I	1	3	2
DFT	111A	Technical Drafting I Lab	0	3	1
DFT	151	CAD I	2	3	3
EGR	110	Introduction to Engineering	2	0	2
MAC	114	Introduction to Metrology	2	0	2
			<b>9</b>	<b>11</b>	<b>13</b>
<b>Second Semester (Spring)</b>					
DFT	112	Technical Drafting II	1	3	2
DFT	112A	Technical Drafting II Lab	0	3	1
DFT	115	Architectural Drafting	1	2	2
DFT	152	CAD II	2	3	3
ENG	111	Expository Writing	3	0	3
PHY	122	Applied Physics II (or MAT 121/121A or MAT 171/171A)	3	2	4
			<b>10</b>	<b>13</b>	<b>15</b>



**Third Semester (Summer)**

DFT	121	Introduction to Geometric Dimensioning and Tolerancing	1	2	2
DFT	153	CAD III	2	3	3
MAC	152	Advanced Machining Calculations	1	2	2
MEC	161	Manufacturing Processes I	3	0	3
MEC	161A	Manufacturing Processes I Lab	0	3	1
			<b>7</b>	<b>10</b>	<b>11</b>

Engineering  
and Applied  
Technology

**Fourth Semester (Fall)**

COM	231	Public Speaking	3	0	3
DDF	211	Design Drafting I	2	6	4
DFT	251	Customizing CAD Software	2	2	3
DFT	252	Solid Models and Rendering	2	2	3
HUM	115	Critical Thinking	3	0	3
			<b>12</b>	<b>10</b>	<b>16</b>

**Fifth Semester (Spring)**

DDF	221	Design Drafting Project	0	4	2
DFT	253	CAD Data Management	2	2	3
DFT	259	CAD Project	1	4	3
MEC	110	Introduction to CAD/CAM	1	2	2
		Social/Behavioral Sciences Elective	3	0	3
			<b>7</b>	<b>12</b>	<b>13</b>
<b>Program Totals</b>			<b>45</b>	<b>56</b>	<b>72*</b>

\*Includes four hours of electives to be selected from: CIS 115, CIS 120, CIS 152, MAC 121, MAC 122, and MAC 124.

**Computer-Aided Drafting Certificate – Day Schedule**

The purpose of this certificate program is to provide basic computer-aided drafting (CAD) skills. Students learn standard drafting principles and CAD techniques for producing 2D and 3D technical drawings using AutoCAD software. Accurate and efficient use of the computer and software are emphasized.

			<b>Weekly</b>		
			<b>Class</b>	<b>Lab</b>	<b>Credit</b>
			<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
<b>First Semester (Fall)</b>					
DFT	111	Technical Drafting I	1	3	2
DFT	111A	Technical Drafting I Lab	0	3	1
DFT	151	CAD I	2	3	3
			<b>3</b>	<b>9</b>	<b>6</b>
<b>Second Semester (Spring)</b>					
DFT	152	CAD II	2	3	3
<b>Third Semester (Summer)</b>					
DFT	153	CAD III	2	3	3
<b>Certificate Totals</b>			<b>7</b>	<b>15</b>	<b>12</b>

## Computer-Aided Drafting Certificate – Evening Schedule

			Weekly			
			Class	Lab	Credit	
			Hrs.	Hrs.	Hrs.	
Engineering and Applied Technology	<b>First Semester (Fall)</b>					
	DFT	111	Technical Drafting I	1	3	2
	DFT	111A	Technical Drafting I Lab	0	3	1
				<b>1</b>	<b>6</b>	<b>3</b>
	<b>Second Semester (Spring)</b>					
	DFT	151	CAD I	2	3	3
	<b>Third Semester (Summer)</b>					
	DFT	152	CAD II	2	3	3
	<b>Fourth Semester (Spring)</b>					
	DFT	153	CAD III	2	3	3
<b>Certificate Totals</b>			<b>7</b>	<b>15</b>	<b>12</b>	

## Mechanical Drafting Technology – CAD Systems Management – Associate in Applied Science Degree – Evening Schedule

*(Begins in even years only)*

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
CIS	110	Introduction to Computers (or CIS 111)	2	2	3
DFT	111	Technical Drafting I	1	3	2
DFT	111A	Technical Drafting I Lab	0	3	1
EGR	110	Introduction to Engineering	2	0	2
			<b>5</b>	<b>8</b>	<b>8</b>
<b>Second Semester (Spring)</b>					
DFT	151	CAD I	2	3	3
PHY	122	Applied Physics II (or MAT 121/121A or MAT 171/171A)	3	2	4
			<b>5</b>	<b>5</b>	<b>7</b>
<b>Third Semester (Summer)</b>					
DFT	115	Architectural Drafting	1	2	2
DFT	152	CAD II	2	3	3
MAC	114	Introduction to Metrology	2	0	2
			<b>5</b>	<b>5</b>	<b>7</b>
<b>Fourth Semester (Fall)</b>					
DFT	112	Technical Drafting II	1	3	2
DFT	112A	Technical Drafting II Lab	0	3	1
ENG	111	Expository Writing	3	0	3
			<b>4</b>	<b>6</b>	<b>6</b>
<b>Fifth Semester (Spring)</b>					
DFT	153	CAD III	2	3	3
MEC	161	Manufacturing Processes I	3	0	3
MEC	161A	Manufacturing Processes I Lab	0	3	1
			<b>5</b>	<b>6</b>	<b>7</b>



**Sixth Semester (Summer)**

COM	231	Public Speaking	3	0	3
DFT	252	Solid Models and Rendering	2	2	3
			<b>5</b>	<b>2</b>	<b>6</b>

**Seventh Semester (Fall)**

DDF	211	Design Drafting I	2	6	4
MAC	152	Advanced Machining Calculations	1	2	2
			<b>3</b>	<b>8</b>	<b>6</b>

Engineering  
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**Eighth Semester (Spring)**

DFT	121	Introduction to Geometric Dimensioning and Tolerancing	1	2	2
HUM	115	Critical Thinking	3	0	3
MEC	110	Introduction to CAD/CAM	1	2	2
			<b>5</b>	<b>4</b>	<b>7</b>

**Ninth Semester (Summer)**

DFT	251	Customizing CAD Software	2	2	3
		Social/Behavioral Science Elective	3	0	3
			<b>5</b>	<b>2</b>	<b>6</b>

**Tenth Semester (Fall)**

DFT	253	CAD Data Management	2	2	3
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**Eleventh Semester (Spring)**

DDF	221	Design Drafting Project	0	4	2
DFT	259	CAD Project	1	4	3
			<b>1</b>	<b>8</b>	<b>5</b>
<b>Program Totals</b>			<b>45</b>	<b>56</b>	<b>72*</b>

\*Includes four hours of electives to be selected from: CIS 115, CIS 120, CIS 152, MAC 121, MAC 122, MAC 124, and MEC 142 .

## Carpentry

The Carpentry curriculum is designed to train students to construct residential structures using standard building materials and hand and power tools. Carpentry skills and a general knowledge of residential construction will also be taught.

Course work includes footings and foundations, framing, interior and exterior trim, cabinetry, blueprint reading, residential planning and estimating, and other related topics. Students will develop skills through hands-on participation.

Graduates should qualify for employment in the residential building construction field as rough carpenters, framing carpenters, roofers, maintenance carpenters, and other related job titles.

<b>This program consists of:</b>	<b>Credit Hrs.</b>
<b>Major courses (CAB, CAR prefix)</b>	<b>34</b>
<b>Related and general education courses including:</b>	<b>12</b>
<i>English/Communications</i>	3
<i>Natural Science/Mathematics</i>	3
<i>Other</i>	6
<b>PROGRAM TOTAL</b>	<b>46</b>

## Carpentry – Diploma

			Weekly			
			Class	Lab	Credit	
			Hrs.	Hrs.	Hrs.	
Engineering and Applied Technology	<b>First Semester (Fall)</b>					
	BPR	130	Blueprint Reading/Construction	1	2	2
	CAB	111a	Cabinet Making I	4	3	5
	CAR	110A	Introduction to Carpentry	1	0	1
	CAR	111	Carpentry I	3	15	8
	MAT	101	Applied Mathematics I (or PHY 122)	2	2	3
			<b>11</b>	<b>22</b>	<b>19</b>	
<b>Second Semester (Spring)</b>						
	CAB	111b	Cabinet Making I	0	6	2
	CAR	110B	Introduction to Carpentry	1	0	1
	CAR	112	Carpentry II	3	15	8
	CAR	115	Residential Planning/Estimating	3	0	3
	ENG	102	Applied Communications II	3	0	3
			<b>10</b>	<b>21</b>	<b>17</b>	
<b>Third Semester (Summer)</b>						
	CAR	113	Carpentry III	3	9	6
	DFT	115	Architectural Drafting	1	2	2
	DFT	119	Basic CAD	1	2	2
			<b>5</b>	<b>13</b>	<b>10</b>	
<b>Program Totals</b>			<b>26</b>	<b>56</b>	<b>46</b>	

## Carpentry – Diploma – Evening Schedule

*(Begins in odd years only)*

			Weekly			
			Class	Lab	Credit	
			Hrs.	Hrs.	Hrs.	
<b>First Semester (Fall)</b>						
	BPR	130	Blueprint Reading/Construction	1	2	2
	CAR	110A	Introduction to Carpentry	1	0	1
	CAR	111A	Carpentry I	2	6	4
	MAT	101	Applied Mathematics I (or PHY 122)	2	2	3
			<b>6</b>	<b>10</b>	<b>10</b>	
<b>Second Semester (Spring)</b>						
	CAB	111A	Cabinetmaking I	4	3	5
	CAR	111B	Carpentry I	1	9	4
			<b>5</b>	<b>12</b>	<b>9</b>	
<b>Third Semester (Summer)</b>						
	CAB	111B	Cabinetmaking I	0	6	2
	CAR	110B	Introduction to Carpentry	1	0	1
	CAR	112A	Carpentry II	2	3	3
			<b>3</b>	<b>9</b>	<b>6</b>	
<b>Fourth Semester (Fall)</b>						
	CAR	112B	Carpentry II	1	12	5
	CAR	115	Residential Planning and Estimating	3	0	3
			<b>4</b>	<b>12</b>	<b>8</b>	



**Fifth Semester (Spring)**

CAR	113	Carpentry III	3	9	6
ENG	102	Applied Communications II	3	0	3
			<b>6</b>	<b>9</b>	<b>9</b>

**Sixth Semester (Summer)**

DFT	115	Architectural Drafting	1	2	2
DFT	119	Basic CAD	1	2	2
			<b>2</b>	<b>4</b>	<b>4</b>
<b>Program Totals</b>			<b>26</b>	<b>56</b>	<b>46</b>

Engineering  
and Applied  
Technology

**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**

<b>This program consists of:</b>	<b>Credit Hrs.</b>
<b>Major courses (CIV, SRV prefix)</b>	<b>44</b>
<b>Related and general education courses including:</b>	<b>30</b>
<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	10
<i>Social Science</i>	3
<i>Other</i>	8
<b>PROGRAM TOTAL</b>	<b>74</b>

<b>Weekly</b>		
<b>Class</b>	<b>Lab</b>	<b>Credit</b>
<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>

**First Semester (Fall)**

CIS	111	Basic Personal Computer Literacy	1	2	2
EGR	110	Introduction to Engineering	2	0	2
EGR	115	Introduction to Engineering Technology	2	6	4
ENG	111	Expository Writing	3	0	3
MAT	121	Algebra/Trigonometry I (or MAT171 & 171A)	2	2	3
			<b>10</b>	<b>10</b>	<b>14</b>

		<b>Second Semester (Spring)</b>			
Engineering and Applied Technology	CIV 110	Statics/Strength of Materials	2	6	4
	ENG 114	Professional Research and Reporting	3	0	3
	MAT 122	Algebra/Trigonometry II (or MAT172 & 172A)	2	2	3
	PHY 131	Physics-Mechanics	3	2	4
	SRV 110	Surveying I	2	6	4
		<b>12</b>	<b>16</b>	<b>18</b>	
		<b>Third Semester (Summer)</b>			
	CIV 125	Civil/Surveying CAD	1	6	3
	CIV 211	Hydraulics and Hydrology	2	3	3
	SRV 111	Surveying II	2	6	4
		<b>5</b>	<b>15</b>	<b>10</b>	
		<b>Fourth Semester (Fall)</b>			
	CIV 111	Soils and Foundations	2	3	3
	CIV 210	Engineering Materials	1	3	2
	CIV 215	Highway Technology	1	3	2
	CIV 220	Basic Structural Concepts	1	3	2
	CIV 230	Construction Estimating	2	3	3
		Social/Behavioral Sciences Elective	3	0	3
		<b>10</b>	<b>15</b>	<b>15</b>	
		<b>Fifth Semester (Spring)</b>			
	CIV 212	Environmental Planning	2	3	3
	CIV 221	Steel and Timber Design	2	3	3
	CIV 222	Reinforced Concrete	2	3	3
	CIV 240	Project Management	2	3	3
	CIV 250	Civil Engineering Technology Project	1	3	2
	HUM 115	Critical Thinking	3	0	3
		<b>12</b>	<b>15</b>	<b>17</b>	
<b>Program Totals</b>		<b>49</b>	<b>71</b>	<b>74</b>	

## Civil Engineering Technology – Associate in Applied Science Degree – Evening Schedule

*(Begins in odd years only)*

		<b>Weekly</b>			
		<b>Class</b>	<b>Lab</b>	<b>Credit</b>	
		<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>	
		<b>First Semester (Fall)</b>			
	CIS 111	Basic Personal Computer Literacy	1	2	2
	EGR 115	Introduction to Engineering Technology	2	6	4
	MAT 121	Algebra/Trigonometry I (or MAT 171/171 A)	2	2	3
		<b>5</b>	<b>10</b>	<b>9</b>	
		<b>Second Semester (Spring)</b>			
	EGR 110	Introduction to Engineering	2	0	2
	ENG 111	Expository Writing	3	0	3
	MAT 122	Algebra/Trigonometry II (or MAT 172/172 A)	2	2	3
		<b>7</b>	<b>2</b>	<b>8</b>	



**Third Semester (Summer)**

SRV	110	Surveying I	2	6	4
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**Fourth Semester (Fall)**

CIV	110	Statics/Strength of Materials	2	6	4
SRV	111	Surveying II	2	6	4
			<b>4</b>	<b>12</b>	<b>8</b>

Engineering  
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Technology

**Fifth Semester (Spring)**

CIV	111	Soils and Foundations	2	3	3
CIV	210	Engineering Materials	1	3	2
ENG	114	Project Research and Reporting	3	0	3
			<b>6</b>	<b>6</b>	<b>8</b>

**Sixth Semester (Summer)**

CIV	211	Hydraulics and Hydrology	2	3	3
PHY	131	Physics - Mechanics	3	2	4
			<b>5</b>	<b>5</b>	<b>7</b>

**Seventh Semester (Fall)**

CIV	125	Civil/Surveying CAD	1	6	3
CIV	215	Highway Technology	1	3	2
CIV	220	Basic Structure Concepts	1	3	2
			<b>3</b>	<b>12</b>	<b>7</b>

**Eighth Semester (Spring)**

CIV	212	Environmental Planning	2	3	3
CIV	221	Steel and Timber Design	2	3	3
CIV	230	Construction Estimates	2	3	3
			<b>6</b>	<b>9</b>	<b>9</b>

**Ninth Semester (Summer)**

CIV	240	Project Management	2	3	3
CIV	250	Civil Engineering Technology Project	1	3	2
			<b>3</b>	<b>6</b>	<b>5</b>

**Tenth Semester (Fall)**

CIV	222	Reinforced Concrete	2	3	3
HUM	115	Critical Thinking	3	0	3
		Social/Behaviorial Science Elective	3	0	3
			<b>8</b>	<b>3</b>	<b>9</b>
<b>Program Totals</b>			<b>49</b>	<b>71</b>	<b>74</b>

**Personal Computer and Network Maintenance – Certificate**

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.

			Weekly	Weekly	
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
Engineering	CET 111	Computer Upgrade/Repair I	2	3	3
<b>Second Semester (Spring)</b>					
and Applied	CET 211	Computer Upgrade/Repair II	2	3	3
<b>Third Semester (Summer)</b>					
Technology	ELN 237	Local Area Networks (1st Mini-mester)	2	3	3
	ELN 238	Advanced LANs (2nd Mini-mester)	2	3	3
			<b>4</b>	<b>6</b>	<b>6</b>
<b>Certificate Totals</b>			<b>8</b>	<b>12</b>	<b>12</b>

## Personal Computer and Network Maintenance Certificate – Evening Schedule

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. The program combines the theory of computer and networking 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.

			Weekly	Weekly	
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
	CET 111	Computer Upgrade/Repair I	2	3	3
<b>Second Semester (Spring)</b>					
	CET 211	Computer Upgrade/Repair II	2	3	3
<b>Third Semester (Summer)</b>					
	ELN 237	Local Area Networks	2	3	3
<b>Fourth Semester (Spring)</b>					
	ELN 238	Advanced LANs	2	3	3
<b>Program Totals</b>			<b>8</b>	<b>12</b>	<b>12</b>

## Computer Engineering Technology – Associate in Applied Science Degree

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

This program consists of:

Major courses (CET, CIS, CSC, EGR, ELC, ELN prefix)

Related and general education courses including:

*English/Communications*

*Humanities/Fine Arts*

*Natural Science/Mathematics*

*Social Science*

*Other*

**PROGRAM TOTAL**

**Credit Hrs.**

**52**

**24**

**6**

**3**

**10**

**3**

**2**

**76**

Engineering  
and Applied  
Technology

				Weekly		
				Class	Lab	Credit
				Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>						
CET	111	Computer Upgrade/Repair I		2	3	3
CIS	111	Basic PC Literacy (CIS 110)		1	2	2
EGR	110	Introduction to Engineering		2	0	2
ELC	131	DC/AC Circuit Analysis		4	3	5
ENG	111	Expository Writing		3	0	3
MAT	121	Algebra/Trigonometry I (MAT 171 & 171A)		2	2	3
				<b>14</b>	<b>10</b>	<b>18</b>
<b>Second Semester (Spring)</b>						
CET	211	Computer Upgrade/Repair II		2	3	3
CIS	115	Introduction to Programming and Logic		2	2	3
ELN	131	Electrical Devices		3	3	4
MAT	122	Algebra/Trigonometry II (MAT 172 & 172A)		2	2	3
HUM		Humanities Electives		3	0	3
				<b>12</b>	<b>10</b>	<b>16</b>
<b>Third Semester (Summer)</b>						
ELC	117	Motors and Controls		2	6	4
ELN	237	Local Area Networks (1st Mini-mester)		2	3	3
ELN	238	Advanced LANs (2nd Mini-mester)		2	3	3
PHY	131	Physics-Mechanics (PHY 151)		3	2	4
				<b>9</b>	<b>14</b>	<b>14</b>
<b>Fourth Semester (Fall)</b>						
CSC	139	Visual Basic Programming		2	3	3
ELC	128	Introduction to PLCs		2	3	3
ELN	133	Digital Electronics		3	3	4
ELN	154	Introduction to Data Communications		2	3	3
				<b>9</b>	<b>12</b>	<b>13</b>
<b>Fifth Semester (Spring)</b>						
CET	212	Integrated Manufacturing Systems		1	3	2
ELN	232	Introduction to Microprocessors		3	3	4
ENG	114	Professional Research and Reporting		3	0	3
		Social/Behavioral Science Elective		3	0	3
				<b>10</b>	<b>6</b>	<b>12</b>
<b>Program Totals</b>				<b>54</b>	<b>52</b>	<b>76*</b>

\*The credit hours total includes a minimum of three credit hours to be selected from the following: ELC 213, ELC 228, MAT 151, MAT 271, PHY 152.

## Computer Engineering Technology – Associate in Applied Science Degree – Evening Schedule

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
Engineering					
and Applied					
Technology					
<b>First Semester (Fall)</b>					
CET	111	Computer Upgrade/Repair I	2	3	3
EGR	110	Introduction to Engineering	2	0	2
MAT	121	Algebra/Trigonometry I (MAT 171 & 171A)	2	2	3
			<b>6</b>	<b>5</b>	<b>8</b>
<b>Second Semester (Spring)</b>					
CET	211	Computer Upgrade/Repair II	2	3	3
ELC	131	DC/AC Circuit Analysis	4	3	5
MAT	122	Algebra/Trigonometry II (MAT 172 & 172A)	2	2	3
			<b>8</b>	<b>8</b>	<b>11</b>
<b>Third Semester (Summer)</b>					
ELN	131	Electronic Devices	3	3	4
ENG	111	Expository Writing	3	0	3
PHY	131	Physics-Mechanics (PHY 151)	3	2	4
			<b>9</b>	<b>5</b>	<b>11</b>
<b>Fourth Semester (Fall)</b>					
CIS	111	Basic PC Literacy (CIS 110)	1	2	2
CIS	115	Introduction to Programming and Logic	2	2	3
ELN	237	Local Area Networks	2	3	3
			<b>5</b>	<b>7</b>	<b>8</b>
<b>Fifth Semester (Spring)</b>					
ELN	133	Digital Electronics	3	3	4
ELN	238	Advanced LANs	2	3	3
			<b>5</b>	<b>6</b>	<b>7</b>
<b>Sixth Semester (Summer)</b>					
CSC	139	Visual BASIC Programming	2	3	3
		Humanities Elective	3	0	3
		Social/Behavioral Science Elective	3	0	3
			<b>8</b>	<b>3</b>	<b>9</b>
<b>Seventh Semester (Fall)</b>					
ELC	117	Motors and Controls	2	6	4
ELN	154	Introduction to Data Communications	2	3	3
			<b>4</b>	<b>9</b>	<b>7</b>
<b>Eighth Semester (Spring)</b>					
ELC	128	Introduction to PLC	2	3	3
ELN	232	Introduction to Microprocessors	3	3	4
			<b>5</b>	<b>6</b>	<b>7</b>
<b>Ninth Semester (Summer)</b>					
CET	212	Integrated Manufacturing Systems	1	3	2
ENG	114	Professional Research and Report Writing	3	0	3
			<b>4</b>	<b>3</b>	<b>5</b>
<b>Program Totals</b>			<b>54</b>	<b>52</b>	<b>76*</b>

\*The credit hours total includes a minimum of three credit hours to be selected from the following: ELC 213, ELC 228, MAT 151, MAT 271, PHY 152.



## Construction Management Technology – Certificate – Evening Schedule

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. These courses may be counted toward the Carolina's Association of General Contractor's Project SuperVISION® certification.

Engineering  
and Applied  
Technology

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
CMT	210	Professional Construction Supervision	3	0	3
CMT	214	Planning and Scheduling	3	0	3
			<b>6</b>	<b>0</b>	<b>6</b>
<b>Second Semester (Spring)</b>					
BPR	130	Blueprint Reading/Construction	1	2	2
CMT	212	Total Safety Performance	3	0	3
CMT	216	Costs and Productivity	3	0	3
CMT	218	Human Relations Issues	3	0	3
			<b>10</b>	<b>2</b>	<b>11</b>
<b>Certificate Totals</b>			<b>16</b>	<b>2</b>	<b>17</b>

## Construction Management Technology – Associate in Applied Science – Evening Schedule

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.

<b>This program consists of:</b>	<b>Credit Hrs.</b>
<b>Major and related courses (CMT, BPR, ARC, CIV, COE )</b>	<b>45</b>
<b>General education courses including:</b>	<b>22</b>
<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	3
<i>Social Science</i>	3
<i>Other</i>	7
<b>PROGRAM TOTAL</b>	<b>76</b>

				Weekly	Weekly	Weekly	Weekly
				Class	Lab	Work	Credit
				Hrs.	Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>							
Engineering and Applied Technology	ACA	115	First-Year Seminar	0	2	0	1
			Humanities/Fine Arts Elective	3	0	0	3
			Technical Elective(s)	2	9	0	3
				<b>8</b>	<b>9</b>	<b>0</b>	<b>7</b>
<b>Second Semester (Spring)</b>							
			Social Science Elective	3	0	0	3
			Technical Elective(s)	0	0	0	3
				<b>3</b>	<b>0</b>	<b>0</b>	<b>6</b>
<b>Third Semester (Summer)</b>							
			Technical Elective(s)	0	0	0	4
<b>Fourth Semester (Fall)</b>							
ENG	111		Expository Writing	3	0	0	3
			Technical Elective(s)	0	0	0	3
				<b>3</b>	<b>0</b>	<b>0</b>	<b>6</b>
<b>Fifth Semester (Spring)</b>							
BPR	130		Blueprint Reading/Construction	1	2	0	2
ENG	114		Professional Research and Reporting	3	0	0	3
			Technical Elective(s)	0	0	0	4
				<b>4</b>	<b>2</b>	<b>0</b>	<b>9</b>
<b>Sixth Semester (Summer)</b>							
			Estimation/Code Elective (May be taken in a previous semester)	3	2	0	3
<b>Seventh Semester (Fall)</b>							
ARC	112		Construction Materials and Methods	3	2	0	4
CIS	110		Introduction to Computers	2	2	0	3
	(or CIS	111	Basic PC Literacy)	(1)	(2)	(0)	(2)
	(or CIS	113	Computer Basics)	(0)	(2)	(0)	(1)
CMT	210		Professional Construction Supervision	3	0	0	3
SPA	111		Elementary Spanish I	3	0	0	3
	(or SPA	120	Spanish for the Workplace)	(3)	(0)	(0)	(3)
				<b>11</b>	<b>4</b>	<b>0</b>	<b>13</b>
<b>Eighth Semester (Spring)</b>							
CIV	230		Construction Estimating	2	3	0	3
CMT	212		Total Safety Performance	3	0	0	3
				<b>5</b>	<b>3</b>	<b>0</b>	<b>6</b>
<b>Ninth Semester (Summer)</b>							
COE	111		Co-op Work Experience	0	0	10	1
<b>Tenth Semester (Fall)</b>							
ACC	120		Principles of Accounting I	3	2	0	4
CMT	214		Planning and Scheduling	3	0	0	3
			Estimation/Code Elective (May be taken in a previous semester)	3	2	0	3
				<b>10</b>	<b>4</b>	<b>0</b>	<b>10</b>



**Eleventh Semester (Spring)**

CMT	216	Costs and Productivity	3	0	0	3
CMT	218	Human Relations Issues	3	0	0	3
MAT	115	Mathematical Models	(2)	(2)	(0)	(3)
(or	MAT	121 Algebra/Trigonometry I)	(2)	(2)	(0)	(3)
(or	MAT	171 Precalculus Algebra)	(3)	(0)	(0)	(3)
			<b>8-9</b>	<b>0-2</b>	<b>0</b>	<b>9</b>

Engineering  
and Applied  
Technology

**Estimation/Code Electives:**

Students must take one course selected from: AHR 210, CAR 114, ARC 131, and ELC 118 (PLU 140 taken at another institution in the North Carolina Community College System will be accepted).

And either:

CAR 115 or ELC 121 (PLU 160 taken at another institution in the North Carolina Community College System will be accepted).

**Technical Electives:**

12-17 Semester Hours Credit selected from one of the following areas of specialization:

AHR 110, AHR 111, AHR 112, AHR 113, AHR 114, AHR 115, AHR 120, AHR 125, AHR 130

or

CAR 110, CAR 111, CAR 112, CAR 113

or

EGR 115, CIV 110, CIV 125, CIV 211, SRV 110

or

ELC 112 or ELC 113, ELC 115, ELC 117, ELC 119, ELC 128, ELC 132, ELC 213, ELC 127

or

WLD 111, WLD 112, WLD 115, WLD 116, WLD 141, WLD 215

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.

\* Unless approved by the department chairperson, students can select courses from only one specialty area.

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.

## Electrical/Electronics Technology

Engineering  
and Applied  
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 – Diploma – Evening Schedule

*(Evening Program Only)*

			<b>Credit Hrs.</b>		
<b>This program consists of:</b>					
<b>Major courses (ELC, ELN prefix)</b>			<b>30</b>		
<b>Related and general education courses including:</b>			<b>9</b>		
<i>Communications</i>			<i>3</i>		
<i>Natural Sciences/Mathematics</i>			<i>3</i>		
<i>Other</i>			<i>3</i>		
<b>PROGRAM TOTAL</b>			<b>39</b>		
			<b>WeeklyWeekly</b>		
			<b>Class</b>	<b>Lab</b>	<b>Credit</b>
			<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
<b>First Semester (Fall)</b>					
ELN	152	Fabrication Techniques	1	3	2
ENG	102	Applied Communications II (or ENG 111)*	3	0	3
MAT	101	Applied Mathematics I (or MAT 121)*	2	2	3
			<b>6</b>	<b>5</b>	<b>8</b>
<b>Second Semester (Spring)</b>					
ELC	112	DC/AC Electricity (or ELC 131)*	3	6	5
ELC	132	Electrical Drawing	1	3	2
			<b>4</b>	<b>9</b>	<b>7</b>
<b>Third Semester (Summer)</b>					
HYD	110	Hydraulics/Pneumatics I	2	3	3
<b>Fourth Semester (Fall)</b>					
ELC	113	Basic Wiring I	2	6	4
ELC	117	Motors and Controls	2	6	4
			<b>4</b>	<b>12</b>	<b>8</b>
<b>Fifth Semester (Spring)</b>					
ELC	115	Industrial Wiring	2	6	4
ELC	128	Introduction to PLC	2	3	3
			<b>4</b>	<b>9</b>	<b>7</b>



**Sixth Semester (Summer)**

ELC 119	NEC Calculations	1	2	2
ELC 213	Instrumentation	3	2	4
		<b>4</b>	<b>4</b>	<b>6</b>
<b>Program Totals</b>		<b>24</b>	<b>42</b>	<b>39</b>

Engineering  
and Applied  
Technology

*\*Students wishing to continue into the A.A.S. degree program should take these courses.*

*\*\*All courses except ELC 113 and ELC 119 are offered during the day.*

**Electronics Engineering Technology**

The Electronics Engineering Technology curriculum prepares individuals to become technicians who design, build, install, test, troubleshoot, repair, and modify developmental and production electronic components, equipment, and systems such as industrial/computer controls, manufacturing systems, 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**

<b>This program consists of:</b>	<b>Credit Hrs.</b>
<b>Major courses (ELC, ELN prefix)</b>	<b>38</b>
<b>Related and general education courses including:</b>	<b>30</b>
<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	10
<i>Social Science</i>	3
<i>Other</i>	8
<i>Electives</i>	4
<b>PROGRAM TOTAL</b>	<b>72</b>

<b>WeeklyWeekly</b>		
<b>Class</b>	<b>Lab</b>	<b>Credit</b>
<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>

**First Semester (Fall)**

CET 111	Computer Upgrade/Repair I	2	3	3
ELC 131	DC/AC Circuit Analysis	4	3	5
EGR 110	Introduction to Engineering Technology	2	0	2
ENG 111	Expository Writing	3	0	3
MAT 121	Algebra/Trigonometry I (or MAT171 & 171A)	2	2	3
		<b>13</b>	<b>8</b>	<b>16</b>

		<b>Second Semester (Spring)</b>			
Engineering and Applied Technology	DFT 151	CAD I	2	3	3
	ELC 132	Electrical Drawings	1	3	2
	ELN 131	Electronic Devices	3	3	4
	ELN 152	Fabrication Techniques	1	3	2
	MAT 122	Algebra/Trigonometry II (or MAT172 & 172A)	2	2	3
		<b>9</b>	<b>14</b>	<b>14</b>	
		<b>Third Semester (Summer)</b>			
	ELC 117	Motors and Controls	2	6	4
	ELN 132	Linear IC Applications	3	3	4
	PHY 131	Physics-Mechanics (or PHY 151)	3	2	4
		Humanities Elective	3	0	3
		<b>11</b>	<b>11</b>	<b>15</b>	
		<b>Fourth Semester (Fall)</b>			
	ELC 128	Introduction to PLC	2	3	3
	ELN 133	Digital Electronics	3	3	4
	ELN 234	Communications Systems	3	3	4
	ENG 114	Professional Research and Report Writing	3	0	3
		<b>11</b>	<b>9</b>	<b>14</b>	
		<b>Fifth Semester (Spring)</b>			
	ELN 232	Introduction to Microprocessors	3	3	4
	ELN 275	Troubleshooting	1	2	2
		Social/Behavioral Science Elective	3	0	3
		<b>7</b>	<b>5</b>	<b>9</b>	
<b>Program Totals</b>		<b>51</b>	<b>47</b>	<b>72*</b>	

*\*The credit hours total includes a minimum of four credit hours of major electives to be selected from the following: CET 211, CET 212, CHM 121/121A, CIS 111, CIS 115, CIS 152, DFT 152, DFT 153, ELC 113, ELC 114, ELC 119, ELC 131A, ELC 213, ELC 228, ELC 229, ELN 237, HYD 110, MAT 151, MAT 151A, MAT 271, MEC 161 (with 161A), MEC 250, PHY 152.*

## Electronics Engineering Technology – Associate in Applied Science Degree – Evening Schedule

		<b>Weekly</b>		
		<b>Class</b>	<b>Lab</b>	<b>Credit</b>
		<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>
<b>First Semester (Fall)</b>				
EGR 110	Introduction to Engineering Technology	2	0	2
ELN 152	Fabrication Techniques	1	3	2
MAT 121	Algebra/Trigonometry I (or MAT 171 & 171A)	2	2	3
		<b>5</b>	<b>5</b>	<b>7</b>
<b>Second Semester (Spring)</b>				
ELC 131	DC/AC Circuit Analysis	4	3	5
MAT 122	Algebra/Trigonometry II (or MAT 172 & 172A)	2	2	3
		<b>6</b>	<b>5</b>	<b>8</b>



**Third Semester (Summer)**

CET	111	Computer Upgrade/Repair I	2	3	3
ELN	131	Electronic Devices	3	3	4
ENG	111	Expository Writing	3	0	3
			<b>8</b>	<b>6</b>	<b>10</b>

Engineering

**Fourth Semester (Fall)**

ELN	132	Linear IC Applications	3	3	4
PHY	131	Physics - Mechanics (or PHY 151)	3	2	4
			<b>6</b>	<b>5</b>	<b>8</b>

and Applied

Technology

**Fifth Semester (Spring)**

DFT	151	CAD I	2	3	3
ELC	132	Electrical Drawing	1	3	2
ELN	133	Digital Electronics	3	3	4
			<b>6</b>	<b>9</b>	<b>9</b>

**Sixth Semester (Summer)**

ELN	234	Communication Systems	3	3	4
		Social/Behavioral Science Elective	3	0	3
			<b>6</b>	<b>3</b>	<b>7</b>

**Seventh Semester (Fall)**

ELC	117	Motors and Controls	2	6	4
ELC	128	Introduction to PLC	2	3	3
			<b>4</b>	<b>9</b>	<b>7</b>

**Eighth Semester (Spring)**

ELN	232	Introduction to Microprocessors	3	3	4
ENG	114	Professional Research and Report Writing	3	0	3
			<b>6</b>	<b>3</b>	<b>7</b>

**Ninth Semester (Summer)**

ELN	275	Troubleshooting	1	2	2
		Humanities Elective	3	0	3
			<b>4</b>	<b>2</b>	<b>5</b>

**Program Totals****51    47    72\***

*\*Includes a minimum of four hours of major electives to be selected from: CET 211, CET 212, CHM 121/121A, CIS 111, CIS 115, CIS 152, DFT 152, DFT 153, ELC 113, ELC 114, ELC 119, ELC 213, ELC 228, ELC 229, ELC 131 A, ELN 237, HYD 110, MAT 151, MAT 151A, MAT 271, MEC 161 (with 161A), MEC 250, PHY 152.*

**Heavy Equipment and Transport Technology**

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

Engineering  
and Applied  
Technology

This program consists of:

Major courses (HET, HYD, WLD, MAC)

Related and general education courses

including:

*English/Communications*

*Natural Science/Mathematics*

*Other*

**PROGRAM TOTAL**

**Credit Hrs.**

**35**

**8**

**3**

**3**

**2**

**43**

**Weekly**

**Class Lab Credit  
Hrs. Hrs. Hrs.**

### First Semester (Fall)

ACA	115	First-Year Seminar	0	2	1
HET	110	Engines	3	9	6
HET	118	Mechanical Orientation	2	0	2
HET	125	Preventative Maintenance	1	3	2
HYD	112	Hydraulics Medium/Heavy Duty	1	2	2
MAT	101	Applied Mathematics I (or PHY 122)	2	2	3
			<b>9</b>	<b>18</b>	<b>16</b>

### Second Semester (Spring)

ENG	102	Applied Communications II (or ENG 111)	3	0	3
HET	112	Diesel Electrical System	3	6	5
HET	115	Electronic Engines	2	3	3
HET	119	Mechanical Transmissions	2	2	3
WLD	112	Basic Welding Processes	1	3	2
			<b>11</b>	<b>14</b>	<b>16</b>

### Third Semester (Summer)

CIS	113	Computer Basics	0	2	1
HET	116	A/C/Diesel Equipment	1	2	2
HET	231	Medium Heavy Duty Brake Systems	1	3	2
HET	233	Suspension and Steering	2	4	4
MAC	118	Machine Shop Basics	1	3	2
			<b>5</b>	<b>14</b>	<b>11</b>

### Program Totals

**25 46 43**

*The Associate in Applied Science Degree program may be taken in the evening upon completion of the day Diploma program.*

## Heavy Equipment and Transport Technology – Associate in Applied Science – Evening Schedule

*(Evening Only Program)*

To be taken after completion of Diploma (day) program

This program consists of

Major courses (HET prefix)

Related and general education courses

including:

*English/Communications*

*Humanities/Fine Arts*

*Natural Science/Mathematics*

*Social Sciences*

*Other*

**PROGRAM TOTAL**

**Credit Hrs.**

**36**

**31**

**6**

**3**

**3**

**3**

**14**

**67**



				Weekly	Weekly	Weekly		
				Class	Lab	Work	Credit	
				Hrs.	Hrs.	Hrs.	Hrs.	
<b>First Semester (Fall)</b>								
ACA	115	First-Year Seminar		0	2	0	1	Engineering
HET	110	Engines		3	9	0	6	
HET	118	Mechanical Orientation		2	0	0	2	and Applied
HET	125	Preventative Maintenance		1	3	0	2	
HYD	112	Hydraulics Medium/Heavy Duty		1	2	0	2	Technology
MAT	101	Applied Mathematics I (or PHY 122)		2	2	0	3	
				<b>9</b>	<b>18</b>	<b>0</b>	<b>16</b>	
<b>Second Semester (Spring)</b>								
ENG	111	Expository Writing		3	0	0	3	
HET	112	Diesel Electrical System		3	6	0	5	
HET	115	Electronic Engines		2	3	0	3	
HET	119	Mechanical Transmissions		2	2	0	3	
WLD	112	Basic Welding Processes		1	3	0	2	
				<b>11</b>	<b>14</b>	<b>0</b>	<b>16</b>	
<b>Third Semester (Summer)</b>								
CIS	113	Computer Basics		0	2	0	1	
HET	116	A/C/Diesel Equipment		1	2	0	2	
HET	231	Medium Heavy Duty Brake Systems		1	3	0	2	
HET	233	Suspension and Steering		2	4	0	4	
MAC	118	Machine Shop Basic		1	3	0	2	
				<b>5</b>	<b>14</b>	<b>0</b>	<b>11</b>	
<b>Fourth Semester (Fall)</b>								
COE	114	Co-op Work Experience I		0	0	40	4	
HET	114A	Powertrains		2	3	0	3	
SOC	215	Group Processes		3	0	0	3	
				<b>5</b>	<b>3</b>	<b>40</b>	<b>10</b>	
<b>Fifth Semester (Spring)</b>								
COE	124	Co-op Work Experience II		0	0	40	4	
COM	231	Public Speaking		3	0	0	3	
HET	114B	Powertrains		1	3	0	2	
HET	128	Medium/Heavy Duty Tune-Up		1	2	0	2	
HUM	115	Critical Thinking		3	0	0	3	
				<b>8</b>	<b>5</b>	<b>40</b>	<b>14</b>	
<b>Program Totals</b>				<b>38</b>	<b>54</b>	<b>80</b>	<b>67</b>	

## Machining Technology

The 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.

## Diploma

	<b>This program consists of:</b>	<b>Credit Hrs.</b>
	<b>Major courses (MAC prefix)</b>	<b>26</b>
	<b>Related and general education courses</b>	<b>16</b>
Engineering	<b>including:</b>	
	<i>English/Communications</i>	<i>6</i>
and Applied	<i>Social Science</i>	<i>3</i>
Technology	<i>Other</i>	<i>7</i>
	<b>PROGRAM TOTAL</b>	<b>42</b>

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
ACA	115	First-Year Seminar	0	2	1
BPR	111	Blueprint Reading I	1	2	2
MAC	111	Machining Technology	2	12	6
MAC	121	Introduction to CNC	2	0	2
MAC	151	Machining Calculations	1	2	2
SOC	215	Group Processes	3	0	3
			<b>9</b>	<b>18</b>	<b>16</b>
<b>Second Semester (Spring)</b>					
BPR	121	Blueprint Reading II	1	2	2
COM	231	Public Speaking	3	0	3
ENG	111	Expository Writing	3	0	3
MAC	112	Machining Technology II	2	12	6
MAC	122	CNC Turning	1	3	2
MAC	124	CNC Milling	1	3	2
			<b>11</b>	<b>20</b>	<b>18</b>
<b>Third Semester (Summer)</b>					
MAC	113	Machining Technology III	2	12	6
MAC	152	Advanced Machining Calculations	1	2	2
			<b>3</b>	<b>14</b>	<b>8</b>
<b>Program Totals</b>			<b>23</b>	<b>52</b>	<b>42</b>

## Machining Technology Diploma – Evening Schedule

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
BPR	111	Blueprint Reading I	1	2	2
MAC	111A	Machining Technology I	1	6	3
MAC	151	Machining Calculations	1	2	2
			<b>3</b>	<b>10</b>	<b>7</b>
<b>Second Semester (Spring)</b>					
BPR	121	Blueprint Reading II	1	2	2
COM	231	Public Speaking	3	0	3
MAC	111B	Machining Technology I	1	6	3
			<b>5</b>	<b>8</b>	<b>8</b>
<b>Third Semester (Summer)</b>					
ACA	115	First-Year Seminar	0	2	1
MAC	112A	Machining Technology II	1	4	2
MAC	121	Introduction to CNC	2	0	2
			<b>3</b>	<b>6</b>	<b>5</b>



**Fourth Semester (Fall)**

MAC 112B	Machining Technology II	1	8	4
MAC 124	CNC Milling	1	3	2
MAC 152	Advanced Machining Calculations	1	2	2
		<b>3</b>	<b>13</b>	<b>8</b>

Engineering

**Fifth Semester (Spring)**

ENG 111	Expository Writing	3	0	3
MAC 113A	Machining Technology III	1	8	4
MAC 122	CNC Turning	1	3	2
		<b>5</b>	<b>11</b>	<b>9</b>

and Applied

Technology

**Sixth Semester (Summer)**

MAC 113B	Machining Technology III	1	4	2
SOC 215	Group Processes	3	0	3
		<b>4</b>	<b>4</b>	<b>5</b>
<b>Program Total</b>		<b>23</b>	<b>52</b>	<b>42</b>

**Basic Machining Technology – Certificate – Day Schedule**

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 entry-level machine operators/machinist apprentices in area manufacturing firms. Courses in this program can be transferred directly into the Machining Technology Associate Degree curriculum.

**Weekly**

Class Hrs.	Lab Hrs.	Credit Hrs.
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**First Semester (Fall)**

MAC 111	Machining Technology	2	12	6
BPR 111	Blueprint Reading I	1	2	2
		<b>3</b>	<b>14</b>	<b>8</b>

**Second Semester (Spring)**

MAC 121	Introduction to CNC	2	0	2
MAC 124	CNC Milling	1	3	2
		<b>3</b>	<b>3</b>	<b>4</b>
<b>Certificate Totals</b>		<b>6</b>	<b>17</b>	<b>12</b>

**Basic Machining Technology – Certificate Evening Schedule****Weekly**

Class Hrs.	Lab Hrs.	Credit Hrs.
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**First Semester (Fall)**

MAC 111	Machining Technology	2	12	6
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**Second Semester (Spring)**

BPR 111	Blueprint Reading I	1	2	2
MAC 121	Introduction to CNC	2	0	2
MAC 124	CNC Milling	1	3	2
		<b>4</b>	<b>5</b>	<b>6</b>
<b>Certificate Totals</b>		<b>6</b>	<b>17</b>	<b>12</b>

## CNC Programming – Certificate – Day Schedule

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 axes and 3 axis machining. The student will make the parts they design.

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
MAC	226	CNC EDM	1	3	2
MEC	231	CAM I	1	4	3
			<b>2</b>	<b>7</b>	<b>5</b>
<b>Second Semester (Spring)</b>					
MAC	122	CNC Turning	1	3	2
MAC	124	CNC Milling	1	3	2
MEC	232	CAM II	1	4	3
			<b>3</b>	<b>10</b>	<b>7</b>
<b>Certificate Totals</b>			<b>5</b>	<b>17</b>	<b>12</b>

## CNC Programming – Certificate – Evening Schedule

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
MAC	124	CNC Milling	1	3	2
MAC	226	CNC EDM	1	3	2
MEC	231	CAM I	1	4	3
			<b>3</b>	<b>10</b>	<b>7</b>
<b>Second Semester (Spring)</b>					
MAC	122	CNC Turning	1	3	2
MEC	232	CAM II	1	4	3
			<b>2</b>	<b>7</b>	<b>5</b>
<b>Certificate Totals</b>			<b>5</b>	<b>17</b>	<b>12</b>

## Machining Technology – Associate in Applied Science Degree – Day Schedule

This program consists of:	Credit Hrs.
Major courses (MAC prefix)	49
Related and general education courses including:	25
<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	3
<i>Social Science</i>	3
<i>Other</i>	10
<b>PROGRAM TOTAL</b>	<b>74</b>



			Weekly	Weekly		
			Class	Lab	Credit	
			Hrs.	Hrs.	Hrs.	
<b>First Semester (Fall)</b>						
BPR	111	Blueprint Reading I	1	2	2	Engineering and Applied Technology
MAC	111	Machining Technology I	2	12	6	
MAC	121	Introduction to CNC	2	0	2	
MAC	151	Machining Calculations	1	2	2	
SOC	215	Group Processes	3	0	3	
			<b>9</b>	<b>16</b>	<b>15</b>	
<b>Second Semester (Spring)</b>						
BPR	121	Blueprint Reading II	1	2	2	
COM	231	Public Speaking	3	0	3	
ENG	111	Expository Writing	3	0	3	
MAC	112	Machining Technology II	2	12	6	
MAC	122	CNC Turning	1	3	2	
MAC	124	CNC Milling	1	3	2	
			<b>11</b>	<b>20</b>	<b>18</b>	
<b>Third Semester (Summer)</b>						
MAC	113	Machining Technology III	2	12	6	
MAC	152	Advanced Machining Calculations	1	2	2	
			<b>3</b>	<b>14</b>	<b>8</b>	
<b>Fourth Semester (Fall)</b>						
MAC	214	Machining Technology IV	2	12	5	
MAC	226	CNC EDM Machining	1	3	2	
MAC	229	CNC Programming	2	0	2	
MEC	231	CAM I	1	4	3	
			<b>6</b>	<b>19</b>	<b>12</b>	
<b>Fifth Semester (Spring)</b>						
HUM	115	Critical Thinking	3	0	3	
MAT	121	Algebra/Trigonometry (or PHY 122)	2	2	3	
MAC	224	Advanced CNC Milling	1	3	2	
MAC	247	Production Tooling	2	0	2	
MEC	232	CAM II	1	4	3	
			<b>9</b>	<b>9</b>	<b>13</b>	
<b>Sixth Semester (Summer)</b>						
MAC	222	Advanced CNC Turning	1	3	2	
MAC	241	Jigs and Fixtures I	2	6	4	
			<b>3</b>	<b>9</b>	<b>6</b>	
<b>Program Totals</b>			<b>41</b>	<b>89</b>	<b>74</b>	

# Machining Technology – Associate in Applied Science Degree – Evening Schedule

(Evening Only Program)

Engineering	<b>This program consists of:</b> <b>Major courses (MAC prefix)</b> <b>Related and general education courses including:</b> <i>Communications</i> <i>Humanities/Fine Arts</i> <i>Natural Science/Mathematics</i> <i>Social Science</i> <i>Other</i>	<b>Credit Hrs.</b>
and Applied		<b>49</b>
Technology		<b>25</b>
		<b>6</b>
		<b>3</b>
		<b>3</b>
		<b>3</b>
		<b>10</b>
	<b>PROGRAM TOTAL</b>	<b>74</b>

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
BPR	111	Blueprint Reading I	1	2	2
MAC	111A	Machining Technology I	1	6	3
MAC	151	Machining Calculations	1	2	2
			<b>3</b>	<b>10</b>	<b>7</b>
<b>Second Semester (Spring)</b>					
BPR	121	Blueprint Reading II	1	2	2
COM	231	Public Speaking	3	0	3
MAC	111B	Machining Technology I	1	6	3
			<b>5</b>	<b>8</b>	<b>8</b>
<b>Third Semester (Summer)</b>					
ACA	115	First-Year Seminar	0	2	1
MAC	112A	Machining Technology II	1	4	2
MAC	121	Introduction to CNC	2	0	2
			<b>3</b>	<b>6</b>	<b>5</b>
<b>Fourth Semester (Fall)</b>					
MAC	112B	Machining Technology II	1	8	4
MAC	124	CNC Milling	1	3	2
MAC	152	Advanced Machining Calculations	1	2	2
			<b>3</b>	<b>13</b>	<b>8</b>
<b>Fifth Semester (Spring)</b>					
ENG	111	Expository Writing	3	0	3
MAC	113A	Machining Technology III	1	8	4
MAC	122	CNC Turning	1	3	2
			<b>5</b>	<b>11</b>	<b>9</b>
<b>Sixth Semester (Summer)</b>					
MAC	113B	Machining Technology III	1	4	2
SOC	215	Group Processes	3	0	3
			<b>4</b>	<b>4</b>	<b>5</b>
<b>Seventh Semester (Fall)</b>					
MAC	214A	Machining Technology IV	1	6	3
<b>Eighth Semester (Spring)</b>					
MAC	214B	Machining Technology IV	1	6	3
MAC	229	CNC Programming	2	0	2
			<b>3</b>	<b>6</b>	<b>5</b>



**Ninth Semester (Summer)**

MAC 224	Advanced CNC Milling	1	3	2
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**Tenth Semester (Fall)**

MAC 226	CNC EDM Machining	1	3	2	Engineering and Applied Technology
MAT 121	Algebra/Trigonometry (or PHY 122)	2	2	3	
MEC 231	CAM I	1	4	3	
		<b>4</b>	<b>9</b>	<b>8</b>	

**Eleventh Semester (Spring)**

MAC 247	Production Tooling	2	0	2
MEC 232	CAM II	1	4	3
	Humanities Elective	3	0	3
		<b>6</b>	<b>4</b>	<b>8</b>

**Twelfth Semester (Summer)**

MAC 222	Advanced CNC Turning	1	3	2
MAC 241	Jigs and Fixtures I	2	6	4
		<b>3</b>	<b>9</b>	<b>6</b>
<b>Program Totals</b>		<b>41</b>	<b>89</b>	<b>74</b>

**Mechanical Engineering Technology**

The Mechanical Engineering Technology curriculum prepares graduates for employment as mechanical technicians. 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 – Certificate Program in Automation/Robotics****Certificate**

This program consists of:	<b>Credit Hrs.</b>
Major courses (ATR, HYD, MEC Prefix)	<b>11</b>
Related and general education courses	<b>6</b>

<b>Weekly</b>	<b>Weekly</b>	
<b>Class</b>	<b>Lab</b>	<b>Credit</b>
<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>

**First Semester (Fall)**

ELC 111	Introduction to Electricity	2	2	3
ELC 128	Introduction to PLC	2	3	3
MEC 363	Electro-Pneu Components	3	2	4
		<b>7</b>	<b>7</b>	<b>10</b>

**Second Semester (Spring)**

ATR	112	Introduction to Automation	2	3	3
HYD	110	Hydraulics and Pneumatics	2	3	3
MEC	288	Manufacturing Engineering R&D Project	0	2	1

Engineering  
and Applied  
Technology

**Program Totals**

<b>4</b>	<b>8</b>	<b>7</b>
<b>11</b>	<b>15</b>	<b>17</b>

## Mechanical Engineering Technology – Certificate Program in Automation/Robotics – Evening Schedule

**Weekly**

<b>Class</b>	<b>Lab</b>	<b>Credit</b>
<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>

**First Semester (Spring)**

ELC	111	Introduction to Electricity	2	2	3
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**Second Semester (Summer)**

ELC	128	Introduction to PLC	2	3	3
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**Third Semester (Fall)**

HYD	110	Hydraulics and Pneumatics	2	3	3
MEC	363	Electro-Pneu Components	3	2	4
			<b>5</b>	<b>5</b>	<b>7</b>

**Fourth Semester (Spring)**

ATR	112	Introduction to Automation	2	3	3
MEC	288	Manufacturing Engineering R&D Project	0	2	1
			<b>2</b>	<b>5</b>	<b>4</b>
<b>Program Totals</b>			<b>11</b>	<b>15</b>	<b>17</b>

## Mechanical Engineering Technology – Associate in Applied Science Degree

This program consists of:

**Major courses (ATR, EGR, HYD, MEC prefix)**

**Credit Hrs.**

**31**

**Related and general education courses**

**44**

**including:**

*English/Communications*

*6*

*Humanities/Fine Arts*

*3*

*Natural Science/Mathematics*

*10*

*Social Science*

*3*

*Other*

*16*

*Major Electives*

*6*

**PROGRAM TOTAL**

**75**

**Weekly**

<b>Class</b>	<b>Lab</b>	<b>Credit</b>
<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>

**First Semester (Fall)**

CIS	110	Introduction to Computers	2	2	3
DFT	111	Technical Drafting I	1	3	2
EGR	110	Introduction to Engineering	2	0	2
ENG	111	Expository Writing	3	0	3
MAT	121	Algebra/Trigonometry I (or MAT 171 & 171A)**	2	2	3
MEC	180	Engineering Materials	2	3	3
			<b>12</b>	<b>10</b>	<b>16</b>



**Second Semester (Spring)**

DFT	151	CAD I	2	3	3	
HYD	110	Hydraulics and Pneumatics	2	3	3	
MAT	122	Algebra/Trigonometry II (or MAT 172 & 172A)**	2	2	3	Engineering
PHY	131	Physics - Mechanics (or PHY 151)**	3	2	4	and Applied
		Social/Behavioral Science Elective	3	0	3	
			<b>12</b>	<b>10</b>	<b>16</b>	Technology

**Third Semester (Summer)**

MAC	121	Introduction to CNC	2	0	2
MEC	161	Manufacturing Processes I	3	0	3
MEC	161A	Manufacturing Processes I Lab	0	3	1
MEC	267	Thermal Systems	2	2	3
			<b>7</b>	<b>5</b>	<b>9</b>

**Fourth Semester (Fall)**

ELC	111	Introduction to Electricity	2	2	3
ELC	128	Introduction to PLC	2	3	3
MEC	250	Statics and Strength of Materials	4	3	5
MEC	263	Electro-Pneu Components	3	2	4
			<b>11</b>	<b>10</b>	<b>15</b>

**Fifth Semester (Spring)**

ATR	112	Introduction to Automation	2	3	3
ENG	114	Professional Research and Reporting (or ENG 112)	3	0	3
MEC	270	Machine Design	3	3	4
MEC	288	Manufacturing Engineering R&D Project	0	2	1
		Humanities Elective	3	0	3
			<b>11</b>	<b>8</b>	<b>14</b>
<b>Program Totals</b>			<b>53</b>	<b>43</b>	<b>75*</b>

\*The credit hours total includes a minimum of five credit hours of major electives to be selected from: COE 132ME, COE 212ME, EGR 130, EGR 285, ELC 213, ELN 237, MAT 271, MEC 293, PLA 110.

\*\*These courses are recommended for students who wish to pursue the Bachelor of Science in Manufacturing Engineering Technology degree at Western Carolina University following the A.A.S. degree.

## Mechanical Engineering Technology – Associate in Applied Science Degree – Evening Schedule

(Begins in even years only)

			Weekly		
			Class	Lab	Credit
			Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>					
EGR	110	Introduction to Engineering	2	0	2
MAT	121	Algebra/Trigonometry I (or MAT 171 & 171A)**	2	2	3
MEC	180	Engineering Materials	2	3	3
			<b>6</b>	<b>5</b>	<b>8</b>

		<b>Second Semester (Spring)</b>				
Engineering and Applied Technology	CIS	110	Introduction to Computers	2	2	3
	DFT	111	Technical Drafting I	1	3	2
	MAT	122	Algebra/Trigonometry II (or MAT 172 & 172A)**	2	2	3
				<b>5</b>	<b>7</b>	<b>8</b>
		<b>Third Semester (Summer)</b>				
	DFT	151	CAD I	2	3	3
	ENG	111	Expository Writing	3	0	3
				<b>5</b>	<b>3</b>	<b>6</b>
		<b>Fourth Semester (Fall)</b>				
	HYD	110	Hydraulics and Pneumatics	2	3	3
			Social/Behavioral Science Elective	3	0	3
				<b>5</b>	<b>3</b>	<b>6</b>
		<b>Fifth Semester (Spring)</b>				
	ELC	111	Introduction to Electricity	2	2	3
	PHY	131	Physics-Mechanics (or PHY 151)**	3	2	4
				<b>5</b>	<b>4</b>	<b>7</b>
		<b>Sixth Semester (Summer)</b>				
	MEC	161	Manufacturing Processes I	3	0	3
	MEC	161A	Manufacturing Processes I Lab	0	3	1
	MEC	267	Thermal Systems	2	2	3
				<b>5</b>	<b>5</b>	<b>7</b>
		<b>Seventh Semester (Fall)</b>				
	MAC	121	Introduction to CNC	2	0	2
	MEC	250	Statics and Strength of Materials	4	3	5
				<b>6</b>	<b>3</b>	<b>7</b>
		<b>Eighth Semester (Spring)</b>				
	ENG	114	Professional Research and Reporting (or ENG 112)	3	0	3
	MEC	270	Machine Design	3	3	4
				<b>6</b>	<b>3</b>	<b>7</b>
		<b>Ninth Semester (Summer)</b>				
	ELC	128	Introduction to PLC	2	3	3
		<b>Tenth Semester (Fall)</b>				
	MEC	263	Electro-Pneu Components	3	2	4
			Humanities Elective	3	0	3
				<b>6</b>	<b>2</b>	<b>7</b>
		<b>Eleventh Semester (Spring)</b>				
	ATR	112	Introduction to Automation	2	3	3
	MEC	288	Manufacturing Engineering R&D Project	0	2	1
				<b>2</b>	<b>5</b>	<b>4</b>
<b>Program Totals</b>				<b>53</b>	<b>43</b>	<b>75*</b>

\*The credit hours total includes a minimum of five credit hours of major electives to be selected from: COE 132, COE 212, EGR 130, EGR 285, ELC 213, ELN 237, MAT 271, MEC 293, PLA 110.

\*\*These courses are recommended for students who wish to pursue the Bachelor of Science in Manufacturing Engineering Technology degree at Western Carolina University following the A.A.S. degree.



# 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.

Engineering  
and Applied  
Technology

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.

## Surveying Technology – Associate in Applied Science Degree

This program consists of:

Major courses (CIV, SRV prefix)

Credit Hrs.

43

Related and general education courses

30

including:

*English/Communications*

6

*Humanities/Fine Arts*

3

*Natural Science/Mathematics*

10

*Social Science*

3

*Other*

8

**PROGRAM TOTAL**

**73**

### Weekly Weekly

Class Hrs.	Lab Hrs.	Credit Hrs.
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#### First Semester (Fall)

CIS	111	Basic Personal Computer Literacy	1	2	2
EGR	110	Introduction to Engineering	2	0	2
EGR	115	Introduction to Engineering Technology	2	6	4
ENG	111	Expository Writing	3	0	3
MAT	121	Algebra/Trigonometry I (or MAT 171 & 171A)	2	2	3
			<b>10</b>	<b>10</b>	<b>14</b>

#### Second Semester (Spring)

CIV	110	Statics/Strength of Materials	2	6	4
ENG	114	Professional Research and Reporting	3	0	3
MAT	122	Algebra/Trigonometry II (or MAT 172 & 172A)	2	2	3
PHY	131	Physics - Mechanics	3	2	4
SRV	110	Surveying I	2	6	4
			<b>12</b>	<b>16</b>	<b>18</b>

#### Third Semester (Summer)

CIV	125	Civil/Surveying CAD	1	6	3
CIV	211	Hydraulics and Hydrology	2	3	3
SRV	111	Surveying II	2	6	4
			<b>5</b>	<b>15</b>	<b>10</b>

		<b>Fourth Semester (Fall)</b>			
Engineering and Applied Technology	CIV 111	Soils and Foundations	2	3	3
	CIV 215	Highway Technology	1	3	2
	SRV 210	Surveying III	2	6	4
	SRV 240	Topographic/Site Surveying	2	6	4
		Social/Behavioral Science Elective	3	0	3
		<b>10</b>	<b>18</b>	<b>16</b>	
		<b>Fifth Semester (Spring)</b>			
	HUM 115	Critical Thinking	3	0	3
	SRV 220	Surveying Law	2	2	3
	SRV 230	Subdivision Planning	1	6	3
	SRV 250	Advanced Surveying	2	6	4
	SRV 260	Field and Office Practices	1	3	2
		<b>9</b>	<b>17</b>	<b>15</b>	
<b>Program Totals</b>		<b>46</b>	<b>76</b>	<b>73</b>	

## Surveying Technology – Associate in Applied Science Degree – Evening Schedule

*(Begins in even years only)*

		<b>Weekly</b>			
		<b>Class</b>	<b>Lab</b>	<b>Credit</b>	
		<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>	
		<b>First Semester (Fall)</b>			
	CIS 111	Basic PC Literacy	1	2	2
	EGR 115	Introduction to Engineering Technology	2	6	4
	MAT 121	Algebra/Trigonometry I (or MAT 171 & 171A)	2	2	3
		<b>5</b>	<b>10</b>	<b>9</b>	
		<b>Second Semester (Spring)</b>			
	EGR 110	Introduction to Engineering	2	0	2
	ENG 111	Expository Writing	3	0	3
	MAT 122	Algebra/Trigonometry II (or MAT 172 & 172A)	2	2	3
		<b>7</b>	<b>2</b>	<b>8</b>	
		<b>Third Semester (Summer)</b>			
	PHY 131	Physics - Mechanics	3	2	4
	SRV 110	Surveying I	2	6	4
		<b>5</b>	<b>8</b>	<b>8</b>	
		<b>Fourth Semester (Fall)</b>			
	CIV 110	Statics/Strength of Materials	2	6	4
	SRV 111	Surveying II	2	6	4
		<b>4</b>	<b>12</b>	<b>8</b>	
		<b>Fifth Semester (Spring)</b>			
	CIV 111	Soils and Foundations	2	3	3
	ENG 114	Project Research and Reporting	3	0	3
	SRV 210	Surveying III	2	6	4
		<b>7</b>	<b>9</b>	<b>10</b>	
		<b>Sixth Semester (Summer)</b>			
	CIV 211	Hydraulics and Hydrology	2	3	3



**Seventh Semester (Fall)**

CIV	125	Civil/Surveying CAD	1	6	3
CIV	215	Highway Technology	1	3	2
SRV	220	Surveying Law	2	2	3
			<b>4</b>	<b>11</b>	<b>8</b>

Engineering

**Eighth Semester (Spring)**

SRV	240	Topographic/Site Surveying	2	6	4
SRV	260	Field and Office Practices	1	3	2
		Social/Behavioral Science Elective	3	0	3
			<b>6</b>	<b>9</b>	<b>9</b>

and Applied

Technology

**Ninth Semester (Summer)**

SRV	230	Subdivision Planning	1	6	3
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**Tenth Semester (Fall)**

HUM	115	Critical Thinking	3	0	3
SRV	250	Advanced Surveying	2	6	4
			<b>5</b>	<b>6</b>	<b>7</b>

**Program Totals****46      76      73****Tool, Die and Mold Making**

Tool, Die and Mold Making is a concentration under the curriculum title of Machining Technology. This curriculum is designed to develop skills in the use of hand tools, computerized equipment and precision instruments for machine tooling used for the mass production of parts.

Students will learn to interpret blueprints, setup manual and CNC machines, perform basic and advanced machining operations. Emphasis will be placed on the production of tooling used for punching, stamping, and molding of parts.

Graduates should qualify for employment opportunities in manufacturing industries and Tool, Die, and Mold making industries.

**Machining Technology – Tool, Die and Mold Making – Associate in Applied Science Degree**

<b>This program consists of:</b>	<b>Credit Hrs.</b>
<b>Major courses (MAC prefix)</b>	<b>55</b>
<b>Related and general education courses including:</b>	<b>21</b>
<i>English/Communications</i>	6
<i>Humanities/Fine Arts</i>	3
<i>Natural Science/Mathematics</i>	3
<i>Social Science</i>	3
<i>Other</i>	6
<b>PROGRAM TOTAL</b>	<b>76</b>

<b>Weekly</b>	<b>Weekly</b>	
<b>Class</b>	<b>Lab</b>	<b>Credit</b>
<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>

**First Semester (Fall)**

BPR	111	Blueprint Reading I	1	2	2
MAC	111	Machining Technology I	2	12	6
MAC	121	Introduction to CNC	2	0	2
MAC	151	Machining Calculations	1	2	2
SOC	215	Group Processes	3	0	3
			<b>9</b>	<b>16</b>	<b>15</b>

		<b>Second Semester (Spring)</b>			
Engineering and Applied Technology	BPR 121	Blueprint Reading II	1	2	2
	COM 231	Public Speaking	3	0	3
	ENG 111	Expository Writing	3	0	3
	MAC 112	Machining Technology II	2	12	6
	MAC 122	CNC Turning	1	3	2
	MAC 124	CNC Milling	1	3	2
			<b>11</b>	<b>20</b>	<b>18</b>
		<b>Third Semester (Summer)</b>			
	MAC 113	Machining Technology III	2	12	6
	MAC 152	Advanced Machining Calculations	1	2	2
			<b>3</b>	<b>14</b>	<b>8</b>
		<b>Fourth Semester (Fall)</b>			
	HUM 115	Critical Thinking	3	0	3
	MAC 153	Compound Angles	1	2	2
	MAC 226	CNC EDM Machining	1	3	2
	MAC 243	Die Making I	2	6	4
	MEC 141	Introduction to Manufacturing Processes	2	2	3
			<b>9</b>	<b>13</b>	<b>14</b>
		<b>Fifth Semester (Spring)</b>			
	BPR 123	Die/Mold Print Reading	1	3	2
	MAC 244	Die Making II	1	9	4
	MAC 245	Mold Construction I	2	6	4
	MAT 121	Algebra/Trigonometry I (or PHY 122)	2	2	3
			<b>6</b>	<b>20</b>	<b>13</b>
		<b>Sixth Semester (Summer)</b>			
	MAC 241	Jigs and Fixtures I	2	6	4
	MAC 246	Mold Construction II	1	9	4
			<b>3</b>	<b>15</b>	<b>8</b>
<b>Program Totals</b>			<b>41</b>	<b>98</b>	<b>76</b>

## **Machining Technology – Tool, Die and Mold Making – Associate in Applied Science Degree – Evening Schedule**

		<b>Weekly</b>			
		<b>Class</b>	<b>Lab</b>	<b>Credit</b>	
		<b>Hrs.</b>	<b>Hrs.</b>	<b>Hrs.</b>	
		<b>First Semester (Fall)</b>			
	BPR 111	Blueprint Reading II	1	2	2
	MAC 111A	Machining Technology I	1	6	3
	MAC 151	Machining Calculations	1	2	2
			<b>3</b>	<b>10</b>	<b>7</b>
		<b>Second Semester (Spring)</b>			
	BPR 121	Blueprint Reading III	1	2	2
	COM 231	Public Speaking	3	0	3
	MAC 111B	Machining Technology I	1	6	3
			<b>5</b>	<b>8</b>	<b>8</b>
		<b>Third Semester (Summer)</b>			
	MAC 112A	Machining Technology II	1	4	2
	MAC 121	Introduction to CNC	2	0	2
			<b>3</b>	<b>4</b>	<b>4</b>



**Fourth Semester (Fall)**

MAC 112B	Machining Technology II	1	8	4
MAC 124	CNC Milling	1	3	2
MAC 152	Advanced Machining Calculations	1	2	2
		<b>3</b>	<b>13</b>	<b>8</b>

Engineering

**Fifth Semester (Spring)**

ENG 111	Expository Writing	3	0	3
MAC 113A	Machining Technology III	1	8	4
MAC 122	CNC Turning	1	3	2
		<b>5</b>	<b>11</b>	<b>9</b>

and Applied

Technology

**Sixth Semester (Summer)**

MAC 113B	Machining Technology III	1	4	2
SOC 215	Group Processes	3	0	3
		<b>4</b>	<b>4</b>	<b>5</b>

**Seventh Semester (Fall)**

MAC 243	Die Making I	2	6	4
MAT 121	Algebra/Trigonometry I (or PHY 122)	2	2	3
		<b>4</b>	<b>8</b>	<b>7</b>

**Eighth Semester (Spring)**

BPR 123	Die/Mold Print Reading	1	3	2
	Humanities Elective	3	0	3
		<b>4</b>	<b>3</b>	<b>5</b>

**Ninth Semester (Summer)**

MAC 244	Die Making II	1	9	4
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**Tenth Semester (Fall)**

MAC 153	Compound Angles	1	2	2
MAC 226	CNC EDM Machining	1	3	2
MEC 141	Introduction to Manufacturing Processes	2	2	3
		<b>4</b>	<b>7</b>	<b>7</b>

**Eleventh Semester (Spring)**

MAC 241	Jig and Fixtures I	2	6	4
MAC 245	Mold Construction I	2	6	4
		<b>4</b>	<b>12</b>	<b>8</b>

**Twelfth Semester (Summer)**

MAC 246	Mold Construction II	1	9	4
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**Program Totals****41      98      76****Welding Certificate**

The following courses give students an understanding of the principles, methods, techniques, and skills essential for employment in the welding field and metals industry.

Weekly		
Class	Lab	Credit
Hrs.	Hrs.	Hrs.

**First Semester (Fall)**

WLD 115	SMAW (Stick) Plate	2	9	5
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**Second Semester (Spring)**

WLD 116	SMAW (Stick) Plate	1	9	4
WLD 141	Symbols and Specifications	2	2	3
		<b>3</b>	<b>11</b>	<b>7</b>

Engineering  
and Applied**Third Semester (Summer)**

WLD 143	Welding Metallurgy	1	2	2
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Technology

**Fourth Semester (Fall)**

WLD 111	Oxy-Fuel Welding	1	3	2
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**Certificate Totals****7      25      16****Welding Certificate – Evening Schedule**

		Weekly		
		Class	Lab	Credit
		Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>				
WLD 115	SMAW (Stick) Plate	2	9	5
<b>Second Semester (Spring)</b>				
WLD 116	SMAW (Stick) Plate	1	9	4
WLD 141	Symbols and Specifications	2	2	3
		<b>3</b>	<b>11</b>	<b>7</b>
<b>Third Semester (Fall)</b>				
WLD 143	Welding Metallurgy	1	2	2
<b>Fourth Semester (Spring)</b>				
WLD 111	Oxy-fuel Welding	1	3	2
<b>Program Totals</b>		<b>7</b>	<b>25</b>	<b>16</b>

**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 nonconsumable 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 – Diploma – Day Schedule

This program consists of:

Major courses (WLD prefix)

Related and general education courses including:

*English/Communications*

*Natural Science/Mathematics*

**PROGRAM TOTAL**

**Credit Hrs.**

**32**

**6**

**3**

**3**

**38**

Engineering

and Applied

Technology

				WeeklyWeekly		
				Class	Lab	Credit
				Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>						
MAC	118	Machine Shop Basic		1	3	2
MAT	101	Applied Mathematics I		2	2	3
WLD	110	Cutting Processes		1	3	2
WLD	115	SMAW (Stick) Plate		2	9	5
WLD	121	GMAW (MIG) FCAW (Flux) Plate		2	6	4
				<b>8</b>	<b>23</b>	<b>16</b>
<b>Second Semester (Spring)</b>						
ENG	102	Applied Communications II (or ENG 111)		3	0	3
WLD	116	SMAW (Stick) Plate/Pipe		1	9	4
WLD	131	GTAW (TIG) Pipe		2	6	4
WLD	141	Symbols and Specifications		2	2	3
				<b>8</b>	<b>17</b>	<b>14</b>
<b>Third Semester (Summer)</b>						
WLD	132	GTAW (TIG) Pipe		1	6	3
WLD	215	SMAW (Stick) Pipe		1	9	4
WLD	262	Inspection and Testing		2	2	3
				<b>4</b>	<b>17</b>	<b>10</b>
<b>Program Totals</b>				<b>20</b>	<b>57</b>	<b>40</b>

## Welding Technology – Diploma – Evening Schedule

				WeeklyWeekly		
				Class	Lab	Credit
				Hrs.	Hrs.	Hrs.
<b>First Semester (Fall)</b>						
WLD	110	Cutting Processes		1	3	2
WLD	115	SMAW (Stick) Plate		2	9	5
				<b>3</b>	<b>12</b>	<b>7</b>
<b>Second Semester (Spring)</b>						
ENG	102	Applied Communications II (or ENG 111)		3	0	3
WLD	116	SMAW (Stick) Plate/Pipe		1	9	4
WLD	262	Inspection and Testing		2	2	3
				<b>6</b>	<b>11</b>	<b>10</b>
<b>Third Semester (Summer)</b>						
WLD	121	GMAW (MIG) FCAW (Flux) Plate		2	6	4
WLD	141	Symbols and Specifications		2	2	3
				<b>4</b>	<b>8</b>	<b>7</b>

**Fourth Semester (Fall)**

MAC	118	Machine Shop Basic	1	3	2
MAT	101	Applied Mathematics I	2	2	3
WLD	131	GTAW (Plate)	2	6	4

<b>5</b>	<b>11</b>	<b>9</b>
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Engineering

**Fifth Semester (Spring)**

WLD	132	GTAW (Pipe)	1	6	3
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1	6	3
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and Applied

Technology

**Sixth Semester (Summer)**

WLD	215	SMAW (Stick) Pipe	1	9	4
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1	9	4
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**Program Totals**

<b>20</b>	<b>57</b>	<b>40</b>
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## Arts and Sciences

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The Division of Arts and Sciences provides academic instruction in a learning-centered environment that enables students to acquire A.A., A.S., or A.F.A. degrees (including pre-majors), to complete general education support courses for other certificate, diploma, or degree programs, and/or to meet personal and professional interests through specific courses.

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	<b>Associate in Arts College Transfer</b>	<b>Associate in Science College Transfer</b>	<b>Associate in Fine Arts College Transfer</b>
Arts and Sciences	<b>Recommended High School Courses</b>		
	Individuals who do not have required credits can enter A-B Tech as provisional students in these programs.	Individuals who do not have required credits can enter A-B Tech as provisional students in these programs.	Individuals who do not have required credits can enter A-B Tech as provisional students in these programs.
	<b>A-B Tech Entrance Requirements</b>		
	Algebra I Biology and Chemistry or Physics Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	Algebra I Biology and Chemistry or Physics Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).	Algebra I Biology and Chemistry or Physics Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).
	<b>Program Schedule</b>		
	Day/Afternoon/Night Can take single courses any semester.	Day/Afternoon/Night Can take single courses any semester.	Day/Afternoon/Night Can take single courses any semester.
	<b>Degree</b>		
	Associate in Arts	Associate in Science	Associate in Fine Arts
	<b>Employment Opportunities</b>		
	Transfer at junior level to four-year institutions	Transfer at junior level to four-year institutions	Transfer at junior level to four-year institutions



## General Occupational Technology

### Recommended High School Courses

Individuals who do not have required credits can enter A-B Tech as provisional students in these programs.

Arts and  
Sciences

### A-B Tech Entrance Requirements

Algebra I  
Biology and Chemistry  
or Physics  
Acceptable scores on SAT, ACT, or Reading Comprehension, Sentence Skills, Arithmetic Skills, and Elementary Algebra, College Board Computerized Placement Tests (CPT).

### Program Schedule

Day/Night  
Can take single courses any semester.

### Degree

Associate in Applied Science or Diploma

### Employment Opportunities

General technology careers



## 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, humanities and fine arts, social and behavioral sciences, natural sciences, 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 equip 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. Communicate effectively in speaking, writing, reading and/or listening.
2. Locate, evaluate, and use information to analyze problems and make logical decisions.
3. Apply math skills and/or natural science knowledge appropriately to organize, analyze and make information useful.
4. Demonstrate basic competency in computer technology.
5. Demonstrate an appreciation of the various manifestations of cultural diversity.
6. Develop the ability to succeed as a self-directed learner.
7. Apply critical thinking skills in analyzing the physical, social, emotional, intellectual, aesthetic or philosophical factors that influence personal development.

## Honors Program

A-B Tech's Honors Program offers exciting and challenging educational opportunities for talented, highly motivated students. Honors students are encouraged to pursue individual goals and research and expand learning beyond the classroom. Frequent interaction with instructors and other honors students broadens the educational experience and enhances knowledge. Students may graduate from A-B Tech with distinction and transfer their honors credits to many other schools.

Besides taking honors classes, students may receive an honors certificate or degree. Certificates are awarded to students who receive at least 12 semester hours credit in honors courses with an overall GPA of 3.5 or better. Honors degrees are awarded to students with at least 18 semester hours in honors courses with an overall GPA of 3.5 or better. All honors courses should be taken at A-B Tech.

In order to register for an honors course, students must meet one of the following criteria:

1. CPT scores of 81 in algebra and 95 in both sentences and reading
2. SAT scores of at least 550 in both English and Math
3. Overall 3.5 GPA after 12 semester hours in curriculum courses at A-B Tech.

# Curriculum requirements for the Associate in Arts (A.A.) Degree

Semester Hrs.

## General Education Core Requirements

44

### English Composition (6 semester hours)

Arts and

English Composition: ENG 111 and 112, 113 or 114 are required

Sciences

### Humanities/Fine Arts (12 semester hours)

1. Public Speaking: COM 231 is required in lieu of one Humanities/Fine Arts course.

2. One course must be a literature course(\*).

3. Other courses must be selected from two of the following disciplines:  
art, drama, foreign languages, humanities, music, philosophy and religion.

ART 111	ENG 131*	FRE 111	HUM 110	MUS 110	REL 110
ART 114	ENG 231*	FRE 112	HUM 115	MUS 113	REL 211
ART 115	ENG 232*	FRE 211	HUM 120	MUS 114	REL 212
ART 117	ENG 241*	FRE 212	HUM 121	PHI 210	REL 221
ASL 111	ENG 242*	GER 111	HUM 122	PHI 215	SPA 111
ASL 112	ENG 243*	GER 112	HUM 130	PHI 230	SPA112
DRA 111	ENG 261*	GER 211	HUM 150	PHI 240	SPA 211
DRA 112	ENG 262*	GER 212	HUM 160		SPA 212
DRA 211			HUM 211		
			HUM 212		
			HUM 220		

### Social/Behavioral Sciences (12 semester hours)

1. At least one course must be a history course (\*).

2. Other courses must be selected from three of the following disciplines:  
anthropology, economics, geography, history, political science,  
psychology and sociology.

ANT 210	ECO 151	HIS 111*	POL 110	SOC 210
ANT 220	ECO 251	HIS 112*	POL 120	SOC 213
ANT 230	ECO 252	HIS 115*	POL 210	SOC 220
ANT 230A	GEO 111	HIS 131*	PSY 150	SOC 225
ANT 240	GEO 112	HIS 132*	PSY 237	SOC 240
			PSY 241	
			PSY 281	

### Natural Science/Mathematics

#### Natural Sciences (8 semester hours)

Two courses, including accompanying laboratory\* work, must be selected from the astronomy, biology, chemistry, or physics disciplines.

AST 111	BIO 110	CHM 132	PHY 110
AST 111A*	BIO 111	CHM 135	PHY 110A*
	BIO 112	CHM 136	PHY 151
	BIO 120	CHM 151	PHY 152
	BIO 130	CHM 152	PHY 251
	BIO 140		PHY 252
	BIO 140A*		

**Mathematics (6 semester hours)**

1. MAT 161 or higher is required.

Select one course from the following: MAT 161\*, MAT 171\* or MAT 175\*

2. Select a second course from the following: MAT 172\* OR MAT 175\*

OR second course may be selected from other quantitative subjects:

MAT 140                      MAT 271      MAT 273      CIS 110

MAT 151\*                      MAT 272                      CIS 115

\*A math lab is required for this course. Labs count as elective hours.

**Other Required Hours****21**

1. ACA 115 (First-Year Seminar) is required. **(1 semester hour)**

**2. Additional Courses (20 semester hours)**

These include general education, pre-major and elective courses that have been approved for transfer (see list following page).

A second foreign language course is recommended (elective)\*. The math lab hours, when required as a corequisite, count as an elective. Students should refer to Pre-Major Articulation Agreements before making selections for required hours ([http://www.ga.unc.edu/student\\_info/caa/](http://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.**

**Computing**

CIS 110 **(3 semester hours)**

**Health / Physical Education (3 semester hours)**

HEA 110, HEA 120, 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".*
- *Health / Physical Education courses may be selected any semester.*
- *Courses selected may vary according to requirements of the pre-major, senior institution, etc*



**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 PEDs (physical education) courses count as electives.

Arts and  
Sciences

ACC 120 (4)	ART 274 (3)	BIO 225 (2)	CJC 111 (3)	ENG 273 (3)	MAT 171A (1)
ACC 121 (4)	ART 275 (3)	BIO 226 (2)	CJC 121 (3)	ENG 274 (3)	MAT 172A (1)
ART 121 (3)	BIO 143 (2)	BIO 243 (4)	CJC 141 (3)	ENG 275 (3)	MAT 175A (1)
ART 122 (3)	BIO 145 (4)	BIO 250 (4)	DRA 124 (3)	GER 141 (3)	MAT 285 (3)
ART 131 (3)	BIO 146 (4)	BIO 271 (3)	EDU 116 (4)	GER 221 (3)	MUS 121 (4)
ART 132 (3)	BIO 163 (5)	BIO 275 (4)	ENG 125 (3)	HEA 110 (3)	MUS 122 (4)
ART 135 (3)	BIO 168 (4)	BIO 280 (3)	ENG 126 (3)	HEA 112 (2)	PHS 140 (3)
ART 171 (3)	BIO 169 (4)	BUS 110 (3)	ENG 133 (3)	HEA 120 (3)	PHY 243 (3)
ART 240 (3)	BIO 173 (4)	BUS 115 (3)	ENG 134 (3)	HIS 162 (3)	SOC 215 (3)
ART 241 (3)	BIO 175 (3)	CHM 130 (3)	ENG 135 (3)	HIS 227 (3)	SOC 232 (3)
ART 244 (3)	BIO 180 (3)	CHM 130A (1)	ENG 253 (3)	HIS 236 (3)	SOC 234 (3)
ART 261 (3)	BIO 223 (3)	CHM 251 (4)	ENG 265 (3)	HUM 123 (3)	SOC 254 (3)
ART 262 (3)	BIO 224 (2)	CHM 252 (4)	ENG 271 (3)	MAT 140A (1)	SPA 141 (3)
ART 271 (3)		CHM 265 (4)	ENG 272 (3)	MAT 151A	SPA 221 (3)
				MAT 161A (1)	

# Curriculum requirements for the Associate in Science (A.S.) Degree

Semester Hrs.

## General Education Core Requirements

44

Arts and  
Sciences

### English Composition (6 semester hours)

English Composition: ENG 111 and 112, 113 or 114 are required

### Humanities/Fine Arts (12 semester hours)

1. Public Speaking: COM 231 is required in lieu of one Humanities/Fine Arts course.

2. One course must be a literature course(\*).

3. Other courses must be selected from two of the following disciplines:  
art, drama, foreign languages, humanities, music, philosophy and religion.

ART 111	ENG 131*	FRE 111	HUM 110	MUS 110	REL 110
ART 114	ENG 231*	FRE 112	HUM 115	MUS 113	REL 211
ART 115	ENG 232*	FRE 211	HUM 120	MUS 114	REL 212
ART 117	ENG 241*	FRE 212	HUM 121	PHI 210	REL 221
ASL 111	ENG 242*	GER 111	HUM 122	PHI 215	SPA 111
ASL 112	ENG 243*	GER 112	HUM 130	PHI 230	SPA 112
DRA 111	ENG 261*	GER 211	HUM 150	PHI 240	SPA 211
DRA 112	ENG 262*	GER 212	HUM 160		SPA 212
DRA 211			HUM 211		
			HUM 212		
			HUM 220		

### Social/Behavioral Sciences (12 semester hours)

1. At least one course must be a history course (\*).

2. Other courses must be selected from three of the following disciplines:  
anthropology, economics, geography, history, political science,  
psychology and sociology.

ANT 210	ECO 151	HIS 111*	POL 110	SOC 210
ANT 220	ECO 251	HIS 112*	POL 120	SOC 213
ANT 230	ECO 252	HIS 115*	POL 210	SOC 220
ANT 230A	GEO 111	HIS 131*	PSY 150	SOC 225
ANT 240	GEO 112	HIS 132*	PSY 237	SOC 240
			PSY 241	
			PSY 281	

**Natural Science/Mathematics****Natural Sciences (8 semester hours)**

Select two courses, including accompanying laboratory\* work, from the biology, chemistry, or physics disciplines.

BIO 110      CHM 151      PHY 151

BIO 111      CHM 152      PHY 152

BIO 112      CHM 251      PHY 251

BIO 120      CHM 252      PHY 252

BIO 130

BIO 140

BIO 140A\*

Arts and

Sciences

**Mathematics (6 semester hours)**

1. MAT 171 or higher is required.

Select one course from the following: MAT 171\* or MAT 175\*

2. Select a second course from the following: MAT 172\* OR MAT 175\*

OR a second course may be selected from other quantitative subjects:

MAT 140                  MAT 271\*                  CIS 110

MAT 151\*                  MAT 272\*                  CIS 115

MAT 161\*                  MAT 273\*

\*A math lab is required for this course. Labs count as elective hours.

**Other Required Hours**

21

1. ACA 115 (First-Year Seminar) is required. **(1 semester hour)**

**2. Additional Courses (14 semester hours)**

These must include additional mathematics, natural sciences, computer science, and/or other pre-major or elective courses that have been approved for transfer (see list below).

The math lab hours, when required as a corequisite, count as an elective.

A second foreign language course is recommended (elective)\*.

Students should refer to Pre-Major Articulation Agreements before making selections for required hours

([http://www.ga.unc.edu/student\\_info/caa/](http://www.ga.unc.edu/student_info/caa/)).

**3. Other required hours (6 semester hours)**

**Refer to Pre-Major Articulation Agreements before making selections.**

**Recommended Additional Courses: although these courses are not required, they are recommended for all students who have sufficient available credit hours.**

**Computing (3 semester hours)**

CIS 110

**Health / Physical Education (3 semester hours)**

HEA 110, HEA 120, 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".*
- *Health / Physical Education courses may be selected any semester.*
- *Courses selected may vary according to requirements of the pre-major, senior institution, etc*

Arts and  
Sciences

### **Electives – Associate in Science (20 semester hours)**

**Fourteen semester hours in mathematics, natural sciences, computer science, and/or other pre-major courses.**

**Six semester hours other elective courses.**

**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 PEDs (physical education) courses count as electives.

ACC 120 (4)	ART 274 (3)	BIO 224 (2)	CHM 136 (4)	ENG 253 (3)	HIS 236 (3)	SOC 215 (3)
ACC 121 (4)	ART 275 (3)	BIO 225 (2)	CHM 251 (4)	ENG 265 (3)	HUM 123 (3)	SOC 232 (3)
ART 121 (3)	AST 111 (3)	BIO 226 (2)	CHM 252 (4)	ENG 271 (3)	MAT 140A (1)	SOC 234 (3)
ART 122 (3)	AST 111A(1)	BIO 243 (4)	CHM 265 (4)	ENG 272 (3)	MAT 151A	SOC 254 (3)
ART 131 (3)	BIO 143 (2)	BIO 250 (4)	CJC 111 (3)	ENG 273 (3)	MAT 161A (1)	SPA 141 (3)
ART 132 (3)	BIO 145 (4)	BIO 271 (3)	CJC 121 (3)	ENG 274 (3)	MAT 171A (1)	SPA 221 (3)
ART 135 (3)	BIO 146 (4)	BIO 275 (4)	CJC 141 (3)	ENG 275 (3)	MAT 172A (1)	
ART 171 (3)	BIO 163 (5)	BIO 280 (3)	DRA 124 (3)	GER 141 (3)	MAT 175A (1)	
ART 240 (3)	BIO 168 (4)	BUS 110 (3)	EDU 116 (4)	GER 221 (3)	MAT 285 (3)	
ART 241 (3)	BIO 169 (4)	BUS 115 (3)	ENG 125 (3)	HEA 110 (3)	MUS 121 (4)	
ART 244 (3)	BIO 173 (4)	CHM 130 (3)	ENG 126 (3)	HEA 112 (2)	MUS 122 (4)	
ART 261 (3)	BIO 175 (3)	CHM 130A(1)	ENG 133 (3)	HEA 120 (3)	PHS 140 (3)	
ART 262 (3)	BIO 180 (3)	CHM 132 (4)	ENG 134 (3)	HIS 162 (3)	PHY 110 (3)	
ART 271 (3)	BIO 223 (3)	CHM 135 (4)	ENG 135 (3)	HIS 227 (3)	PHY 110A (1)	
					PHY 243 (3)	

# Curriculum requirements for the Associate in Fine Arts (A.F.A.) Degree

	Semester Hrs.	
<b>Art Core Requirements</b>	<b>15</b>	
The following art courses are required for the A.F.A. Degree:		
ART 114    ART 121    ART 131		Arts and
ART 115    ART 122		Sciences
<b>General Education Core Requirements</b>	<b>28</b>	
<b>English/Communication (6 semester hours)</b>		
ENG 111 and 112, 113 or 114 are required		
<b>Humanities/Fine Arts (6 semester hours)</b>		
1. Public Speaking: COM 231 is required in lieu of one Humanities/Fine Arts course.		
2. One of the following literature courses is required.		
ENG 131    ENG 241    ENG 252		
ENG 231    ENG 242    ENG 261		
ENG 232    ENG 243    ENG 262		
ENG 233    ENG 251		
<b>Social/Behavioral Sciences (9 semester hours)</b>		
1. At least one course must be a history* course.		
2. Other courses must be selected from two of the following disciplines: anthropology, economics, geography, history, political science, psychology and sociology.		
ANT 210    GEO 111    POL 110    SOC 210		
ANT 220    GEO 112    POL 120    SOC 213		
ANT 221    HIS 111*    POL 210    SOC 220		
ANT 230    HIS 112*    PSY 150    SOC 225		
ANT 230A    HIS 115*    PSY 237    SOC 240		
ANT 240    HIS 131*    PSY 241		
ECO 151    HIS 132*    PSY 281		
ECO 251		
ECO 252		
<b>Natural Science/Mathematics</b>		
<b>Natural Sciences (4 semester hours)</b>		
Select one course, including laboratory work, from the astronomy, biology, chemistry, or physics disciplines.		
AST 111    BIO 110    CHM 135    PHY 110		
AST 111A    BIO 111		PHY 110A
<b>Mathematics (3 semester hours)</b>		
MAT 140 or higher is required.		

## Other Required Hours

22

1. ACA 115 (First-Year Seminar) is required. **(1 semester hour)**

2. Seven additional ART courses **(21 semester hours)**

ART 132      ART 240      ART 261      ART 274

ART 171      ART 241      ART 262      ART 275

ART 214\*      ART 244      ART 271

Arts and

Sciences

## Total Semester Hours

65

\*Students seeking to enter a B.F.A. program should submit a portfolio and, based upon their work, may be accepted into a program at a senior institution.

- *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 programs offered by the college (see list below), have no grade below "C," and are accepted by the senior institution, you will enter as a junior in that major. Pre-major articulation agreements are available from Student Services and academic advisors, or on the web at [http://www.ga.unc.edu/student\\_info/caa/](http://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 Programs

### Associate in Arts

Art Education

Business Administration

Business Education

Criminal Justice

English

English Education

Health Education

History

Marketing Education

Nursing

Physical Education

Political Science

Psychology

Social Science Secondary Education

Sociology

### Associate in Science

Biology

Biology Education

Chemistry

Chemistry Education

Computer Science

Engineering

Mathematics

Mathematics Education



## General Occupational Technology

The General Occupational Technology curriculum provides individuals with an opportunity to upgrade their skills and to earn an associate degree by taking courses suited for their occupational interests and/or needs.

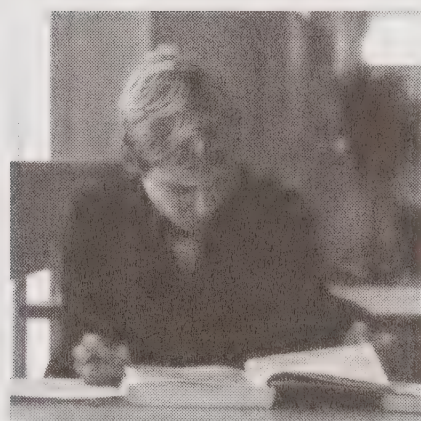
The curriculum content will be individualized for students according to their occupational interests and needs. A program of study for each student will be selected from associate degree-level courses offered by the College. Graduates will become more effective workers, better qualified for advancements within their field of employment, and become qualified for a wide range of entry-level employment opportunities. Please see a counselor for additional information.

Arts and

Sciences



## Course Descriptions





ACA	Academic Related .....	233
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ANT	Anthropology .....	237
ARC	Architecture .....	238
ART	Art .....	238
ASL	American Sign Language .....	242
AST	Astronomy .....	242
ATR	Automation Training .....	242
AUT	Automotive .....	243
BIO	Biology .....	245
BPA	Baking and Pastry Arts .....	250
BPR	Blueprint Reading .....	252
BUS	Business Administration .....	253
CAB	Cabinetmaking .....	256
CAR	Carpentry .....	256
CCT	Computer Crime .....	257
CET	Computer Engineering Technology .....	258
CHM	Chemistry .....	258
CIS	Information Systems .....	261
CIV	Civil Engineering .....	265
CJC	Criminal Justice .....	267
CMT	Construction Management .....	272
COE	Cooperative Education .....	273
COM	Communications .....	277
CSC	Computer Programming .....	277
CUL	Culinary Technology .....	279
DDF	Design Drafting .....	282
DDT	Developmental Disabilities .....	282
DEN	Dental .....	282
DFT	Drafting .....	287
DRA	Drama .....	289
ECO	Economics .....	290
EDU	Education .....	291
EGR	Engineering .....	296
ELC	Electrical .....	296
ELN	Electronics .....	299
EMS	Emergency Medical Science .....	300
ENG	English .....	304
FIP	Fire Protection Technology .....	310
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GEO	Geography .....	313
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HEA	Health .....	314
HET	Heavy Equipment and Transport Technology .....	315
HIS	History .....	316
HRM	Hotel and Restaurant Management .....	318

HSE	Human Services .....	320
	Humanities/Fine Arts Electives .....	322
HUM	Humanities .....	323
HYD	Hydraulics .....	325
ITN	Internet Technologies .....	325
MAC	Machining .....	327
MAT	Mathematics .....	330
MEC	Mechanical .....	334
MED	Medical Transcription .....	336
MKT	Marketing and Retailing .....	337
MLT	Medical Laboratory Technology .....	338
MUS	Music .....	341
NET	Networking Technology .....	342
NUR	Nursing .....	346
OST	Office Systems Technology .....	348
PBT	Phlebotomy .....	350
PED	Physical Education .....	350
PHI	Philosophy .....	356
PHS	Physical Science .....	357
PHY	Physics .....	357
PLA	Plastics .....	359
POL	Political Science .....	360
PSY	Psychology .....	360
RAD	Radiography .....	362
REA	Real Estate Appraisal .....	364
RED	Reading .....	365
REL	Religion .....	366
RLS	Real Estate .....	366
SAB	Substance Abuse .....	367
	Social/Behavioral Science Electives .....	368
SOC	Sociology .....	368
SON	Sonography .....	370
SPA	Spanish .....	372
SRV	Surveying .....	373
SUR	Surgical Technology .....	375
SWK	Social Work .....	376
WLD	Welding .....	377

Course

Descriptions

## 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.

Course Descriptions	<p>Courses that must be successfully completed prior to registering for this course.</p> <p>General Subject</p> <p>    Course Number (see below)</p> <p>        Course Title</p> <p><b>ASH 101</b>      <b>Life in Asheville</b></p> <p>Prerequisite:   ASH 100</p> <p>Corequisite:    AVL 101</p> <p>    This course explains how to have fun in Asheville. The best places to dine, directions to famous places, dates of local cultural and civic events, trails for hiking and biking.</p>	<p>Class Hours</p> <p>    Lab Hours*</p> <p>        Clinic, Co-op, or Shop Hours</p> <p>            Credit Hours**</p> <p><b>1 3 0 3</b></p>
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Courses that must be taken at the same time as this course.

Course Description

\* 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 Accounting I**  
**ACC 121 Principles of Accounting II**

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.**



## Academic Related

**ACA 115 First-Year Seminar** 0 2 1

Prerequisites: None

Corequisites: None

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.

Course  
Descriptions

## Accounting

**ACC 120 Principles of Financial Accounting** 3 2 4

Prerequisites: None

Corequisites: None

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

This course is a continuation of accounting principles. 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** 2 2 3

Prerequisites: None

Corequisites: None

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: None

Corequisites: None

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

Prerequisites: None

Corequisites: None

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.

	<b>ACC 140</b>	<b>Payroll Accounting</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites:	ACC 115 or ACC 120			
	Corequisites:	None			
Course	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.				
Descriptions					
	<b>ACC 150</b>	<b>Accounting Software Applications</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites:	ACC 115 or ACC 120			
	Corequisites:	None			
	This course introduces computer 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.				
	<b>ACC 180</b>	<b>Practices in Bookkeeping</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	ACC 120			
	Corequisites:	None			
	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.				
	<b>*ACC 220</b>	<b>Intermediate Accounting I</b>	<b>3</b>	<b>2</b>	<b>4</b>
	Prerequisites:	ACC 121			
	Corequisites:	None			
	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.				
	<b>ACC 240</b>	<b>Government and Not-for-Profit Accounting</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	ACC 121			
	Corequisites:	None			
	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.				
	<b>*ACC 269</b>	<b>Auditing &amp; Assurance Services</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	ACC 220			
	Corequisites:	None			
	This course introduces selected topics pertaining to the objectives, theory and practices in engagements providing auditing and other assurance services. Coverage 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: AHR 111 (day), ELC 132 (evening) or Department Chair approval

Corequisites: AHR 113 (day program) or Dept. Chair approval

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.

Course

Descriptions

**\*AHR 111 HVACR Electricity 2 2 3**

Prerequisites: None

Corequisites: None

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: None

Corequisites: AHR 111, AHR 120 (day program) or Dept. Chair approval

This course covers the fundamentals of heating including oil, gas, and electric heating systems. Topics include safety, tools and instrumentation, system operating characteristics, installation techniques, efficiency testing, electrical power, and control systems. Upon completion, students should be able to explain the basic oil, gas, and electrical heating systems and describe the major components of a heating system.

**\*AHR 113 Comfort Cooling 2 4 4**

Prerequisites: AHR 110 (evening program) or Dept. Chair approval

Corequisites: AHR 110 (day program) or Dept. Chair approval

This course covers the installation procedures, system operations, and maintenance of residential and light commercial comfort cooling systems. Topics include terminology, component operation, and testing and repair of equipment used to control and produce assured comfort levels. Upon completion, students should be able to use psychometrics, manufacturer specifications, and test instruments to determine proper system operation.

**\*AHR 114 Heat Pump Technology 2 4 4**

Prerequisites: AHR 110 and AHR 113 for day program (and AHR 115 for evening program) or Dept. Chair approval

Corequisites: AHR 115 (day program) or Dept. Chair approval

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 for day program (AHR 113 for evening program) or Dept. Chair approval

Corequisites: AHR 114 (day program)

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.



	<b>*AHR 120</b>	<b>HVACR Maintenance</b>	<b>1</b>	<b>3</b>	<b>2</b>
	Prerequisites:	AHR 112 (evening program)			
	Corequisites:	AHR 112 (day program)			
Course	This course introduces the basic principles of industrial air conditioning and heating systems. Emphasis is placed on preventive maintenance procedures for heating and cooling equipment and related components. Emphasis will be placed upon the service and maintenance of heating equipment. Upon completion, students should be able to perform routine preventive maintenance tasks, maintain records, and assist in routine equipment repairs.				
Descriptions	<b>*AHR 125</b>	<b>HVAC Electronics</b>	<b>1</b>	<b>3</b>	<b>2</b>
	Prerequisites:	AHR 111 or ELC 111			
	Corequisites:	None			
	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.				
	<b>*AHR 130</b>	<b>HVAC Controls</b>	<b>2</b>	<b>2</b>	<b>3</b>
	Prerequisites:	AHR 111 or ELC 111			
	Corequisites:	None			
	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.				
	<b>*AHR 210</b>	<b>Residential Building Code</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites:	None			
	Corequisites:	None			
	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.				
	<b>*AHR 211</b>	<b>Residential System Design</b>	<b>2</b>	<b>2</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	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.				
	<b>*AHR 212</b>	<b>Advanced Comfort Systems</b>	<b>2</b>	<b>6</b>	<b>4</b>
	Prerequisites:	AHR 114, or Department approval			
	Corequisites:	None			
	This course covers water-cooled comfort systems, water-source/geothermal heat pumps, and high efficiency heat pump systems including variable speed drives and controls. Emphasis is placed on the application, installation, and servicing of water-source systems and the mechanical and electronic control components of advanced comfort systems. Upon completion, students should be able to test, analyze, and troubleshoot water-cooled comfort systems, water-source/geothermal heat pumps, and high efficiency heat pumps. Hydronic (hot water) and steam heating systems will also be studied.				

# Anthropology

**ANT 210      General Anthropology** **3    0    3**

Prerequisites: None

Corequisites: None

This course introduces the physical, archaeological, linguistic, and ethnological fields of anthropology. Topics include human origins, genetic variations, archaeology, linguistics, primatology, and contemporary cultures. Upon completion, students should be able to demonstrate an understanding of the four major fields of anthropology. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

Course

Descriptions

**ANT 220      Cultural Anthropology** **3    0    3**

Prerequisites: None

Corequisites: None

This course introduces the nature of human culture. Emphasis is placed on cultural theory, methods of fieldwork, and cross-cultural 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 230      Physical Anthropology** **3    0    3**

Prerequisites: None

Corequisites: None

This course introduces the scientific study of human evolution. Emphasis is placed on evolutionary theory, population genetics, biocultural adaptation and human variation, as well as non-human primate evolution, morphology, and behavior. Upon completion, students should be able to demonstrate an understanding of the evolutionary processes which have resulted in the formation of the human species. *This course is intended for either natural science credit or social science credit. For natural science credit, ANT 230A is required. For social science, ANT 230A is optional.*

**ANT 230A      Physical Anthropology Lab** **0    2    1**

Prerequisites: None

Corequisites: ANT 230

This course provides laboratory work that reinforces the material presented in ANT 220. Emphasis is placed on laboratory exercises which may include fossil identification, genetic analysis, skeletal comparisons, forensics, computer simulations, and field observations. Upon completion, students should be able to demonstrate an understanding of the analytical skills employed by anthropologists in the study of primate evolution and variation. *This course is intended for either natural science credit or social science credit. For natural science credit, ANT 230A is required. For social science credit, ANT 230A is optional.*

**ANT 240      Archaeology** **3    0    3**

Prerequisites: None

Corequisites: None

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.*



## Architecture

**ARC 112 Construction Materials and Methods** 3 2 4

Prerequisites: None

Corequisites: None

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 131 Building Codes** 2 2 3

Prerequisites: ARC 112

Corequisites: None

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.

## Art

**ART 111 Art Appreciation** 3 0 3

Prerequisites: None

Corequisites: None

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** 3 0 3

Prerequisites: None

Corequisites: None

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** 3 0 3

Prerequisites: None

Corequisites: None

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.*

**ART 117 Non-Western Art History** 3 0 3

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.*

Course

Descriptions





<b>ART 214</b>	<b>Portfolio and Resume</b>	<b>0</b>	<b>2</b>	<b>1</b>
Prerequisites: None				
Corequisites: None				
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.</i>				
<b>ART 240</b>	<b>Painting I</b>	<b>0</b>	<b>6</b>	<b>3</b>
Prerequisites: None				
Corequisites: None				
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
<b>ART 241</b>	<b>Painting II</b>	<b>0</b>	<b>6</b>	<b>3</b>
Prerequisites: ART 240				
Corequisites: None				
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
<b>ART 244</b>	<b>Watercolor</b>	<b>0</b>	<b>6</b>	<b>3</b>
Prerequisites: None				
Corequisites: None				
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
<b>ART 260</b>	<b>Photography Appreciation</b>	<b>3</b>	<b>0</b>	<b>3</b>
Prerequisites: None				
Corequisites: None				
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.</i>				
<b>ART 261</b>	<b>Photography I</b>	<b>0</b>	<b>6</b>	<b>3</b>
Prerequisites: None				
Corequisites: None				
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				



**ART 262      Photography II** **0    6    3**

Prerequisites: Art 261

Corequisites: None

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 pre-major and/or elective course requirement.*

Course

Descriptions

**ART 264      Digital Photography I** **1    4    3**

Prerequisites: None

Corequisites: None

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 well-conceived composition.

**ART 265      Digital Photography II** **1    4    3**

Prerequisites: Art 264

Corequisites: None

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.

**ART 271      Computer Art II** **0    6    3**

Prerequisites: Art 171

Corequisites: None

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 pre-major and/or elective course requirement.*

**ART 274      Lettering Design** **0    6    3**

Prerequisites: None

Corequisites: None

This course introduces a variety of lettering forms and covers the manual development of these forms using a variety of materials. Emphasis is placed on developing correct size, design, weight, and proportion in a variety of type styles. Upon completion, students should be able to demonstrate competence in the rendering of various lettering styles, and their application in effective graphic design. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

**ART 275      Intro to Commercial Art** **0    6    3**

Prerequisites: None

Corequisites: None

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 camera-ready layout design and computer graphics literacy. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*



## American Sign Language

**ASL 111 Elementary ASL I** 3 0 3

Prerequisites: None

Corequisites: None

Course

Descriptions

This course introduces the fundamental elements of American Sign Language within a cultural context. Emphasis is placed on the development of basic expressive and receptive skills. Upon completion, students will be able to comprehend and respond with grammatical accuracy to expressive American Sign Language and demonstrate cultural awareness. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

**ASL 112 Elementary ASL II** 3 0 3

Prerequisites: ASL 111

Corequisites: None

This course is a continuation of ASL 111 focusing on the fundamental elements of American Sign Language in a cultural context. Emphasis is placed on the progressive development of expressive and receptive skills. Upon completion, the students should be able to comprehend and respond with increasing accuracy to expressive American Sign Language and demonstrate cultural awareness. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

## Astronomy

**AST 111 Descriptive Astronomy** 3 0 3

Prerequisites: None

Corequisites: AST 111A

This course introduces an overall view of modern astronomy. Topics include an overview of the solar system, the sun, stars, galaxies, and the larger universe. Upon completion, students should be able to demonstrate an understanding of the universe around them. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

**AST 111A Descriptive Astronomy Lab** 0 2 1

Prerequisites: None

Corequisites: AST 111

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

Prerequisites: None

Corequisites: MEC 288

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.

# Automotive

<b>*AUT 110</b>	<b>Introduction to Automotive Technology</b>	<b>2</b>	<b>2</b>	<b>3</b>
Prerequisites:	None			
Corequisites:	AUT 115, AUT 151, AUT 152, AUT 161, or Dept. Chair approval			
This course covers the basic concepts and terms of automotive technology, workplace safety, North Carolina state inspection, safety and environmental regulations, and use of service information resources. Topics include familiarization with components along with identification and proper use of various automotive hand and power tools. Upon completion, students should be able to describe terms associated with automobiles, identify and use basic tools and shop equipment, and conduct North Carolina safety/emissions inspections.				
<b>*AUT 115</b>	<b>Engine Fundamentals</b>	<b>2</b>	<b>3</b>	<b>3</b>
Prerequisites:	None			
Corequisites:	None			
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/repair of automotive engines using appropriate tools, equipment, procedures, and service information.				
<b>*AUT 141</b>	<b>Suspension &amp; Steering Systems</b>	<b>2</b>	<b>4</b>	<b>4</b>
Prerequisites:	None			
Corequisites:	None			
This course covers principles of operation, types, and diagnosis/repair of suspension and steering systems to include steering geometry. Topics include manual and power steering systems and standard and electronically controlled suspension and steering systems. Upon completion, students should be able to service and repair various steering and suspension components, check and adjust various alignment angles, and balance wheels.				
<b>*AUT 151</b>	<b>Brake Systems</b>	<b>2</b>	<b>2</b>	<b>3</b>
Prerequisites:	None			
Corequisites:	AUT 152			
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.				
<b>*AUT 152</b>	<b>Brake Systems Lab</b>	<b>0</b>	<b>2</b>	<b>1</b>
Prerequisites:	None			
Corequisites:	AUT 151			
This course provides a laboratory setting to enhance brake system skills. Emphasis is placed on practical experiences that enhance the topics presented in AUT 151. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in AUT 151.				
<b>*AUT 161</b>	<b>Electrical Systems</b>	<b>2</b>	<b>6</b>	<b>4</b>
Prerequisites:	None			
Corequisites:	None			
This course covers basic electrical theory and wiring diagrams, test equipment, and diagnosis/repair/replacement of batteries, starters, alternators, and basic electrical accessories. Topics include diagnosis and repair of battery, starting, charging, lighting, and basic accessory systems problems. Upon completion, students should be able to diagnose, test, and repair the basic electrical components of an automobile.				

Course

Descriptions



	<b>*AUT 162</b>	<b>Chassis Electrical and Electronics</b>	<b>2</b>	<b>2</b>	<b>3</b>
	Prerequisites:	AUT 161 or Dept. Chair approval			
	Corequisites:	AUT 163 or Dept. Chair approval			
Course	This course covers electrical/electronic diagnosis/repair, including wiring diagrams, instrumentation, and electronic/computer-controlled devices and accessories. Topics include interpreting wiring diagrams and diagnosis and repair of chassis electrical and electronic systems. Upon completion, students should be able to read and interpret wiring diagrams and determine/perform needed repairs on chassis electrical and electronic systems.				
Descriptions	<b>*AUT 163</b>	<b>Chassis Electrical and Electronics Lab</b>	<b>0</b>	<b>2</b>	<b>1</b>
	Prerequisites:	None			
	Corequisites:	AUT 162			
	This course provides a laboratory setting to enhance chassis electrical and electronic system skills. Emphasis is placed on practical experiences that enhance the topics presented in AUT 162. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in AUT 162.				
	<b>*AUT 171</b>	<b>Heating and Air Conditioning</b>	<b>2</b>	<b>3</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	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.				
	<b>*AUT 181</b>	<b>Engine Performance-Electrical</b>	<b>2</b>	<b>3</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	AUT 182 or Dept. Chair approval			
	This course covers the principles, systems, and procedures required for diagnosing and restoring engine performance using electrical/electronics test equipment. Topics include procedures for diagnosis and repair of ignition, emission control, and related electronic systems. Upon completion, students should be able to describe operation of and diagnose/repair ignition/emission control systems using appropriate test equipment and service information.				
	<b>*AUT 182</b>	<b>Engine Performance-Electrical Lab</b>	<b>0</b>	<b>3</b>	<b>1</b>
	Prerequisites:	None			
	Corequisites:	AUT 181			
	This course provides a laboratory setting to enhance the skills for diagnosing and restoring engine performance using electrical/electronics test equipment. Emphasis is placed on practical experiences that enhance the topics presented in AUT 181. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in AUT 181.				
	<b>*AUT 183</b>	<b>Engine Performance-Fuels</b>	<b>2</b>	<b>3</b>	<b>3</b>
	Prerequisites:	Dept. Chair approval			
	Corequisites:	AUT 184 or Dept. Chair approval			
	This course covers the principles of fuel delivery/management, exhaust/emission systems, and procedures for diagnosing and restoring engine performance using appropriate test equipment. Topics include procedures for diagnosis/repair of fuel delivery/management and emission systems using appropriate service information. Upon completion, students should be able to describe, diagnose, and repair engine fuel delivery/management and emission control systems using appropriate service information and diagnostic equipment.				



**\*AUT 184 Engine Performance-Fuels Lab 0 3 1**

Prerequisites: AUT 161 or Dept. Chair approval

Corequisites: AUT 183 or Dept. Chair approval

This course provides a laboratory setting to enhance the skills for diagnosing and repairing fuel delivery/management and emission systems. Emphasis is placed on practical experiences that enhance the topics presented in AUT 183. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in AUT 183.

Course

**\*AUT 221 Automatic Transmissions 2 6 4**

Prerequisites: AUT 161 or Dept. Chair approval

Corequisites: None

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 and diagnose and repair automatic drive trains.

Descriptions

**\*AUT 231 Manual Drive Trains/Axles 2 3 3**

Prerequisites: AUT 161 or Dept. Chair approval

Corequisites: AUT 232 or Dept. Chair approval

This course covers the operation, diagnosis, and repair of manual transmissions/transaxles, clutches, drive shafts, axles, and final drives. Topics include theory of torque, power flow, and manual drive train service and repair using appropriate service information, tools, and equipment. Upon completion, students should be able to explain operational theory and diagnose and repair manual drive trains.

**AUT 232 Manual Drive Trains/Axles Lab 0 3 1**

Prerequisites: None

Corequisites: AUT 231

This course provides a laboratory setting to enhance the skills for diagnosing and repairing manual transmissions/transaxles, clutches, drive shafts, axles, and final drives. Emphasis is placed on practical experiences that enhance the topics presented in AUT 231. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in AUT 231.

## Biology

**BIO 106 Introduction to Anatomy/Physiology/Microbiology 2 2 3**

Prerequisites: None

Corequisites: None

This course covers the fundamental and principle concepts of human anatomy and physiology and microbiology. Topics include an introduction to the structure and function of cells, tissues, and human organ systems, and an overview of microbiology, epidemiology, and control of microorganisms. Upon completion, students should be able to identify structures and functions of the human body and describe microorganisms and their significance in health and disease. *This is a certificate and diploma level course.*

**BIO 110 Principles of Biology 3 3 4**

Prerequisites: None

Corequisites: None

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.*

	<b>BIO 111</b>	<b>General Biology I</b>	<b>3</b>	<b>3</b>	<b>4</b>
	Prerequisites:	None			
	Corequisites:	None			
Course	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.</i>				
Descriptions					
	<b>BIO 112</b>	<b>General Biology II</b>	<b>3</b>	<b>3</b>	<b>4</b>
	Prerequisites:	BIO 111			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.</i>				
	<b>BIO 120</b>	<b>Introductory Botany</b>	<b>3</b>	<b>3</b>	<b>4</b>
	Prerequisites:	BIO 110 or BIO 111			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.</i>				
	<b>BIO 130</b>	<b>Introductory Zoology</b>	<b>3</b>	<b>3</b>	<b>4</b>
	Prerequisites:	BIO 110 or BIO 111			
	Corequisites:	None			
	This course provides an introduction to the classification, 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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.</i>				
	<b>BIO 140</b>	<b>Environmental Biology</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.</i>				



**BIO 140A Environmental Biology Lab** 0 3 1

Prerequisites: None

Corequisites: BIO 140

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.*

Course  
Descriptions

**BIO 143 Field Biology Minicourse** 1 2 2

Prerequisites: None

Corequisites: None

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 pre-major and/or elective course requirement.*

**BIO 145 Ecology** 3 3 4

Prerequisites: BIO 110 or BIO 111

Corequisites: None

This course provides an introduction to ecological concepts using an ecosystems approach. Topics include energy flow, nutrient cycling, succession, population dynamics, community structure, and other related topics. Upon completion, students should be able to demonstrate comprehension of basic ecosystem structure and dynamics. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*

**BIO 146 Regional Natural History** 3 3 4

Prerequisites: None

Corequisites: None

This course is an interdisciplinary and historical analysis of the natural resources of the region. Emphasis is placed on geology, climate, forest systems, watersheds, water resources, and fish and wildlife resources of the region. Upon completion, students should be able to demonstrate comprehension of the natural history and the integration of the natural resources of the region. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*

**BIO 163 Basic Anatomy and Physiology** 4 2 5

Prerequisites: None

Corequisites: None

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

Prerequisites: None

Corequisites: None

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, nervous, special senses, and endocrine systems. 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 pre-major and/or elective course requirement.*

Course

Descriptions

**BIO 169 Anatomy and Physiology II** 3 3 4

Prerequisites: BIO 168

Corequisites: None

This course provides a continuation of the comprehensive study of the anatomy and physiology of the human body. Topics include the 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 pre-major and/or elective course requirement.*

**BIO 173 Microbes in World Affairs** 3 0 3

Prerequisites: BIO 110 or BIO 111

Corequisites: None

This course provides an integrated and comprehensive study of the microbial world and its influence on global events and human affairs. Topics include plant and animal diseases caused by viral, bacterial, and fungal pathogens and their impacts on history, industrial microbiology, biotechnology, and microbial ecology. Upon completion, students should be able to demonstrate an understanding of the importance of microbes in human and world affairs. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

**BIO 175 General Microbiology** 2 2 3

Prerequisites: BIO 110, BIO 163, BIO 166, or BIO 169

Corequisites: None

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 180 Biological Chemistry** 2 2 3

Prerequisites: BIO 111 and BIO 112 or BIO 168 and BIO 169 or BIO 175

Corequisites: None

This course provides an introduction to basic biochemical processes in living systems. Topics include properties of carbohydrates, lipids, proteins, nucleic acids, vitamins, and buffers, with emphasis on biosynthesis, degradation, function, and equilibrium. Upon completion, students should be able to demonstrate an understanding of fundamental biochemical concepts. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*

**BIO 223 Field Botany 2 3 3**

Prerequisites: BIO 112

Corequisites: None

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 pre-major and/or elective course requirement.*

Course

Descriptions

**BIO 224 Local Flora Spring 1 2 2**

Prerequisites: None

Corequisites: None

This course provides an introduction to the identification of 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 Local Flora Summer 1 2 2**

Prerequisites: None

Corequisites: None

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

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 pre-major and/or elective course requirement.*

**BIO 243 Marine Biology 3 3 4**

Prerequisites: BIO 110 or BIO 111

Corequisites: None

This course covers the physical and biological components of the marine environment. Topics include major habitats, the diversity of organisms, their biology and ecology, marine productivity, and the use of marine resources by humans. Upon completion, students should be able to identify various marine habitats and organisms and to demonstrate a knowledge of their biology and ecology. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*

**BIO 250 Genetics 3 3 4**

Prerequisites: BIO 112

Corequisites: None

This course covers principles of prokaryotic and eukaryotic cell genetics. Emphasis is placed on the molecular basis of heredity, chromosome structure, patterns of Mendelian and non-Mendelian inheritance, evolution, and biotechnological applications. Upon completion, students should be able to recognize and describe genetic phenomena and demonstrate knowledge of important genetic principles. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*



	<b>BIO 271</b>	<b>Pathophysiology</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites: BIO 163, BIO 166, or BIO 169				
	Corequisites: None				
Course	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability pre-major and/or elective course requirement.</i>				
Descriptions	<b>BIO 275</b>	<b>Microbiology</b>	<b>3</b>	<b>3</b>	<b>4</b>
	Prerequisites: BIO 110, BIO 112, BIO 163, BIO 165, or BIO 168				
	Corequisites: None				
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
	<b>BIO 280</b>	<b>Biotechnology</b>	<b>2</b>	<b>3</b>	<b>3</b>
	Prerequisites: BIO 111 or CHM 151				
	Corequisites: None				
	This course provides experience in selected laboratory procedures. Topics include proper laboratory techniques in biology and chemistry. Upon completion, students should be able to identify laboratory techniques and instrumentation in basic biotechnology. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.</i>				
	<b>BIO 292</b>	<b>Selected Topics in Biology</b>	<b>1</b>	<b>6</b>	<b>2</b>
	Prerequisites: BIO 110, BIO 111, BIO 163, or BIO 168				
	Corequisites: None				
	This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study.				
	<b>BIO 297</b>	<b>Seminar in Biology</b>	<b>1</b>	<b>6</b>	<b>2</b>
	Prerequisites: BIO 110, BIO 111, BIO 163, or BIO 168				
	Corequisites: None				
	This course provides an opportunity to explore topics of current interest. Emphasis is placed on the development of critical listening skills and the presentation of seminar issues. Upon completion, students should be able to critically analyze issues and establish informed opinions.				

## Baking and Pastry Arts

	<b>BPA 120</b>	<b>Petit Fours and Pastries</b>	<b>1</b>	<b>4</b>	<b>3</b>
	Prerequisites: CUL 110 and CUL 160				
	Corequisites: None				
	This course introduces the basic principles of the preparation 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.				



<b>BPA 130</b>	<b>European Cakes and Tortes</b>	<b>1</b>	<b>4</b>	<b>3</b>
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Prerequisites: CUL 110 and CUL 160

Corequisites: None

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 advanced techniques of mixing, filling, glazing and icing. Upon completion, students should be able to assemble and decorate a variety of cakes/tortes, including Dobos, Sacher, and Linzer tortes and Black Forest cake.

Course

Descriptions

<b>BPA 150</b>	<b>Artisan and Specialty Bread</b>	<b>1</b>	<b>6</b>	<b>4</b>
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Prerequisites: CUL 110 and CUL 160

Corequisites: None

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.

<b>BPA 165</b>	<b>Hot and Cold Desserts</b>	<b>1</b>	<b>4</b>	<b>3</b>
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Prerequisites: CUL 160

Corequisites: CUL 110

This course covers the principles and techniques of sorbets and ice creams, souffles, cobblers, crisps and strudel dough products. Topics include bombes, parfais, baked Alaska, sorbets, sherbets and granites; hand stretched strudel products, crepes, and hot and cold souffles. Upon completion, students should be able to prepare and plate hot and cold desserts with suitable sauces and garnishes.

<b>BPA 210</b>	<b>Cake Design and Decorating</b>	<b>1</b>	<b>4</b>	<b>3</b>
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Prerequisites: CUL 110 and CUL 160

Corequisites: None

This course covers advanced concepts in the design and decoration of wedding cakes and other specialty cakes. Topics include baking, filling and assembling cakes; cake design; and finishing techniques utilizing gum paste, fondant, and royal icing; and advanced piping skills. Upon completion, students should be able to design, create and finish wedding and specialty cakes.

<b>BPA 220</b>	<b>Confection Artistry</b>	<b>1</b>	<b>6</b>	<b>4</b>
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Prerequisites: CUL 110 and CUL 160

Corequisites: None

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.

<b>BPA 230</b>	<b>Chocolate Artistry</b>	<b>1</b>	<b>4</b>	<b>3</b>
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Prerequisites: CUL 110 and CUL 160

Corequisites: None

This course provides a study in the art and craft of chocolate. Topics include chocolate tempering, piping, 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 temper chocolate, and produce a variety of chocolate candies and decorative elements for garnishing desserts.

	<b>BPA 240</b>	<b>Plated Desserts</b>	<b>1</b>	<b>4</b>	<b>3</b>
	Prerequisites:	CUL 110 and CUL 160			
	Corequisites:	None			
Course	This course provides a study in the elements and principles of design as it relates to plated desserts. Topics include plate composition, portioning, flavor combinations, textures, eye appeal, balance, color harmony and plate decorating techniques such as stenciling, chocolate striping, and plate painting. Upon completion, students should be able to demonstrate competence in combining a variety of dessert components enhanced with plate decorating techniques.				
Descriptions	<b>BPA 250</b>	<b>Dessert and Bread Production</b>	<b>1</b>	<b>8</b>	<b>5</b>
	Prerequisites:	CUL 110 and CUL 160			
	Corequisites:	None			
	This course is designed to merge artistry and innovation with the practical baking and pastry techniques utilized in a production setting. Topics include quantity bread and roll-in dough production, plated and platter presentations, and seasonal/themed product utilization with an emphasis on cost effectiveness. Upon completion, students should be able to plan and prepare breads and desserts within a restaurant environment and determine production costs and selling prices.				
	<b>BPA 260</b>	<b>Pastry and Baking Marketing</b>	<b>2</b>	<b>2</b>	<b>3</b>
	Prerequisites:	BPA 210, BPA 240, and BPA 250			
	Corequisites:	None			
	This course examines 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.				

## Blueprint Reading

	<b>BPR 111</b>	<b>Blueprint Reading</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites:	None			
	Corequisites:	None			
	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.				
	<b>BPR 121</b>	<b>Blueprint Reading: Mechanical</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites:	BPR 111 or MAC 131			
	Corequisites:	None			
	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.				
	<b>BPR 123</b>	<b>Die/Mold Print Reading</b>	<b>1</b>	<b>3</b>	<b>2</b>
	Prerequisites:	BPR 121 or MAC 132			
	Corequisites:	None			
	This course covers differences between production drawings and tooling drawings as they relate to stamping dies and plastic molding. Emphasis is placed on the layout of assembly drawings in tooling and their related detail prints. Upon completion, students should be able to identify individual tooling components and their relationships on a blueprint.				



<b>BPR 130</b>	<b>Blueprint Reading/Construction</b>	<b>1</b>	<b>2</b>	<b>2</b>
Prerequisites:	None			
Corequisites:	None			

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.

Course

<b>BPR 135</b>	<b>Schematics and Diagrams</b>	<b>2</b>	<b>0</b>	<b>2</b>
Prerequisites:	None			
Corequisites:	None			

Descriptions

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.

## Business Administration

<b>BUS 110</b>	<b>Introduction to Business</b>	<b>3</b>	<b>0</b>	<b>3</b>
Prerequisites:	None			
Corequisites:	None			

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.*

<b>BUS 115</b>	<b>Business Law I</b>	<b>3</b>	<b>0</b>	<b>3</b>
Prerequisites:	None			
Corequisites:	None			

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.*

<b>BUS 116</b>	<b>Business Law II</b>	<b>3</b>	<b>0</b>	<b>3</b>
Prerequisites:	BUS 115			
Corequisites:	None			

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.

<b>BUS 135</b>	<b>Principles of Supervision</b>	<b>3</b>	<b>0</b>	<b>3</b>
Prerequisites:	None			
Corequisites:	None			

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.



Course	<b>*BUS 137 Principles of Management</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites: None			
	Corequisites: None			
	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.			
Descriptions	<b>BUS 147 Business Insurance</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites: None			
	Corequisites: None			
	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.			
	<b>BUS 151 People Skills</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites: None			
	Corequisites: None			
	This course introduces the basic concepts of identity and communication in the business setting. Topics include self-concept, values, communication styles, feelings and emotions, roles versus relationships, and basic assertiveness, listening, and conflict resolution. Upon completion, students should be able to distinguish between unhealthy, self-destructive, communication patterns and healthy, non-destructive, positive communication patterns.			
	<b>BUS 153 Human Resources Management</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites: None			
	Corequisites: None			
	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.			
	<b>BUS 217 Employment Law and Regulations</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites: None			
	Corequisites: None			
	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.			
	<b>BUS 225 Business Finance</b>	<b>2</b>	<b>2</b>	<b>3</b>
	Prerequisites: ACC 120 and ACC 125			
	Corequisites: None			
	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.			
	<b>BUS 230 Small Business Management</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites: None			
	Corequisites: None			
	This course introduces the challenges of entrepreneurship including the start-up and operation of a small business. Topics include market research techniques, feasibility studies, site analysis, financing alternatives, and managerial decision making. Upon completion, students should be able to develop a small business plan.			

**BUS 234 Training and Development 3 0 3**

Prerequisites: None

Corequisites: None

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 2 2**

Prerequisites: ACC 120, BUS 115, BUS 137, either ECO 151, 251 or 252, and \*MKT 120

Corequisites: None

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

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 256 Recruit Select and Per Plan 3 0 3**

Prerequisites: None

Corequisites: None

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.*

**BUS 258 Compensation and Benefits 3 0 3**

Prerequisites: None

Corequisites: None

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

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.*

Course

Descriptions



**BUS 260 Business Communication** 3 0 3  
 Prerequisites: ENG 111 and OST 080 or OST 131  
 Corequisites: None  
 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.

Course

**BUS 270 Professional Development** 3 0 3  
 Prerequisites: None  
 Corequisites: None  
 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.

Descriptions

## Cabinetmaking

**CAB 111 Cabinetmaking I** 4 9 7  
 Prerequisites: None  
 Corequisites: None  
 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.*

## Carpentry

**CAR 110 Introduction to Carpentry** 2 0 2  
 Prerequisites: None  
 Corequisites: None  
 This course introduces the student to the carpentry trade. Topics include duties of a carpenter, hand and power tools, building materials, construction methods, and safety. Upon completion, students should be able to identify hand and power tools, common building materials, and basic construction methods.

**CAR 111 Carpentry I** 3 15 8  
 Prerequisites: None  
 Corequisites: None  
 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** 3 15 8  
 Prerequisites: CAR 111  
 Corequisites: None  
 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** **3      9      6**

Prerequisites: CAR 111

Corequisites: None

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.*

Course

**CAR 114      Residential Building Codes** **3      0      3**

Prerequisites: None

Corequisites: None

This course covers building codes and the requirements of state and local construction regulations. *Emphasis is placed on the minimum requirements of the North Carolina building codes related to residential structures. Upon completion, students should be able to determine if a structure is in compliance with North Carolina building codes.*

Descriptions

**CAR 115      Residential Planning/Estimating** **3      0      3**

Prerequisites: BPR 130

Corequisites: None

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.

## Computer Crime

**CCT 110      Introduction to Cyber Crime** **3      0      3**

Prerequisites: None

Corequisites: None

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 121      Computer Crime Investigation** **3      2      4**

Prerequisites: None

Corequisites: None

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 231      Technology Crimes and Law** **3      0      3**

Prerequisites: None

Corequisites: None

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.

## Computer Engineering Technology

**CET 111 Computer Upgrade/Repair I** 2 3 3

Prerequisites: None

Corequisites: None

Course

Descriptions

This course is the first of two courses covering repairing, servicing, and upgrading computers and peripherals in preparation for industry certification. Topics include safety practices, CPU/memory/bus identification, disk sub-system, 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 211 Computer Upgrade/Repair II** 2 3 3

Prerequisites: CET 111

Corequisites: None

This course is the second of two courses covering repairing, servicing, and upgrading computers and peripherals in preparation for industry certification. Topics 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** 1 3 2

Prerequisites: ELN 237

Corequisites: None

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

**CHM 121 Foundations of Chemistry** 3 0 3

Prerequisites: None

Corequisites: CHM 121A

This course is designed for those who have no previous 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

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.







Course  
Descriptions

<b>CHM 151</b>	<b>General Chemistry I</b>	<b>3</b>	<b>3</b>	<b>4</b>
Prerequisites:	High school chemistry or CHM 121 and CHM 121A			
Corequisites:	MAT 161 OR MAT 171			
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.</i>				
<b>CHM 152</b>	<b>General Chemistry II</b>	<b>3</b>	<b>3</b>	<b>4</b>
Prerequisites:	CHM 151			
Corequisites:	None			
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.</i>				
<b>CHM 251</b>	<b>Organic Chemistry I</b>	<b>3</b>	<b>3</b>	<b>4</b>
Prerequisites:	CHM 152			
Corequisites:	None			
This course provides a systematic study of the theories, principles, and techniques of organic chemistry. Topics include nomenclature, structure, properties, reactions, and mechanisms of hydrocarbons, alkyl halides, alcohols, and ethers; further topics include isomerization, stereochemistry, and spectroscopy. Upon completion, students should be able to demonstrate an understanding of the fundamental concepts of covered organic topics as needed in CHM 252. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
<b>CHM 252</b>	<b>Organic Chemistry II</b>	<b>3</b>	<b>3</b>	<b>4</b>
Prerequisites:	CHM 251			
Corequisites:	None			
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
<b>CHM 265</b>	<b>Instrumental Analysis</b>	<b>2</b>	<b>6</b>	<b>4</b>
Prerequisites:	CHM 251			
Corequisites:	None			
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				

**CHM 271 Biochemical Principles 3 0 3**

Prerequisites: CHM 252

Corequisites: None

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.*

Course  
Descriptions

## Information Systems

**CIS 070 Fundamentals of Computing 0 2 1**

Prerequisites: None

Corequisites: None

This course covers fundamental functions and operations of the computer. Topics include identification of components, overview of operating systems, and other basic computer operations. Upon completion, students should be able to operate computers, access files, print documents, and perform basic applications operations.

**CIS 110 Introduction to Computers 2 2 3**

Prerequisites: Basic computer literacy necessary (if you do not have basic skills, CIS 070 will give you the foundation needed for this course) and tested computer keyboarding proficiency.

Corequisites: None

This course provides an introduction to computers and computing. Topics include the impact of computers on society, ethical issues, and hardware/software applications, including spreadsheets, databases, word processors, graphics, the Internet, and operating systems. 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. This includes Word, Excel, Access, and PowerPoint. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

**CIS 111 Basic PC Literacy 1 2 2**

Prerequisites: Tested computer keyboarding proficiency

Corequisites: None

This course provides a brief overview of computer concepts. Emphasis is placed on the use of personal computers and software applications for personal and workplace use. Upon completion, students should be able to demonstrate basic personal computer skills. *This course is intended for those who have not received credit for CIS 110.*

**CIS 113 Computer Basics 0 2 1**

Prerequisite: Tested computer keyboarding proficiency

Corequisites: None

This course introduces basic computer usage for non-computer majors. Emphasis is placed on developing basic personal computer skills. Upon completion, students should be able to demonstrate competence in basic computer applications sufficient to use computer-assisted instructional software.



<b>CIS 115</b>	<b>Introduction to Programming and Logic</b>	<b>2</b>	<b>2</b>	<b>3</b>
Prerequisites:	MAT 070			
Corequisites:	None			
<p>This course introduces computer programming and problem solving in a programming environment, including an introduction to operating systems, text editor, and a language translator. 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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.</i></p>				
<b>CIS 120</b>	<b>Spreadsheet I</b>	<b>2</b>	<b>2</b>	<b>3</b>
Prerequisites:	CIS 110 or CIS 111 and basic math course or placement test			
Corequisites:	None			
<p>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.</p>				
<b>CIS 125</b>	<b>CORE Integrated Software</b>	<b>2</b>	<b>2</b>	<b>3</b>
Prerequisites:	CIS 110			
Corequisites:	None			
<p>This course instructs the student in the CORE Windows or Linux based program suites for word processing, spreadsheet, database, and presentation software. Emphasis is placed on CORE level development of database, spreadsheet, word processing, and presentation applications to utilize data sharing. Upon completion, each student will demonstrate competencies using business simulations which employ data sharing among the database, spreadsheet, word processing, and presentation software. This course will emphasize the use of word processing and spreadsheet software.</p>				
<b>CIS 130</b>	<b>Survey of Operating Systems</b>	<b>2</b>	<b>3</b>	<b>3</b>
Prerequisites:	None			
Corequisites:	None			
<p>The course covers operating system concepts which are necessary for maintaining and using computer systems. Topics include disk, file, and directory structures; installation and setup; resource allocation, optimization, and configuration; system security; and other related topics. Upon completion, students should be able to install and configure operating systems and optimize performance.</p>				
<b>CIS 143</b>	<b>XML Technology</b>	<b>2</b>	<b>2</b>	<b>3</b>
Prerequisites:	CIS 110 or CIS 111			
Corequisites:	None			
<p>This course is designed to introduce students to XML and related internet technologies, including Simple API for XML (SAX). 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.</p>				
<b>CIS 145</b>	<b>Operating System — Single User</b>	<b>2</b>	<b>2</b>	<b>3</b>
Prerequisites:	CIS 110 or CIS 111			
Corequisites:	CIS 130			
<p>This course introduces operating systems concepts for single-user systems. Topics include hardware management, file and memory management, system configuration/optimization, and utilities. Upon completion, students should be able to perform operating system functions at the support level in a single-user environment.</p>				



**CIS 152 Database Concepts and Applications 2 2 3**

Prerequisites: CIS 110 or CIS 111

Corequisites: None

This course introduces database design and creation using a database management systems product. Topics include database terminology, usage in industry, design theory, types of DBMS models, and creation of simple tables, queries, reports, and forms. Upon completion, students should be able to create simple database tables, queries, reports, and forms which follow acceptable design practices.

Course

Descriptions

**CIS 155 Database Theory/Analysis 2 2 3**

Prerequisites: CIS 152

Corequisites: None

This course introduces database design theories and analyses. Emphasis is placed on data dictionaries, normalization, data integrity, and data modeling. Upon completion, students should be able to design normalized database structures that exhibit data integrity. Topics include manipulating multiple tables, advanced queries, screens and reports, linking, and command files.

**CIS 157 Database Programming I 2 2 3**

Prerequisites: CIS 152 and CIS 155

Corequisites: None

This course is designed to develop programming proficiency in a selected DBMS. Emphasis is placed on the Data Definition Language (DDL) and Data Manipulation Language (DML) of the DBMS as well as on report generation. Upon completion, students should be able to write programs which create, update, and produce reports representative of industry requirements.

**CIS 165 Desktop Publishing I 2 2 3**

Prerequisites: CIS 110 and either OST 136 or CIS 125

Corequisites: None

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.

**CIS 170 Technical Support Functions I 2 2 3**

Prerequisites: CIS 115, CIS 125, and CIS 152

Corequisites: None

This course introduces a variety of diagnostic and instructional tools that are used to evaluate the performance of technical support technologies. Emphasis is placed on technical support management techniques, support technologies and on Help Desk services to support users of computing technologies. Upon completion, students should be able to determine the best technologies to support and solve actual technical support problems.

**CIS 215 Hardware Installation and Maintenance 2 3 3**

Prerequisites: CIS 110 and CIS 130

Corequisites: None

This course covers the basic hardware of a personal computer, including operations and interactions with software. Topics include component identification, the memory system, peripheral installation and configuration, preventive maintenance, and diagnostics and repair. Upon completion, students should be able to select appropriate computer equipment, upgrade and maintain existing equipment, and troubleshoot and repair non-functioning personal computers.

	<b>CIS 217</b>	<b>Computer Training and Support</b>	<b>2</b>	<b>2</b>	<b>3</b>
	Prerequisites:	CIS 125			
	Corequisites:	None			
Course	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.				
Descriptions	<b>CIS 236</b>	<b>A+ Certification Preparation</b>	<b>2</b>	<b>2</b>	<b>3</b>
	Prerequisites:	CIS 215			
	Corequisites:	None			
	This course is designed to prepare students for the A+ Hardware certification exam. Topics include portable computer systems, installing and troubleshooting printers, basic networking concepts and procedures, testing electrical components, using diagnostics utilities, and achieving customer satisfaction. Upon completion, students should be able to repair portable systems and printers, understand basic networking, and use utilities and voltmeters to test computer components.				
	<b>CIS 245</b>	<b>Operating Systems/Multi-User</b>	<b>2</b>	<b>3</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	This course includes operating systems concepts for multi-user systems. Topics include hardware management, file and memory management, system configuration/optimization, and utilities. Upon completion, students should be able to perform operating system functions in a multi-user environment.				
	<b>CIS 254</b>	<b>Database Administrative Issues</b>	<b>2</b>	<b>2</b>	<b>3</b>
	Prerequisites:	CIS 155 and CIS 157			
	Corequisites:	None			
	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 evaluation. Upon completion, students should be able to produce DBA functions' documentation.				
	<b>CIS 256</b>	<b>Database Analysis and Design</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	CIS 115 and CIS 157			
	Corequisites:	None			
	This course is an exploration of the established and evolving methodologies for the analysis, design, and development of a database system. Emphasis is placed on business systems characteristics, managing information systems projects, prototyping, CASE 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.				
	<b>CIS 286</b>	<b>Systems Analysis and Design</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	CIS 110, CIS 115, and CIS 152			
	Corequisites:	None			
	This course examines established and evolving methodologies for the analysis, design, and development of a business information system. Emphasis is placed on business systems characteristics, managing information systems projects, prototyping, CASE 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.				



**\*CIS 288 Systems Project 1 4 3**

Prerequisites: CIS 286 and second year status

Corequisites: ENG 114

This course provides an opportunity to complete a significant systems 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, Information Systems students should be able to complete a project from the definition phase through implementation.

Course

Descriptions

**\*CIS 292 Selected Topics in Information Systems 1 3 2**

Prerequisites: CIS 110 and second year status

Corequisites: None

This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study.

Workplace issues of computer professionals will be examined.

## Civil Engineering

**CIV 110 Statics/Strength of Materials 2 6 4**

Prerequisites: MAT 121

Corequisites: None

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

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: CIS 111, EGR 115, and SRV 110

Corequisites: None

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

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.



	<b>CIV 211</b>	<b>Hydraulics and Hydrology</b>	<b>2</b>	<b>3</b>	<b>3</b>
	Prerequisites:	CIV 110 or MEC 250			
	Corequisites:	None			
Course	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.				
	<b>CIV 212</b>	<b>Environmental Planning</b>	<b>2</b>	<b>3</b>	<b>3</b>
Descriptions	Prerequisites:	CIV 211			
	Corequisites:	None			
	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.				
	<b>CIV 215</b>	<b>Highway Technology</b>	<b>1</b>	<b>3</b>	<b>2</b>
	Prerequisites:	SRV 111			
	Corequisites:	CIV 211			
	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.				
	<b>CIV 220</b>	<b>Basic Structural Concepts</b>	<b>1</b>	<b>3</b>	<b>2</b>
	Prerequisites:	CIV 110 or MEC 250			
	Corequisites:	None			
	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.				
	<b>CIV 221</b>	<b>Steel and Timber Design</b>	<b>2</b>	<b>3</b>	<b>3</b>
	Prerequisites:	CIV 110 or MEC 250			
	Corequisites:	None			
	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.				
	<b>CIV 222</b>	<b>Reinforced Concrete</b>	<b>2</b>	<b>3</b>	<b>3</b>
	Prerequisites:	CIV 110 or MEC 250			
	Corequisites:	None			
	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.				

<b>CIV 230</b>	<b>Construction Estimating</b>	<b>2</b>	<b>3</b>	<b>3</b>
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Prerequisites: CIS 111 and EGR 115

Corequisites: None

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.

Course

Descriptions

<b>CIV 240</b>	<b>Project Management</b>	<b>2</b>	<b>3</b>	<b>3</b>
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Prerequisites: EGR 115

Corequisites: None

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.

<b>CIV 250</b>	<b>Civil Engineering Technology Project</b>	<b>1</b>	<b>3</b>	<b>2</b>
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Prerequisites: Successful completion of three semesters of the Civil Engineering Technology program

Corequisites: None

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

<b>CJC 100</b>	<b>Basic Law Enforcement Training</b>	<b>8</b>	<b>30</b>	<b>18</b>
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Prerequisites: RED 090

Corequisites: None

This 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.*

<b>CJC 111</b>	<b>Introduction to Criminal Justice</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

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.*

<b>CJC 112</b>	<b>Criminology</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

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.



	<b>CJC 113</b>	<b>Juvenile Justice</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
Course	This course covers the juvenile justice system and related juvenile issues. Topics include an overview of the juvenile justice system, treatment and prevention programs, special areas and laws unique to juveniles, and other related topics. Upon completion, students should be able to identify/discuss juvenile court structure/procedures, function and jurisdiction of juvenile agencies, processing/detention of juveniles, and case disposition.				
Descriptions	<b>CJC 114</b>	<b>Investigative Photography</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites:	None			
	Corequisites:	None			
	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.				
	<b>CJC 120</b>	<b>Interviews/Interrogations</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites:	None			
	Corequisites:	None			
	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.				
	<b>CJC 121</b>	<b>Law Enforcement Operations</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
	<b>CJC 122</b>	<b>Community Policing</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	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.				
	<b>CJC 131</b>	<b>Criminal Law</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	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: None

Corequisites: None

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.

Course

Descriptions

**CJC 141 Corrections 3 0 3**

Prerequisites: None

Corequisites: None

This course covers the history, major philosophies, components, and current practices and problems of the field of corrections. Topics include historical evolution, functions of the various components, alternatives to incarceration, treatment programs, inmate control, and other related topics. Upon completion, students should be able to explain the various components, processes, and functions of the correctional system. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*

**CJC 151 Introduction to Loss Prevention 3 0 3**

Prerequisites: None

Corequisites: None

This course introduces the concepts and methods related to commercial and private security systems. Topics include the historical, philosophical, and legal basis of security, with emphasis on security surveys, risk analysis, and associated functions. Upon completion, students should be able to demonstrate and understand security systems, risk management, and the laws relative to loss prevention.

**CJC 211 Counseling 3 0 3**

Prerequisites: None

Corequisites: None

This course introduces the basic elements of counseling and specific techniques applicable to the criminal justice setting. Topics include observation, listening, recording, interviewing, and problem exploration necessary to form effective helping relationships. Upon completion, students should be able to discuss and demonstrate the basic techniques of counseling.

**CJC 212 Ethics and Community Relations 3 0 3**

Prerequisites: None

Corequisites: None

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

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.



	<b>CJC 214</b>	<b>Victimology</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites: None				
	Corequisites: None				
Course	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.				
Descriptions	<b>CJC 215</b>	<b>Organization and Administration</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites: CJC 111				
	Corequisites: None				
	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.				
	<b>CJC 216</b>	<b>Computer System Security Investigation</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites: CJC 116				
	Corequisites: None				
	This course covers the investigation of illegal activity affecting computer systems and security. Emphasis will be placed on design techniques, security architecture, discretionary and mandatory controls, memory protection, distributed systems and legal issues pertaining to computer operations security. Upon completion, students should be able to recognize and identify potential problem areas in computer systems and provide assistance in solving security problems. This course is a unique concentration requirement in the Financial Crime/Computer Fraud concentration in the Criminal Justice Technology Program.				
	<b>CJC 217</b>	<b>Network Security Troubleshooting</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites: CJC 216				
	Corequisites: None				
	This course enables students to apply the investigative skills they have learned to operating systems and networks. Topics will include security technologies for multiple platforms, encryption techniques and authentication and key distribution systems. Upon completion, students will be able to contrast competing schemes and describe mistakes made in design, which could lead to criminal activity. <i>This course is a unique concentration requirement in the Financial Crime/Computer Fraud concentration in the Criminal Justice Technology Program.</i>				
	<b>CJC 221</b>	<b>Investigative Principles</b>	<b>3</b>	<b>2</b>	<b>4</b>
	Prerequisites: CJC 131				
	Corequisites: None				
	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.				

<b>CJC 222</b>	<b>Criminalistics</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

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.

Course  
Descriptions

<b>CJC 225</b>	<b>Crisis Intervention</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

This course introduces critical incident intervention and management techniques as they apply to operational criminal justice practitioners. Emphasis is placed on the victim/offender situation as well as job-related high stress, dangerous, or problem-solving citizen contacts. Upon completion, students should be able to provide insightful analysis of emotional, violent, drug-induced, and other critical and/or stressful incidents that require field analysis and/or resolution.

<b>CJC 231</b>	<b>Constitutional Law</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

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.

<b>CJC 232</b>	<b>Civil Liability</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

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.

<b>CJC 240</b>	<b>Law Enforcement Management and Supervision</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: BUS 253

Corequisites: None

This course provides a study of the best known methods and practices of police leadership and management. Topics include the role of the manager in law enforcement, communications, time-management in law enforcement, managing problems, training and law enforcement productivity. Upon completion, students should be able to identify and discuss methods and practices capable of moving law enforcement agencies forward into the twenty-first century.

<b>CJC 245</b>	<b>Friction Ridge Analysis</b>	<b>2</b>	<b>3</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

This course introduces the basic elements of fingerprint technology and techniques applicable to the criminal justice field. Topics include the history and meaning of fingerprints, pattern types and classification, filing sequence, searching and referencing. Upon completion, students should be able to discuss and demonstrate the fundamental techniques of basic fingerprint technology.



**CJC 251 Forensic Chemistry I** 3 2 4  
 Prerequisites: None  
 Corequisites: None  
 This course provides a study of the fundamental concepts of chemistry as it relates to forensic science. Topics include physical and chemical properties of substances, metric measurements, chemical changes, elements, compounds, gases, and atomic structure. Upon completion, students should be able to demonstrate an understanding of the fundamental concepts of forensic chemistry.

Course

Descriptions

**CJC 252 Forensic Chemistry II** 3 2 4  
 Prerequisites: CJC 251  
 Corequisites: None  
 This course provides a study of specialized areas of chemistry specifically related to forensic science. Topics include properties of light, emission and absorption spectra, spectrophotometry, gas and liquid chromatography, and related topics in organic and biochemistry. Upon completion, students should be able to demonstrate an understanding of specialized concepts in forensic chemistry.

## Construction Management

**\*CMT 210 Professional Construction Supervision** 3 0 3  
 Prerequisites: None  
 Corequisites: None  
 This course introduces the student to the fundamentals of effective supervision emphasizing professionalism through knowledge and applied skills. Topics include safety, planning and scheduling, contract, problem-solving, communications, conflict resolution, recruitment, employment laws and regulations, leadership, motivation, teamwork, discipline, setting objectives, and training. Upon completion, the student should be able to demonstrate the basic skills necessary to be successful as a supervisor in the construction industry.

**\*CMT 212 Total Safety Performance** 3 0 3  
 Prerequisites: None  
 Corequisites: CMT 210  
 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** 3 0 3  
 Prerequisites: CMT 210 and BPR 130  
 Corequisites: None  
 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.

**\*CMT 216 Costs and Productivity** 3 0 3  
 Prerequisites: CMT 210  
 Corequisites: None  
 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.

Course

Descriptions

**\*CMT 218 Human Relations Issues** 3 0 3  
 Prerequisites: CMT 210  
 Corequisites: None  
 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 111 EC Co-op Work Experience I** 0 0 10 1  
 Prerequisites: EDU 111  
 Corequisites: COE 115 EC

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. This supervised experience gives the student an opportunity to apply age-appropriate principles of child development, relationships, and learning in a child care environment.

**\*COE 111 MT Co-op Work Experience I** 0 0 10 1  
 Prerequisites: Completed first year curriculum  
 Corequisites: None

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. This co-op work experience will be a transcription internship.

**\*COE 111 SS Co-op Work Experience I** 0 0 10 1  
 Prerequisites: Departmental approval  
 Corequisites: COE 115 SS

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. Intended for students in the Social Service Associate program.

**\*COE 112 A Co-op Work Experience I** 0 0 20 2  
 Prerequisites: Departmental approval  
 Corequisites: None

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. For Automotive Systems Technology students only.



	<b>COE 112BP</b>	<b>Co-op Work Experience I</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>2</b>
	Prerequisites:	None				
	Corequisites:	None				
Course	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.					
Descriptions	<b>COE 112CU</b>	<b>Co-op Work Experience I</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>2</b>
	Prerequisites:	Completed First Year Curriculum				
	Corequisites:	None				
	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. The practical culinary training experience provides the student an opportunity to apply and enhance the skills and methodologies of the professional culinarian.					
	<b>COE 112HR</b>	<b>Co-op Work Experience I</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>2</b>
	Prerequisites:	Completed First Year Curriculum				
	Corequisites:	None				
	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. The practical hospitality in-field training experience provides the student an opportunity to apply and enhance skills and methodologies required of the hospitality professional.					
	<b>*COE 113A</b>	<b>Co-op Work Experience I</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>3</b>
	Prerequisites:	Departmental approval				
	Corequisites:	None				
	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. For Automotive Systems Technology students only.					
	<b>COE 114HE</b>	<b>Co-op Work Experience I</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>4</b>
	Prerequisites:	None				
	Corequisites:	None				
	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.					
	<b>*COE 115 EC</b>	<b>Work Experience Seminar I</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>
	Prerequisites:	EDU 111				
	Corequisites:	COE 111 EC				
	This course provides students with an opportunity to evaluate experiences in the child care setting and discuss curriculum components. Emphasis is placed on planning and carrying out developmentally appropriate activities. Upon completion, students should be able to plan, conduct, and evaluate educational experiences in the early childhood setting.					

**\*COE 115 SS Work Experience Seminar I** 1 0 0 1

Prerequisites: Departmental approval

Corequisites: COE 111 SS

This course provides a forum for students to share information on their social service agency work experience. Emphasis is placed upon relating classroom concepts to the work experience. Upon completion, the student will demonstrate an understanding of the nature of various agency work environments.

**\*COE 121 EC Co-op Work Experience II** 0 0 10 1

Prerequisites: COE 111 EC and COE 115 EC or departmental approval

Corequisites: COE 125 EC

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. Students will demonstrate care-giving skills including managing children's behavior and meeting individual needs in a child care setting chosen by the department.

**\*COE 121 SS Co-op Work Experience II** 0 0 10 1

Prerequisites: COE 111 SS

Corequisites: COE 125 SS

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. Intended for students enrolled in the Social Services program.

**COE 123 A Co-op Work Experience II** 0 0 30 3

Prerequisites: Departmental approval

Corequisites: None

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. For Automotive Systems Technology students only.

**COE 124HE Co-op Work Experience II** 0 0 40 4

Prerequisites: None

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

**\*COE 125 EC Work Experience Seminar II** 1 0 0 1

Prerequisites: COE 111 EC and COE 115 EC

Corequisites: COE 121 EC

This course provides an opportunity for students to plan and evaluate educational activities in their co-op experience. Emphasis is placed on planning developmentally appropriate activities for young children. Upon completion, students should be able to plan, carry out and evaluate developmentally appropriate activities for young children.

Course

Descriptions



**\*COE 125 SS Work Experience Seminar II** 1 0 0 1

Prerequisites: COE 115 SS

Corequisites: COE 121 SS

This course provides a forum for students to share information on their agency work experience. Emphasis is placed upon relating classroom concepts to the work experience. Upon completion, the student will demonstrate an understanding of the nature of various agency work environments. Intended for students enrolled in the Social Services program.

Course

Descriptions

**\*COE 131 EC Co-op Work Experience III** 0 0 10 1

Prerequisites: Successful completion of first four semesters of EDU or departmental approval

Corequisites: COE 135 EC

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. In this capstone course, students must demonstrate the competencies needed by an Early Childhood Associate and identified for the program.

**\*COE 132 ME Co-op Work Experience III** 0 0 20 2

Prerequisites: None

Corequisites: None

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. For Mechanical Engineering Technology students only.

**\*COE 135 EC Work Experience Seminar III** 1 0 0 1

Prerequisites: COE 121 EC and COE 125 EC

Corequisites: COE 131 EC

This course provides an opportunity for the student to discuss topics related to their co-op experience and prepare to go into the work force. Emphasis is placed on conducting a developmentally appropriate program, resume writing, and job interviewing skills. Upon completion, the student should be able to perform work related competencies in working with young children.

**COE 211 OS Co-op Work Experience IV** 0 0 10 1

Prerequisites: Departmental approval

Corequisites: None

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. The cooperative experience will allow the student to apply skills learned in Office Systems Technology courses to on-the-job work experience.

**COE 212 IS Co-op Work Experience IV** 0 0 20 2

Prerequisites: Departmental approval

Corequisites: None

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. The cooperative experience will allow IS students to apply skills learned in their courses to on-the-job work experience.

**COE 212 ME Work Experience IV** 0 0 20 2

Prerequisites: Departmental approval

Corequisites: None

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. The cooperative experience will allow ME students to apply skills learned in their courses to on-the-job work experience.

Course

Descriptions

**COE 215 IS Work Experience Seminar IV** 1 0 0 1

Prerequisites: Third semester status and departmental approval

Corequisites: COE 211, COE 212 or COE 213

The working student will discuss issues related to Information Systems Technology as well as challenges of the workplace.

**COE 215 OS Work Experience Seminar IV** 1 0 0 1

Prerequisites: Third semester status and departmental approval

Corequisites: COE 211 OS

The working student will discuss issues related to Office Systems Technology careers. Problems encountered in the workplace will be discussed as well as solutions.

## Communications

**COM 231 Public Speaking** 3 0 3

Prerequisites: None

Corequisites: None

This course provides instruction and experience in preparation and delivery of speeches within a public setting and group discussion. Emphasis is placed on research, preparation, delivery, and evaluation of informative, persuasive, and special occasion public speaking. Upon completion, students should be able to prepare and deliver well-organized speeches and participate in group discussion with appropriate audiovisual support. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in speech/communications.*

## Computer Programming

**CSC 120 Computing Fundamentals I** 3 2 4

Prerequisites: MAT 080 or MAT 090

Corequisites: None

This course provides the essential foundation for the discipline of computing and a program of study in computer science, including the role of the professional. Topics include algorithm design, data abstraction, searching and sorting algorithms, and procedural programming techniques. Upon completion, students should be able to solve problems, develop algorithms, specify data types, perform sorts and searches, and use an operating system. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

**CSC 130 Computing Fundamentals II** 3 2 4

Prerequisites: CSC 120

Corequisites: None

This course provides in-depth coverage of the discipline of computing and the role of the professional. Topics include software design methodologies, analysis of algorithm and data structures, searching and sorting algorithms, and file organization methods. Upon completion, students should be able to use software design methodologies and choice of data structures and understand social/ethical responsibilities of the computing professional. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*



<b>CSC 134</b>	<b>C++ Programming</b>	<b>2</b>	<b>3</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

This course introduces object-oriented computer programming using the C++ programming language. Topics include input/output operations, iteration, arithmetic operations, arrays, pointers, filters, and other related topics. Upon completion, students should be able to design, code, test, and debug C++ language programs. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement. This course is also available through the Virtual Learning Community (VLC).*

<b>CSC 139</b>	<b>Visual BASIC Programming</b>	<b>2</b>	<b>3</b>	<b>3</b>
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Prerequisites: CIS 115

Corequisites: None

This course introduces event-driven computer programming using the Visual BASIC programming language. Topics include input/output operations, sequence, selection, iteration, arithmetic operations, arrays, forms, sequential files, and other related topics. Upon completion, students should be able to design, code, test, and debug Visual BASIC language programs.

<b>CSC 148</b>	<b>JAVA Programming</b>	<b>2</b>	<b>3</b>	<b>3</b>
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Prerequisites: CIS 115

Corequisites: None

This course introduces computer programming using the JAVA language. Topics include selection, iteration, arithmetic and logical operators, classes, inheritance, methods, arrays, user interfaces, basic applet creation and other related topics. Upon completion, students should be able to design, code, test, and debug JAVA language problems. *The course will include additional topics as needed in order to focus on internet programming with JAVA.*

<b>CSC 239</b>	<b>Advanced Visual BASIC</b>	<b>2</b>	<b>3</b>	<b>3</b>
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Prerequisites: CIS 139

Corequisites: None

This course is a continuation of CSC 139 using Visual BASIC with structured programming principles. Emphasis is placed on advanced arrays/tables, file management/processing techniques, data structures, sub-programs, interactive processing, sort/merge routines, and libraries. Upon completion, students should be able to design, code, test, debug, and document programming solutions.

<b>CSC 248</b>	<b>Advanced Internet Programming</b>	<b>2</b>	<b>3</b>	<b>3</b>
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Prerequisites: CSC 134 or CSC 140 or CSC 141 or CSC 148 or CSC 160

Corequisites: None

This course covers advanced programming skills required to design Internet applications. Emphasis is placed on programming techniques required to support network applications. Upon completion, students should be able to design, code, debug, and document network-based programming solutions to various real-world problems using an appropriate programming language.

<b>CSC 285</b>	<b>Programming Project</b>	<b>2</b>	<b>2</b>	<b>3</b>
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Prerequisites: CIS 286 and second-year status

Corequisites: None

This course provides an opportunity to complete a significant Programming project from the design phase through implementation with minimal instructor support. Emphasis is placed on project definition, testing, presentation, and implementation. Upon completion, students should be able to complete a project from the definition phase through implementation.

**CSC 293 Selected Topics in Computer Programming 1 4 3**  
 Prerequisites: CIS 110 and second-year status  
 Corequisites: None

This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Students will use programming skills to complete a project from the definition phase through implementation. Upon completion, students should be able to demonstrate an understanding of the specific area of study.

Course

Descriptions

## Culinary

**CUL 110 Sanitation and Safety 2 0 2**  
 Prerequisites: None  
 Corequisites: CUL 110A

This course introduces the basic principles of sanitation and safety and their relationship to the hospitality industry. Topics include personal hygiene, sanitation and safety regulations, use and care of equipment, the principles of food-borne illness, and other related topics. Upon completion, students should be able to demonstrate an understanding of sanitation and safety procedures in the hospitality industry. Students are required to pass the National Restaurant Association sanitation examination to receive credit for the course.

**\*CUL 110A Sanitation and Safety Lab 0 2 1**  
 Prerequisites: None  
 Corequisites: CUL 110

This course is a laboratory to accompany CUL 110. Emphasis is placed on practical experiences that enhance the materials presented in CUL 110. The focus of the class is to familiarize students with the operation and safe handling of commercial kitchen equipment. Upon completion, students should be able to demonstrate practical applications of sanitation and safety procedures in the hospitality industry.

**CUL 112 Nutrition for Foodservice 3 0 3**  
 Prerequisites: None  
 Corequisites: None

This course covers the principles of nutrition and its relationship to the foodservice industry. Topics include fundamentals of personal nutrition, nutrition over the life cycle, weight management and exercise, health aspects of nutrition, developing healthy recipes and menus, healthy cooking techniques and marketing nutrition in a foodservice operation. Upon completion, students should be able to apply basic nutritional concepts to food preparation and selection.

**CUL 120 Purchasing 2 0 2**  
 Prerequisites: None  
 Corequisites: None

This course covers purchasing for hotels and restaurants. Emphasis is placed on procurement, yield tests, inventory control, specification, planning, forecasting, market trends, terminology, cost controls, pricing, and food service ethics. Upon completion, students should be able to apply effective purchasing techniques based on the end-use of the product.

**\*CUL 130 Menu Design 2 0 2**  
 Prerequisites: CUL students: CUL 140, HRM 220  
 HRM students: CUL 142, HRM 220  
 Corequisites: None

This course introduces menu design. Topics include development of standardized recipes, layout, nutritional concerns, product utilization, demographics, and customer needs. Upon completion, students should be able to write, lay out, and produce effective menus for a variety of hospitality settings.



	<b>*CUL 135</b>	<b>Food and Beverage Service</b>	<b>2</b>	<b>0</b>	<b>2</b>
	Prerequisites:	CUL students: CUL 180 HRM students: CUL 142			
	Corequisites:	CUL students: CUL 250, CUL 135A HRM students: CUL135A			
Course	This course covers the practical skills and knowledge for effective food and beverage service in a variety of settings. Topics include reservations, greeting and service of guests, styles of service, handling complaints, and sales and merchandising. Upon completion, students should be able to demonstrate competence in human relations and technical skills required in the service of foods and beverages.				
Descriptions					
	<b>*CUL 135A</b>	<b>Food and Beverage Service Lab</b>	<b>0</b>	<b>2</b>	<b>1</b>
	Prerequisites:	CUL students: CUL 180 HRM students: CUL 142			
	Corequisites:	CUL students: CUL 135, CUL 250 HRM students: CUL 135			
	This course is a laboratory to accompany CUL 135. Emphasis is placed on practical experiences that enhance the materials presented in CUL 135. Upon completion, students should be able to demonstrate practical applications of skills required in the service of foods and beverages.				
	<b>*CUL 140</b>	<b>Basic Culinary Skills</b>	<b>2</b>	<b>6</b>	<b>5</b>
	Prerequisites:	None			
	Corequisites:	CUL110, CUL110A			
	This course introduces the fundamental concepts, skills, and techniques involved in basic cookery. Emphasis is placed on recipe conversion, measurements, terminology, knife skills, safe food handling, cooking methods, flavorings, seasonings, stocks/sauces/soups, and other related topics. Upon completion, students should be able to exhibit the basic cooking skills used in the food service industry. Weekly participation in American Regional and International buffets, banquets, and a la carte production enhances students' culinary and service skills.				
	<b>CUL 142</b>	<b>Fundamentals of Food</b>	<b>2</b>	<b>6</b>	<b>5</b>
	Prerequisites:	None			
	Corequisites:	CUL 110, CUL 110A, HRM 192			
	This course introduces the student to the basic principles of cooking, baking, and kitchen operations. Topics include protein, starch, vegetable/fruit identification, selection, storage and preparation; breakfast cookery, breads, sweet doughs and pastries; knife/organizational skills, and work coordination. Upon completion, students should be able to execute efficiently a variety of cooking/baking skills as they apply to different stations in the kitchen. Weekly participation in American regional and international buffets, banquets, and à la carte production enhances student service skills.				
	<b>*CUL 150</b>	<b>Food Science</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites:	None			
	Corequisites:	None			
	This course covers the chemical and physical changes in foods that occur with cooking, handling, and processing. Topics include heat transfer and its effect on color, flavor, and texture; and emulsification, protein coagulation, leavening agents, viscosity, and gel formation. Upon completion, students should be able to demonstrate an understanding of the principles covered as they apply to food preparation in an experimental setting.				
	<b>CUL 160</b>	<b>Baking I</b>	<b>1</b>	<b>4</b>	<b>3</b>
	Prerequisites:	CUL 110 or departmental approval			
	Corequisites:	None			
	This course covers basic ingredients, weights and measures, baking terminology, and formula calculations. Topics include yeast-raised products, quick breads, pastry dough, various cakes and cookies, and appropriate filling and finishing techniques. Historical perspectives and current practices will be addressed. Upon completion, students should be able to prepare and evaluate baked products.				

**\*CUL 170 Gardemanger I** 1 4 3

Prerequisites: CUL 110, CUL 110A

Corequisites: None

This course introduces basic cold food preparation techniques and pantry production. Topics include salads, sandwiches, appetizers, dressings, basic garnishes, cheeses, cold sauces, and related food items. Upon completion, students should be able to lay out a basic cold food display and exhibit an understanding of the cold kitchen and its related terminology.

Course

**\*CUL 180 International and American Regional Cuisine** 1 8 5

Prerequisites: CUL 140, CUL 240, CUL 240A, COE 112 CU

Corequisites: None

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. Weekly participation in buffets, banquets, and a la carte production enhances students' supervisory and technical skills.

Descriptions

**CUL 214 Wine Appreciation** 1 2 2

Prerequisites: CUL 180 or departmental approval

Corequisites: None

This course provides comprehensive and detailed information about wine from all the major wine producing countries. Emphasis is placed on the history of wine, production characteristics, laws, and purchasing and storing requirements. Upon completion, students should be able to determine what wines complement various cuisines and particular tastes. This course will also cover other beverages and legal aspects pertaining to beverage operations.

**\*CUL 240 Advanced Culinary Skills** 1 8 5

Prerequisites: CUL 110, CUL 110A, CUL 140

Corequisites: CUL 240A

This course is a continuation of CUL 140. Emphasis is placed on meat fabrication and butchery; vegetable, starch, and protein cookery; compound sauces; plate presentation; breakfast cookery; and quantity food preparation. Upon completion, students should be able to plan, execute, and successfully serve entrees with complementary side items. Weekly participation in a la carte production enhances students' culinary and service skills.

**CUL 240A Advanced Culinary Skills Lab** 0 3 1

Prerequisites: CUL 140, CUL 110, CUL 110A

Corequisites: CUL 240

This is a laboratory course to accompany CUL 240. Emphasis is placed on the practical experiences that enhance the materials and skills presented in CUL 240. Upon completion, students should be able to demonstrate a basic proficiency in the preparation of entrees and accompaniments.

**\*CUL 250 Classical Cuisine** 1 8 5

Prerequisites: CIS 110, COE 112 CU, CUL 120, CUL 130, CUL 140, CUL 180, CUL 260, CUL 270, CUL 280, HRM 145 and HRM 220

Corequisites: CUL 135, CUL 135A and CUL 214

This course reinforces the classical culinary kitchen as established by Escoffier. Topics include the working Grand Brigade of the kitchen, table d'hôte menus, signature dishes, and classical banquets. Upon completion, students should be able to demonstrate competence in food preparation in a classical/upscale restaurant or banquet setting. This course includes weekly a la carte service encompassing contemporary and classical preparation and a capstone final exam.



**\*CUL 260      Baking II** **1    4    3**  
 Prerequisites: CUL 110, CUL 110A, CUL160  
 Corequisites: None  
 This course is a continuation of CUL 160. Topics include specialty breads, understanding, development and maintaining of natural sourdough, classical desserts, laminated pastry dough, cake and torte decorating and dessert plating and presentation. Upon completion, students should be able to demonstrate pastry presentation and plating, specialty sourdough production, cake decorating and dessert buffet production skills.

Course

Descriptions

**\*CUL 270      Gardemanger II** **1    4    3**  
 Prerequisites: CUL 170, CUL 240 and CUL 240A  
 Corequisites: None  
 This course is a continuation of CUL 170. Topics include pâtés, terrines, galantines, ice and tallow carving, chaud-froid/aspic work, charcuterie, smoking, canapés, hors d'oeuvres, and related food items. Upon completion, students should be able to design, set up, and evaluate a catering function to include a classical cold buffet with appropriate show pieces.

## Design Drafting

**\*DDF 211      Design Drafting I** **2    6    4**  
 Prerequisites: DFT 112  
 Corequisites: None  
 This course emphasizes design processes for finished products. Topics include data collection from manuals and handbooks, efficient use of materials, design sketching, specifications, and vendor selection. Upon completion, students should be able to research and plan the design process for a finished product.

**DDF 221      Design Drafting Project** **0    4    2**  
 Prerequisites: DFT 111, DFT 112, DFT 151  
 Corequisites: None  
 This course incorporates ideas from concept to final design. Topics include reverse engineering, design for manufacturability, and mock-up construction. Upon completion, students should be able to generate working drawings and models based on physical design parameters.

## Developmental Disabilities

**DDT 110      Developmental Disabilities** **3    0    0    3**  
 Prerequisites: None  
 Corequisites: None  
 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.

## Dental

**\*DEN 101      Preclinical Procedures** **4    6    0    7**  
 Prerequisites: None  
 Corequisites: DEN 111  
 This course provides instruction in procedures for the clinical dental assistant as specified by the North Carolina Dental Practice Act. Emphasis is placed on orientation to the profession, infection control techniques, instruments, related expanded functions, and diagnostic, operative, and specialty procedures. Upon completion, students should be able to demonstrate proficiency in clinical dental assisting procedures. *This is a diploma-level course.*

<b>*DEN 102</b>	<b>Dental Materials</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>5</b>
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Prerequisites: None

Corequisites: DEN 101

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.*

Course

Descriptions

<b>DEN 103</b>	<b>Dental Sciences</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>
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Prerequisites: None

Corequisites: None

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.*

<b>*DEN 104</b>	<b>Dental Health Education</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>3</b>
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Prerequisites: DEN 101 and DEN 111

Corequisites: DEN 106

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.*

<b>*DEN 105</b>	<b>Practice Management</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>
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Prerequisites: None

Corequisites: None

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.*

<b>*DEN 106</b>	<b>Clinical Practice I</b>	<b>1</b>	<b>0</b>	<b>12</b>	<b>5</b>
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Prerequisites: DEN 101 and DEN 111

Corequisites: DEN 102, DEN 104, and DEN 112

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.*

<b>*DEN 107</b>	<b>Clinical Practice II</b>	<b>1</b>	<b>0</b>	<b>12</b>	<b>5</b>
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Prerequisites: DEN 106

Corequisites: None

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.*



<b>DEN 110</b>	<b>Orofacial Anatomy</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

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.

Course

Descriptions

<b>DEN 111</b>	<b>Infection/Hazard Control</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>
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Prerequisites: None

Corequisites: DEN 101 or DEN 121

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.

<b>DEN 112</b>	<b>Dental Radiography</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: Enrollment in the Dental Hygiene or Dental Assisting programs

Corequisites: DEN 101 or DEN 110 and DEN 111

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.

<b>DEN 120</b>	<b>Dental Hygiene Preclinic Lecture</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>
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Prerequisites: Enrollment in the Dental Hygiene program

Corequisites: DEN 121

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.

<b>*DEN 121</b>	<b>Dental Hygiene Preclinic Lab</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>2</b>
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Prerequisites: Enrollment in the Dental Hygiene program

Corequisites: DEN 120 and DEN 111

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.

<b>DEN 123</b>	<b>Nutrition/Dental Health</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>
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Prerequisites: DEN 120 and DEN 130

Corequisites: None

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.

<b>DEN 124</b>	<b>Periodontology</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>
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Prerequisites: DEN 110

Corequisites: None

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.

Course

Descriptions

<b>*DEN 125</b>	<b>Dental Office Emergencies</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>
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Prerequisites: None

Corequisites: None

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.

<b>*DEN 130</b>	<b>Dental Hygiene Theory I</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>
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Prerequisites: DEN 120

Corequisites: DEN 131

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.

<b>*DEN 131</b>	<b>Dental Hygiene Clinic I</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>3</b>
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Prerequisites: DEN 121

Corequisites: DEN 130

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.

<b>*DEN 140</b>	<b>Dental Hygiene Theory II</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>
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Prerequisites: DEN 130

Corequisites: DEN 141

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.

<b>*DEN 141</b>	<b>Dental Hygiene Clinic II</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>2</b>
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Prerequisites: DEN 131

Corequisites: DEN 140

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.

<b>*DEN 220</b>	<b>Dental Hygiene Theory III</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>
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Prerequisites: BIO 175, DEN 140

Corequisites: DEN 221

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.



	<b>*DEN 221</b>	<b>Dental Hygiene Clinic III</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>4</b>
	Prerequisites:	DEN 141				
	Corequisites:	DEN 220				
Course	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.					
Descriptions	<b>DEN 222</b>	<b>General and Oral Pathology</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>
	Prerequisites:	BIO 163 or BIO 165 or BIO 168				
	Corequisites:	BIO 169				
	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.					
	<b>DEN 223</b>	<b>Dental Pharmacology</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>
	Prerequisites:	Enrollment in the Dental Hygiene program				
	Corequisites:	BIO 163 or BIO 165 or BIO 168				
	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.					
	<b>*DEN 224</b>	<b>Materials and Procedures</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>2</b>
	Prerequisites:	DEN 111				
	Corequisites:	None				
	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.					
	<b>*DEN 230</b>	<b>Dental Hygiene Theory IV</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>
	Prerequisites:	DEN 220				
	Corequisites:	DEN 231				
	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.					
	<b>*DEN 231</b>	<b>Dental Hygiene Clinic IV</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>4</b>
	Prerequisites:	DEN 221				
	Corequisites:	DEN 230				
	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.					





	<b>DFT 115</b>	<b>Architectural Drafting</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites:	None			
	Corequisites:	None			
Course	This course introduces basic drafting practices used in residential and light commercial design. Topics include floor plans, foundations, details, electrical components, elevations, and dimensioning practice. Upon completion, students should be able to complete a set of working drawings for a simple structure.				
Descriptions	<b>DFT 117</b>	<b>Technical Drafting</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites:	None			
	Corequisites:	None			
	This course introduces basic drafting practices for non-drafting majors. Emphasis is placed on instrument use and care, shape and size description, sketching, and pictorials. Upon completion, students should be able to produce drawings of assigned parts.				
	<b>DFT 119</b>	<b>Basic CAD</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites:	None			
	Corequisites:	None			
	This course introduces computer-aided drafting software for specific technologies to non-drafting majors. Emphasis is placed on understanding the software command structure and drafting standards for specific technical fields. Upon completion, students should be able to create and plot basic drawings.				
	<b>DFT 121</b>	<b>Intro. to Geometric Dimensioning and Tolerancing</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites:	None			
	Corequisites:	None			
	This course introduces basic geometric dimensioning and tolerancing principles. Topics include symbols, annotation, theory, and applications. Upon completion, students should be able to interpret and apply basic geometric dimensioning and tolerancing principles to drawings.				
	<b>DFT 151</b>	<b>CAD I</b>	<b>2</b>	<b>3</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	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.				
	<b>DFT 152</b>	<b>CAD II</b>	<b>2</b>	<b>3</b>	<b>3</b>
	Prerequisites:	DFT 151			
	Corequisites:	None			
	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.				
	<b>DFT 153</b>	<b>CAD III</b>	<b>2</b>	<b>3</b>	<b>3</b>
	Prerequisites:	DFT 151			
	Corequisites:	None			
	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.				

**DFT 251 Customizing CAD Software 2 2 3**

Prerequisites: DFT 151 and DFT 152

Corequisites: None

This course covers customizing CAD software. Topics include the creation of symbol libraries and screen menus, macro writing, and automation of common drafting functions on CAD. Upon completion, students should be able to create a symbol library and screen menu and automate common drawing functions. This course is a unique concentration requirement of the CAD Systems Management Concentration in the Mechanical Drafting Technology program.

Course

Descriptions

**DFT 252 Solid Models and Renderings 2 2 3**

Prerequisites: DFT 153

Corequisites: None

This course provides an in-depth study of three-dimensional solid modeling and design software. Topics include parametric design; creation, editing, and rendering of solid models; and generation of views. Upon completion, students should be able to use parametric design techniques to create and edit a three-dimensional solid model, render it, and generate two-dimensional views. This course is a unique concentration requirement of the CAD Systems Management Concentration in the Mechanical Drafting Technology program.

**\*DFT 253 CAD Data Management 2 2 3**

Prerequisites: CIS 110, DFT 151, and DFT 251

Corequisites: None

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. This course is a unique concentration requirement of the CAD Systems Management Concentration in the Mechanical Drafting Technology program.

**\*DFT 259 CAD Project 1 4 3**

Prerequisites: DDF 211, DFT 112, DFT 251, DFT 252, and DFT 253

Corequisites: None

This course is a capstone course experience for the CAD Systems Management concentration. 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. This course is a unique concentration requirement in the CAD Systems Management concentration in the Mechanical Drafting Technology program.

## Drama

**DRA 111 Theatre Appreciation 3 0 3**

Prerequisites: None

Corequisites: None

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**

Prerequisites: None

Corequisites: None

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 124 Readers Theatre 3 0 3**

Prerequisites: None

Corequisites: None

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 130 Acting 1 0 6 3**

Prerequisites: None

Corequisites: None

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 211 Theatre History I 3 0 3**

Prerequisites: None

Corequisites: None

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.*

## Economics

**ECO 151 Survey of Economics 3 0 3**

Prerequisites: None

Corequisites: None

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 3 0 3**

Prerequisites: None

Corequisites: None

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.*

Course

Descriptions

**ECO 252 Principles of Macroeconomics 3 0 3**

Prerequisites: ECO 151 or ECO 251 or permission of Instructor

Corequisites: None

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 111 Early Childhood Cred I 2 0 2**

Prerequisites: Test out of ABS reading on CPT.

Corequisites: None

This course introduces early childhood education and the role of the teacher in environments that encourage exploration and learning. Topics include professionalism, child growth and development, individuality, family, and culture. Upon completion, students should be able to identify and demonstrate knowledge of professional roles, major areas of child growth and development, and diverse families.

**\*EDU 112 Early Childhood Cred II 2 0 2**

Prerequisites: Test out of ABS reading on CPT.

Corequisites: None

This course introduces developmentally appropriate practices, positive guidance, and standards of health, safety, and nutrition. Topics include the learning environment, planning developmentally appropriate activities, positive guidance techniques and health, safety, and nutrition standards. Upon completion, students should be able to demonstrate developmentally appropriate activities and positive guidance techniques; and describe health/sanitation/nutrition practices that promote healthy environments for children.

**\*EDU 113 Family/Early Child Cred 2 0 2**

Prerequisites: None

Corequisites: None

This course covers business/professional practices for family early childhood providers, developmentally appropriate practices, positive guidance, and methods of providing a safe and healthy environment. Topics include developmentally appropriate practices; health, safety, and nutrition; and business and professionalism. Upon completion, students should be able to develop a handbook of policies, procedures, and practices for a family child care home.



	<b>*EDU 116</b>	<b>Introduction to Education</b>	<b>3</b>	<b>2</b>	<b>4</b>
	Prerequisites:	None			
	Corequisites:	None			
Course	This course introduces the American educational system and the teaching profession. Topics include historical and philosophical foundations of education, contemporary educational trends and issues, curriculum development, and observation and participation 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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
Descriptions					
	<b>EDU 118</b>	<b>Teacher Associate Principals and Practices</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	This course covers the teacher associate's role in the educational 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 professional role of the teacher associate, demonstrate positive communication, and discuss educational philosophy. <i>This course is a unique concentration requirement in the Teacher Associate concentration in the Early Childhood Associate program.</i>				
	<b>EDU 119</b>	<b>Early Childhood Education</b>	<b>4</b>	<b>0</b>	<b>4</b>
	Prerequisites:	None			
	Corequisites:	None			
	This course covers the foundations of the education profession, types of programs, professionalism, and planning quality programs for children. Topics include historical foundations, career options, types of programs, professionalism, observational skills, and planning developmentally appropriate schedules, environments, and activities for children. Upon completion, students should be able to demonstrate observational skills, identify appropriate schedules and environments, develop activity plans, and describe influences on the profession.				
	<b>*EDU 131</b>	<b>Child, Family, and Community</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	This course covers the relationships between the families, programs for children/schools, and the community. Emphasis is placed on establishing and maintaining positive collaborative relationships with families and community resources. Upon completion, students should be able to demonstrate strategies for effectively working with diverse families and identifying and utilizing community resources.				
	<b>*EDU 144</b>	<b>Child Development I</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	This course covers the theories of child development and the developmental sequences of children from conception through the pre-school years for early childhood educators. Emphasis is placed on sequences in physical/motor, social, emotional, cognitive, and language development and appropriate experiences for the young child. Upon completion, students should be able to identify developmental milestones, plan experiences to enhance development, and describe appropriate interaction techniques and environments for typical/atypical development.				

**\*EDU 145 Child Development II 3 0 3**

Prerequisites: None

Corequisites: None

This course covers theories of child development and developmental sequences of children from pre-school through middle childhood for early childhood educators. Emphasis is placed on characteristics of physical/motor, social, emotional, and cognitive/language development and appropriate experiences for children. Upon completion, students should be able to identify developmental characteristics, plan experiences to enhance development, and describe appropriate interaction techniques and environments.

Course

Descriptions

**\*EDU 146 Child Guidance 3 0 3**

Prerequisites: None

Corequisites: None

This course introduces practical principles and techniques for developmentally appropriate guidance. Emphasis is placed on encouraging self-esteem and cultural awareness, effective communication skills, and direct and indirect guidance techniques and strategies. Upon completion, students should be able to demonstrate strategies which encourage positive social interactions, promote conflict resolution, and develop self-control, self-motivation, and self-esteem in children.

**\*EDU 151 Creative Activities 3 0 3**

Prerequisites: None

Corequisites: EDU 151A

This course covers creative learning environments, planning and implementing developmentally appropriate experiences, and developing appropriate teaching materials for the classroom. Emphasis is placed on creative activities for children in art, music, movement and physical skills, and dramatics. Upon completion, students should be able to select and evaluate developmentally appropriate learning materials and activities.

**\*EDU 151A Creative Activities Lab 0 2 1**

Prerequisites: None

Corequisites: EDU 151

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, and Nutrition 3 0 3**

Prerequisites: None

Corequisites: EDU 153A

This course focuses on promoting and maintaining the health and well-being of children. Topics include health and nutritional needs, safe and healthy environments, and recognition and reporting of child abuse and neglect. Upon completion, students should be able to set up and monitor safe indoor and outdoor environments and implement a nutrition education program.

**\*EDU 153A Health, Safety, and Nutrition Lab 0 2 1**

Prerequisites: None

Corequisites: EDU 153

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.



	<b>EDU 162</b>	<b>Early Experience/Prospective Teachers</b>	<b>1</b>	<b>2</b>	<b>2</b>
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Prerequisites: None

Corequisites: None

This course provides an opportunity to observe teachers and pupils in a natural classroom environment. Emphasis is placed on observation methods, planning, teaching, evaluation, personal goal assessment, and curriculum.

Upon completion, students should be able to demonstrate an understanding of their own personal teaching goals, teaching methods, planning methods, and student performance evaluation.

	<b>EDU 186</b>	<b>Reading and Writing Methods</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

This course covers concepts, resources and methods for teaching reading and writing to school-age 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 developmentally appropriate reading and writing experiences. *This course is a unique concentration requirement in the Teacher Associate concentration in the Early Childhood Associate program.*

	<b>*EDU 221</b>	<b>Children with Special Needs</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: EDU 144 and EDU 145 or PSY 224 and PSY 245

Corequisites: None

This course introduces working with children with special needs. Emphasis is placed on the characteristics and assessment of children and strategies for adapting the home and classroom environment. Upon completion, students should be able to recognize atypical development, make appropriate referrals, and work collaboratively to plan, implement, and evaluate inclusion strategies.

	<b>*EDU 234</b>	<b>Infants, Toddlers, and Twos</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

This course covers the skills needed to effectively implement group care for infants, toddlers, and 2-year-olds. Emphasis is placed on child development and developmentally appropriate practices. Upon completion, students should be able to identify, plan, select materials and equipment, and implement and evaluate a developmentally appropriate curriculum.

	<b>EDU 235</b>	<b>School-Age Dev &amp; Program</b>	<b>2</b>	<b>0</b>	<b>2</b>
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Prerequisites: None

Corequisites: None

This course presents developmentally appropriate practices in group care for school-age children. Topics include principles of development, environmental planning, and positive guidance techniques. Upon completion, students should be able to discuss developmental principles for children five to twelve years of age and plan and implement age-appropriate activities.

	<b>*EDU 251</b>	<b>Exploration Activities</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: None

Corequisites: EDU 251A

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.

<b>*EDU 251A</b>	<b>Exploration Activities Lab</b>	<b>0</b>	<b>2</b>	<b>1</b>
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Prerequisites: None

Corequisites: EDU 251

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.

<b>*EDU 259</b>	<b>Curriculum Planning</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: EDU 112, EDU 113, or EDU 119

Corequisites: None

This course covers early childhood curriculum planning. Topics include philosophy, curriculum, indoor and outdoor environmental design, scheduling, observation and assessment, and instructional planning and evaluation. Upon completion, students should be able to assess children and curriculum; plan for daily, weekly, and long-range instruction; and design environments with appropriate equipment and supplies.

<b>*EDU 261</b>	<b>Early Childhood Administration I</b>	<b>2</b>	<b>0</b>	<b>2</b>
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Prerequisites: None

Corequisites: None

This course covers the policies, procedures, and responsibilities for the management of early childhood education programs. Topics include implementation of goals, principles of supervision, budgeting and financial management, and meeting the standards for a NC Child Day Care license. Upon completion, students should be able to develop program goals, explain licensing standards, determine budgeting needs, and describe effective methods of personnel supervision.

<b>*EDU 262</b>	<b>Early Childhood Administration II</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: EDU 261

Corequisites: None

This course provides a foundation for budgetary, financial, and personnel management of the child care center. Topics include budgeting, financial management, marketing, hiring, supervision, and professional development of a child care center. Upon completion, students should be able to formulate marketing, financial management, and fund development plans and develop personnel policies, including supervision and staff development plans.

<b>EDU 275</b>	<b>Effective Teacher Training</b>	<b>2</b>	<b>0</b>	<b>2</b>
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Prerequisites: None

Corequisites: None

This course provides specialized training using an experienced-based approach to learning. Topics include instructional preparation and presentation, student interaction, time management, learning expectations, evaluation, and curriculum principles and planning. Upon completion, students should be able to prepare and present a six-step lesson plan and demonstrate ways to improve students' time-on-task.

<b>*EDU 280</b>	<b>Literacy Experiences</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

This course covers literacy, early literacy development, and appropriate early experiences with books and writing. Emphasis is placed on reading and writing readiness, major approaches used in teaching literacy, and strategies for sharing quality in children's literature. Upon completion, students should be able to select, plan, and evaluate appropriate early literacy experiences.

Course

Descriptions



<b>EDU 285</b>	<b>Internship Experience-School Age</b>	<b>1</b>	<b>0</b>	<b>1</b>
Prerequisites: ENG 111 and completion of curriculum core requirements				
Corequisites: COE 121 or COE 122				

This course provides an opportunity to discuss internship experiences with peers and faculty. Emphasis is placed on evaluating and integrating practicum experiences. Upon completion, students should be able to demonstrate competence in early childhood education.

Course

Descriptions

## Engineering

<b>*EGR 110</b>	<b>Introduction to Engineering</b>	<b>2</b>	<b>0</b>	<b>2</b>
Prerequisites: None				
Corequisites: None				

This course introduces general topics relevant to engineering technology. Topics include the role of the technician, careers in technology, applied mathematics, and programmable calculators. Upon completion, students should be able to choose a career option in engineering technology and use a programmable calculator to solve technical mathematics problems.

<b>EGR 115</b>	<b>Introduction to Technology</b>	<b>2</b>	<b>6</b>	<b>4</b>
Prerequisites: None				
Corequisites: MAT 121, MAT 161 or MAT 171				

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.

<b>EGR 130</b>	<b>Engineering Cost Control</b>	<b>2</b>	<b>2</b>	<b>3</b>
Prerequisites: MAT 121 or MAT 161 or MAT 171				
Corequisites: None				

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.

<b>*EGR 285</b>	<b>Design Project</b>	<b>0</b>	<b>4</b>	<b>2</b>
Prerequisites: None				
Corequisites: None				

This course provides the opportunity to design and construct an instructor-approved project using previously acquired skills. Emphasis is placed on selection, proposal, design, construction, testing, and documentation of the approved project. Upon completion, students should be able to present and demonstrate operational projects.

## Electrical

<b>ELC 111</b>	<b>Introduction to Electricity</b>	<b>2</b>	<b>2</b>	<b>3</b>
Prerequisites: None				
Corequisites: None				

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: None

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, and analyze simple DC/AC circuits.

Course

**ELC 113 Basic Wiring I 2 6 4**

Prerequisites: None

Corequisites: 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.

Descriptions

**ELC 115 Industrial Wiring 2 6 4**

Prerequisites: None

Corequisites: None

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: ELC 112 or ELC 131

Corequisites: None

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.

**ELC 118 National Electrical Code 1 2 2**

Prerequisites: None

Corequisites: None

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 119 NEC Calculations 1 2 2**

Prerequisites: None

Corequisites: None

This course covers branch circuit, feeder, and service calculations. Emphasis is placed on sections of the National Electrical Code related to calculations. Upon completion, students should be able to use appropriate code sections to size wire, conduit, and overcurrent devices for branch circuits, feeders, and service.

**ELC 121 Electrical Estimating 1 2 2**

Prerequisites: ELC 113

Corequisites: None

This course covers the principles involved in estimating electrical projects. Topics include take-offs of materials and equipment, labor, overhead, and profit. Upon completion, students should be able to estimate simple electrical projects.



Course	<b>ELC 125</b>	<b>Diagrams and Schematics</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites: None				
	Corequisites: None				
	This course covers the interpretation of electrical diagrams, schematics, and drawings common to electrical applications. Emphasis is placed on reading and interpreting electrical diagrams and schematics. Upon completion, students should be able to read and interpret electrical diagrams and schematics.				
Descriptions	<b>ELC 128</b>	<b>Introduction to PLC</b>	<b>2</b>	<b>3</b>	<b>3</b>
	Prerequisites: None				
	Corequisites: None				
	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.				
	<b>ELC 131</b>	<b>DC/AC Circuit Analysis</b>	<b>4</b>	<b>3</b>	<b>5</b>
	Prerequisites: None				
	Corequisites: MAT 121				
	This course introduces DC and AC electricity with an emphasis on circuit analysis, measurements, and operation of test equipment. Topics include DC and AC principles, circuit analysis laws and theorems, components, test equipment operation, circuit simulation software, and other related topics. Upon completion, students should be able to interpret circuit schematics; design, construct, verify, and analyze DC/AC circuits; and properly use test equipment.				
	<b>ELC 131A</b>	<b>DC/AC Circuit Analysis Lab</b>	<b>0</b>	<b>3</b>	<b>1</b>
	Prerequisites: None				
	Corequisites: ELC 131				
	This course provides laboratory assignments as applied to fundamental principles of DC/AC electricity. Emphasis is placed on measurements and evaluation of electrical components, devices and circuits. Upon completion, the students will gain hands-on experience by measuring voltage, current, and opposition to current flow utilizing various meters and test equipment.				
	<b>ELC 132</b>	<b>Electrical Drawings</b>	<b>1</b>	<b>3</b>	<b>2</b>
	Prerequisites: None				
	Corequisites: None				
	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.				
	<b>ELC 213</b>	<b>Instrumentation</b>	<b>3</b>	<b>2</b>	<b>4</b>
	Prerequisites: ELC 111 or ELC 112 or ELC 131				
	Corequisites: None				
	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.				
	<b>ELC 228</b>	<b>PLC Applications</b>	<b>2</b>	<b>6</b>	<b>4</b>
	Prerequisites: ELC 128				
	Corequisites: None				
	This course continues the study of the programming and applications of programmable logic controllers. Emphasis is placed on advanced programming, networking, advanced I/O modules, reading and interpreting error codes, and troubleshooting. Upon completion, students should be able to program and troubleshoot programmable logic controllers.				

**\*ELC 229 Applications Project** 1 3 2

Prerequisites: ELC 112 or ELC 113 or ELC 140

Corequisites: None

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.

Course

Descriptions

## Electronics

**ELN 131 Electronic Devices** 3 3 4

Prerequisites: ELC 112, ELC 131, or ELC 140

Corequisites: None

This course includes semiconductor-based devices such as diodes, bipolar transistors, FETs, thyristors, and related components. Emphasis is placed on analysis, selection, biasing, and applications in power supplies, small signal amplifiers, and switching and control circuits. Upon completion, students should be able to construct, analyze, verify, and troubleshoot discrete component circuits using appropriate techniques and test equipment.

**ELN 132 Linear IC Applications** 3 3 4

Prerequisites: ELN 131

Corequisites: None

This course introduces the characteristics and applications of linear integrated circuits. Topics include op-amp circuits, differential amplifiers, instrumentation amplifiers, waveform generators, active filters, PLLs, and IC voltage regulators. Upon completion, students should be able to construct, analyze, verify, and troubleshoot linear integrated circuits using appropriate techniques and test equipment.

**ELN 133 Digital Electronics** 3 3 4

Prerequisites: ELC 111 or ELC 112, ELC 131 or ELC 140

Corequisites: None

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.

**ELN 152 Fabrication Techniques** 1 3 2

Prerequisites: None

Corequisites: None

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.

**ELN 154 Introduction to Data Comm** 2 3 3

Prerequisites: ELN 133

Corequisites: None

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.



	<b>ELN 232</b>	<b>Introduction to Microprocessors</b>	<b>3</b>	<b>3</b>	<b>4</b>
	Prerequisites:	ELN 133			
	Corequisites:	None			
Course	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.				
Descriptions					
	<b>ELN 234</b>	<b>Communication Systems</b>	<b>3</b>	<b>3</b>	<b>4</b>
	Prerequisites:	ELN 132 or ELN 140			
	Corequisites:	None			
	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.				
	<b>ELN 237</b>	<b>Local Area Networks</b>	<b>2</b>	<b>3</b>	<b>3</b>
	Prerequisites:	CIS 110, CIS 111, or CET 111			
	Corequisites:	None			
	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.				
	<b>ELN 238</b>	<b>Advanced LANs</b>	<b>2</b>	<b>3</b>	<b>3</b>
	Prerequisites:	ELN 237			
	Corequisites:	None			
	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.				
	<b>ELN 275</b>	<b>Troubleshooting</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites:	None			
	Corequisites:	ELN 133 or ELN 141			
	This course covers techniques of analyzing and repairing failures in electronic equipment. Topics include safety, signal tracing, use of service manuals, and specific troubleshooting methods for analog, digital, and other electronics-based circuits and systems. Upon completion, students should be able to logically diagnose and isolate faults and perform necessary repairs to meet manufacturers' specifications.				

## Emergency Medical Science

	<b>EMS 110</b>	<b>EMT — Basic</b>	<b>5</b>	<b>6</b>	<b>0</b>	<b>7</b>
	Prerequisites:	Enrollment in EMS program or departmental approval				
	Corequisites:	EMS 111				
	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.					

<b>EMS 111</b>	<b>Prehospital Environment</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>3</b>
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Prerequisites: Enrollment in EMS program or departmental approval

Corequisites: EMS 110

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.

Course

Descriptions

<b>EMS 115</b>	<b>Defense Tactics for EMS</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>2</b>
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Prerequisites: None

Corequisites: None

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.

<b>EMS 120</b>	<b>Intermediate Interventions</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: EMS 110, EMS 111, and BIO 168, or departmental approval

Corequisites: EMS 121 or EMS 122 and COE 111, EMS 130, EMS 131, and BIO 169

This course is designed to provide the necessary information for interventions appropriate to the EMT-Intermediate, and is required for intermediate certification. Topics include automated external defibrillation, basic cardiac electrophysiology, intravenous therapy, venipuncture, acid-base balance, and fluids and electrolytes. Upon completion, students should be able to properly establish an IV line, obtain venous blood, utilize AED's, and correctly interpret arterial blood gases. Current N.C. EMT certification is required for students enrolling in this course.

<b>EMS 121</b>	<b>EMS Clinical Practicum I</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>2</b>
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Prerequisites: EMS 110, EMS 111, and BIO 168, or departmental approval

Corequisites: EMS 120, EMS 130, EMS 131, and BIO 169

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.

<b>EMS 125</b>	<b>EMS Instructor Methodology</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>2</b>
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Prerequisites: None

Corequisites: None

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.

<b>EMS 130</b>	<b>Pharmacology for EMS</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>2</b>
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Prerequisites: EMS 110, EMS 111, and BIO 168, or departmental approval

Corequisites: EMS 120, EMS 131, and BIO 169

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 221 EMS Clinical Practicum II 0 0 9 3**

Prerequisites: EMS 121 or EMS 122 and COE 111, EMS 120, EMS 130, and EMS 131

Corequisites: EMS 210 and EMS 220

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.

Course

Descriptions

**EMS 230 Pharmacology II for EMS 1 3 0 2**

Prerequisites: EMS 130 or departmental approval

Corequisites: None

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.

**EMS 231 EMS Clinical Practicum III 0 0 9 3**

Prerequisites: EMS 221 or EMS 222 and COE 121, EMS 220, and EMS 210

Corequisites: EMS 250 and EMS 260

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 1 2 0 2**

Prerequisites: EMS 120, EMS 121, EMS 130, and EMS 131, or departmental approval

Corequisites: EMS 241

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

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 COE 111, EMS 122, EMS 210, EMS 220, and EMS 221, or departmental approval

Corequisites: EMS 231

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.



	<b>EMS 260</b>	<b>Advanced Trauma Emergencies</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>2</b>
	Prerequisites:	EMS 120, EMS 130, EMS 131, and either EMS 121 or COE 111 and EMS 122, EMS 210, EMS 220, and EMS 221, or departmental approval				
	Corequisites:	EMS 231				
Course	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.					
Descriptions						
	<b>EMS 270</b>	<b>Life Span Emergencies</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>3</b>
	Prerequisites:	EMS 120, EMS 130 and EMS 131, EMS 250, EMS 260, and EMS 231, or departmental approval				
	Corequisites:	EMS 241				
	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.					
	<b>EMS 280</b>	<b>EMS Bridging Course</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>3</b>
	Prerequisites:	Enrollment in EMS Program or Department approval				
	Corequisites:	None				
	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.					
	<b>EMS 285</b>	<b>EMS Capstone</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>2</b>
	Prerequisites:	EMS 220, EMS 231, EMS 250, and EMS 260, or departmental approval				
	Corequisites:	EMS 241				
	This course provides an opportunity to demonstrate problem-solving skills as a team leader in simulated patient scenarios and is required for paramedic certification. Emphasis is placed on critical thinking, integration of didactic and psychomotor skills, and effective performance in simulated emergency situations. Upon completion, students should be able to recognize and appropriately respond to a variety of EMS related events.					
<b>English</b>						
	<b>ENG 080</b>	<b>Writing Foundations</b>		<b>3</b>	<b>2</b>	<b>4</b>
	Prerequisites:	ENG 070 or ENG 075 or placement				
	Corequisites:	None				
	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. <i>This course does not satisfy the developmental writing prerequisite for ENG 111.</i>					





**ENG 113 Literature-Based Research 3 0 3**

Prerequisites: ENG 111

Corequisites: None

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 (other than General Occupational Technology) or English Department approval

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

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

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.*

**ENG 131 Introduction to Literature 3 0 3**

Prerequisites: ENG 111

Corequisites: ENG 112, ENG 113, or ENG 114

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.*

Course

Descriptions

**ENG 133 Introduction to the Novel 3 0 3**

Prerequisites: ENG 111

Corequisites: ENG 112, ENG 113, or ENG 114

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.*

Course

Descriptions

**ENG 134 Introduction to Poetry 3 0 3**

Prerequisites: ENG 111

Corequisites: ENG 112, ENG 113, or ENG 114

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 3**

Prerequisites: ENG 111

Corequisites: ENG 112, ENG 113, or ENG 114

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 0 3**

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

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 3 0 3**

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

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.*

**ENG 241 British Literature I 3 0 3**

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

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 and writing about 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    0    3**

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

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 and writing about 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.*

**ENG 243      Major British Writers** **3    0    3**

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

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.*

**ENG 261      World Literature I** **3    0    3**

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

This course introduces selected works from the Pacific, Asia, Africa, Europe, and the Americas from their literary beginnings through the 17th 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** **3    0    3**

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

This course introduces selected works from the Pacific, Asia, Africa, Europe, and the Americas from the 18th 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.*

**ENG 265      Thematic World Lit I** **3    0    3**

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

This course provides a thematic survey of selected works from major world authors. Emphasis is placed on understanding literary themes, such as initiation, conformity, and rebellion, from historical, critical, and universal perspectives. Upon completion, students should be able to interpret, analyze, and respond to selected works relating to universal themes. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

Course

Descriptions

**ENG 266 Thematic World Literature II 3 0 3**

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

This course provides a thematic survey of selected works from major world authors. Emphasis is placed on understanding literary themes, such as existentialism, love, hate, and death, from historical, critical, and universal perspectives. Upon completion, students should be able to interpret, analyze, and respond to selected works relating to universal themes. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

Course

Descriptions

**ENG 271 Contemporary Literature 3 0 3**

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

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 3 0 3**

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

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 3 0 3**

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

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: ENG 112, ENG 113, or ENG 114

Corequisites: None

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 3 0 3**

Prerequisites: ENG 112, ENG 113, or ENG 114

Corequisites: None

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, world view, 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.*



## Fire Protection Technology

	<b>FIP 120</b>	<b>Introduction to Fire Protection</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
Course	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.				
Descriptions					
	<b>FIP 124</b>	<b>Fire Prevention &amp; Public Education</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	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.				
	<b>FIP 128</b>	<b>Detection and Investigation</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	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.				
	<b>FIP 132</b>	<b>Building Construction</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	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.				
	<b>FIP 136</b>	<b>Inspections and Codes</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	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.				
	<b>FIP 140</b>	<b>Industrial Fire Protection</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	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.				

<b>FIP 152</b>	<b>Fire Protection Law</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

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.

<b>FIP 220</b>	<b>Fire Fighting Strategies</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

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.

<b>FIP 224</b>	<b>Instructional Methodology</b>	<b>4</b>	<b>0</b>	<b>4</b>
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Prerequisites: None

Corequisites: None

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.

<b>FIP 228</b>	<b>Local Government Finance</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

This course introduces local governmental financial principles and practices. Topics include budget preparation and justification, revenue policies, statutory requirements, taxation, audits, and the economic climate. Upon completion, students should be able to comprehend the importance of finance as it applies to the operation of a department.

<b>FIP 230</b>	<b>Chemistry of Hazardous Materials I</b>	<b>5</b>	<b>0</b>	<b>5</b>
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Prerequisites: None

Corequisites: None

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.

<b>FIP 232</b>	<b>Hydraulics &amp; Water Distribution</b>	<b>2</b>	<b>2</b>	<b>3</b>
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Prerequisites: MAT 115

Corequisites: None

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.

<b>ENG 236</b>	<b>Emergency Management</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

This course covers the four phases of emergency management: mitigation, preparedness, response, and recovery. Topics include organizing for emergency management, coordinating for community resources, public sector liability, and the roles of government agencies at all levels. Upon completion, students should be able to demonstrate an understanding of comprehensive emergency management and the integrated emergency management system.

Course  
Descriptions



**FIP 240 Fire Service Supervision 3 0 3**

Prerequisites: None

Corequisites: None

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.

Course

Descriptions

**FIP 260 Fire Protection Planning 3 0 3**

Prerequisites: None

Corequisites: None

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

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.

## French

**FRE 111 Elementary French I 3 0 3**

Prerequisites: None

Corequisites: None

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: None

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 211 Intermediate French I 3 0 3**

Prerequisites: FRE 112

Corequisites: None

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.*

Course

Descriptions

**FRE 212 Intermediate French II 3 0 3**

Prerequisites: FRE 211

Corequisites: None

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.*

## Geography

**GEO 111 World Regional Geography 3 0 3**

Prerequisites: None

Corequisites: None

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 3 0 3**

Prerequisites: None

Corequisites: None

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.*

## German

**GER 111 Elementary German I 3 0 3**

Prerequisites: None

Corequisites: None

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.*



	<b>GER 112</b>	<b>Elementary German II</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	GER 111			
	Corequisites:	None			
Course	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.				
Descriptions	Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written German and demonstrate further cultural awareness. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.</i>				
	<b>GER 211</b>	<b>Intermediate German I</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	GER 112			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.</i>				
	<b>GER 212</b>	<b>Intermediate German II</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	GER 211			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.</i>				

## Health

	<b>HEA 110</b>	<b>Personal Health/Wellness</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
	<b>HEA 112</b>	<b>First Aid and CPR</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites:	None			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
	<b>HEA 120</b>	<b>Community Health</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	This course provides information about contemporary community health and school hygiene issues. Topics include health education and current information about health trends. Upon completion, students should be able to recognize and devise strategies to prevent today's community health problems. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				

# Heavy Equipment and Transport Technology

**\*HET 110 Diesel Engines 3 9 6**

Prerequisites: None

Corequisites: HET 118

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.

Course

Descriptions

**\*HET 112 Diesel Electrical Systems 3 6 5**

Prerequisites: None

Corequisites: HET 118 or Department chair approval

This course introduces electrical theory and applications as they relate to diesel powered equipment. Topics include lighting, accessories, safety, starting, charging, instrumentation, and gauges. Upon completion, students should be able to follow schematics to identify, repair, and test electrical circuits and components.

**\*HET 114 Power Trains 3 6 5**

Prerequisites: HET 118 or Department chair approval

Corequisites: None

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 3**

Prerequisites: HET 118 or Department chair approval

Corequisites: HET 112

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: HET 118 or Dept. Chair approval

Corequisites: None

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 2 0 2**

Prerequisites: None

Corequisites: None

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: HET 118 or Dept. Chair approval

Corequisites: None

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: HET 118

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.

Course

Descriptions

**\*HET 128 Medium/Heavy Duty Tune Up 1 2 2**

Prerequisites: HET 118 or Dept. Chair approval

Corequisites: None

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: HET 118 or Dept. Chair approval

Corequisites: None

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 2 4 4**

Prerequisites: HET 118 or Dept. Chair approval

Corequisites: None

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

**HIS 111 World Civilizations I 3 0 3**

Prerequisites: None

Corequisites: None

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: None

Corequisites: None

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.*

**HIS 115 Introduction to Global History 3 0 3**

Prerequisites: None

Corequisites: None

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.*

Course

**HIS 131 American History I 3 0 3**

Prerequisites: None

Corequisites: None

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.*

Descriptions

**HIS 132 American History II 3 0 3**

Prerequisites: None

Corequisites: None

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 Women and History 3 0 3**

Prerequisites: None

Corequisites: None

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.*

**HIS 227 Native American History 3 0 3**

Prerequisites: None

Corequisites: None

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 3 0 3**

Prerequisites: None

Corequisites: None

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.*



# Hotel and Restaurant Management

Course	<b>HRM 110</b>	<b>Introduction to Hospitality</b>	<b>2</b>	<b>0</b>	<b>2</b>
Descriptions	Prerequisites: None Corequisites: None		This course covers the growth and progress of the hospitality industry. Topics include financing, hotels, restaurants, and clubs. Upon completion, students should be able to demonstrate an understanding of the background, context, and career opportunities that exist in the hospitality industry.		
	<b>*HRM 120</b>	<b>Front Office Procedures</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites: None Corequisites: HRM 120A		This course provides a systematic approach to hotel front office procedures. Topics include reservations, registration, guest satisfaction, occupancy and rate management, security, interdepartmental communications, and related guest services. This course will also examine the housekeeping department of the hotel, its operation and management, and its working relationship with the front office.		
	<b>*HRM 120A</b>	<b>Front Office Procedures Lab</b>	<b>0</b>	<b>2</b>	<b>1</b>
	Prerequisites: None Corequisites: HRM 120		This course is laboratory to accompany HRM 120. Emphasis is placed on practical computer applications of theory covered in HRM 120. Upon completion, students should be able to demonstrate a basic proficiency in computer-based, front office applications.		
	<b>*HRM 130</b>	<b>Bed and Breakfast Management</b>	<b>2</b>	<b>0</b>	<b>2</b>
	Prerequisites: None Corequisites: None		This course provides an overview of the management of bed and breakfast facilities. Emphasis is placed on lifestyle commitment, property needs, computer operations, business and marketing plans, customer service and facility management. Upon completion, students should be able to describe and apply the principles of management unique to the bed and breakfast industry.		
	<b>*HRM 135</b>	<b>Facilities Management</b>	<b>2</b>	<b>0</b>	<b>2</b>
	Prerequisites: None Corequisites: None		This course introduces the basic elements of planning and designing hospitality facilities, including their maintenance and upkeep. Topics include equipment and plant preventive maintenance, engineering, interior design, space utilization, remodeling and expansion, and traffic and workflow patterns. Upon completion, students should be able to demonstrate an understanding of the planning, design, and maintenance of hospitality physical plants and equipment.		
	<b>*HRM 140</b>	<b>Hospitality Tourism Law</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites: None Corequisites: None		This course covers the rights and responsibilities that the law grants to or imposes upon the hospitality industry. Topics include federal and state regulations, historical and current practices, safety and security, risk management, loss prevention, torts, and contracts. Upon completion, students should be able to demonstrate an understanding of the legal system to prevent or minimize organizational liability.		

<b>*HRM 145</b>	<b>Hospitality Supervision</b>	<b>3</b>	<b>0</b>	<b>3</b>	
Prerequisites:	None				
Corequisites:	None				
This course covers principles of supervision as they apply to the hospitality industry. Topics include recruitment, selection, orientation, training, evaluation, and leadership skills. Upon completion, students should be able to understand and apply basic supervisory skills unique to the hospitality and service industry.					
<b>*HRM 192</b>	<b>Selected Topics in Dining Room Management</b>	<b>1</b>	<b>2</b>	<b>2</b>	Course Descriptions
Prerequisites:	None				
Corequisites:	CUL 142				
This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study. This course will focus on the services offered in the dining room environment, including management.					
<b>*HRM 210</b>	<b>Meetings and Conventions</b>	<b>3</b>	<b>0</b>	<b>3</b>	
Prerequisites:	None				
Corequisites:	None				
This course introduces organization, arrangement, and operation of conventions, trade shows, professional meetings, and food functions. Emphasis is placed on the methods of marketing, selling, and servicing conventions and trade shows and the division of administrative responsibilities in their operation. Upon completion, students should be able to describe and apply the principles of management to multi-function, multi-day conferences and events.					
<b>*HRM 215</b>	<b>Restaurant Management</b>	<b>3</b>	<b>0</b>	<b>3</b>	
Prerequisites:	CUL 135, CUL 135A and HRM 192 or Departmental approval				
Corequisites:	HRM 215A				
This course provides an overview of the various challenges and responsibilities encountered in managing a food and beverage operation. Topics include planning, administration, organization, accounting, marketing, and human resources from an integrated managerial viewpoint. Upon completion, students should be able to demonstrate an understanding of the operation of a restaurant.					
<b>*HRM 215A</b>	<b>Restaurant Management Lab</b>	<b>0</b>	<b>2</b>	<b>1</b>	
Prerequisites:	CUL 135, CUL 135A and HRM 192 or Departmental approval				
Corequisites:	HRM 215				
This course is a laboratory to accompany HRM 215. Emphasis is placed on practical applications of restaurant management principles. Upon completion, students should be able to demonstrate a basic proficiency in restaurant management applications.					
<b>*HRM 220</b>	<b>Food and Beverage Control</b>	<b>3</b>	<b>0</b>	<b>3</b>	
Prerequisites:	MAT 115				
Corequisites:	None				
This course introduces controls and accounting procedures used in the hospitality industry. Topics include analysis of financial statements, reports, and costs. Upon completion, students should be able to understand and apply food, beverage, and labor cost control systems.					
<b>HRM 225</b>	<b>Beverage Management</b>	<b>2</b>	<b>0</b>	<b>2</b>	
Prerequisites:	None				
Corequisites:	None				
This course introduces the management of beverage operations in a hospitality operation. Topics include history, service, procurement, storage, and control of wines, fermented and distilled beverages, sparkling waters, coffees, and teas. Upon completion, students should be able to demonstrate knowledge of the beverages consumed in a hospitality operation.					



	<b>*HRM 240</b>	<b>Hospitality Marketing</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
Course	This course covers planning, organizing, directing, and analyzing the results of marketing programs in the hospitality industry. Emphasis is placed on market segmentation and analysis, product and image development, sales planning, advertising, public relations, and collateral materials. Upon completion, students should be able to prepare a marketing plan applicable to the hospitality industry.				
Descriptions	<b>*HRM 280</b>	<b>Hospitality Management Problems</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	Successful completion of the first four semesters of the program or departmental approval			
	Corequisites:	None			
	This course addresses current global, national, and local concerns and issues in the hospitality industry. Emphasis is placed on problem-solving skills using currently available resources. Upon completion, students should be able to apply hospitality management principles to real challenges facing industry managers. This course involves the student in a capstone project that will utilize the knowledge and practical experience from the previous semesters of the program.				

## Human Services

	<b>*HSE 110</b>	<b>Introduction to Human Services</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None				
	Corequisites:	None				
	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.					
	<b>*HSE 112</b>	<b>Group Process I</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>2</b>
	Prerequisites:	Enrollment in the HSE program				
	Corequisites:	None				
	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.					
	<b>*HSE 123</b>	<b>Interviewing Techniques</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None				
	Corequisites:	None				
	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.					
	<b>*HSE 125</b>	<b>Counseling</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>3</b>
	Prerequisites:	PSY 150				
	Corequisites:	None				
	This course covers the major approaches to psychotherapy and counseling, including theory, characteristics, and techniques. Emphasis is placed on facilitation of self-exploration, problem-solving, decision-making, and personal growth. Upon completion, students should be able to understand various theories of counseling and demonstrate counseling techniques.					

<b>*HSE 210</b>	<b>Human Services Issues</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	
Prerequisites:	Successful completion of 12 SHC in the HSE program					
Corequisites:	None					
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.						
<b>*HSE 220</b>	<b>Case Management</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>3</b>	Course Descriptions
Prerequisites:	HSE 110					
Corequisites:	None					
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.						
<b>*HSE 225</b>	<b>Crisis Intervention</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	
Prerequisites:	None					
Corequisites:	None					
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.						



## Humanities/Fine Arts Electives

The following courses are classified as Humanities/Fine Arts. For more information, see the course description. These courses may be used as Humanities/Fine Arts electives for the A.A., A.S., and A.A.S. Degree programs, unless otherwise noted.

Course

Descriptions

### ART

- ART 111 Art Appreciation
- ART 114 Art History Survey I
- ART 115 Art History Survey II
- ART 117 Non-Western Art History

### DRAMA

- DRA 111 Theatre Appreciation
- DRA 112 Literature of the Theatre
- DRA 211 Theatre History I

### 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
- ENG 262 World Literature II

### FOREIGN LANGUAGES

- ASL 111 Elementary ASL I
- ASL 112 Elementary ASL II
- FRE 111 Elementary French I
- FRE 112 Elementary French II
- FRE 211 Intermediate French I
- FRE 212 Intermediate French II
- GER 111 Elementary German I
- GER 112 Elementary German II
- GER 211 Intermediate German I
- GER 212 Intermediate German II
- SPA 111 Elementary Spanish I
- SPA 112 Elementary Spanish II
- SPA 211 Intermediate Spanish I
- SPA 212 Intermediate Spanish II

### HUMANITIES

- HUM 110 Technology and Society
- \*HUM 115 Critical Thinking
- HUM 120 Cultural Studies
- HUM 121 The Nature of America
- HUM 122 Southern 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 113 American Music
- MUS 114 Non-Western Music

### PHILOSOPHY

- PHI 210 History of Philosophy
- PHI 215 Philosophical Issues
- PHI 230 Introduction to Logic
- PHI 240 Introduction to Ethics

### RELIGION

- REL 110 World Religions
- REL 211 Introduction to Old Testament
- REL 212 Introduction to New Testament
- REL 221 Religion in America

# Humanities

**HUM 110      Technology and Society** **3    0    3**

Prerequisites: None

Corequisites: None

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.*

Course

Descriptions

**HUM 115      Critical Thinking** **3    0    3**

Prerequisites: ENG 095 or RED 090 and ENG 090

Corequisites: None

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

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.*

**HUM 121      The Nature of America** **3    0    3**

Prerequisites: None

Corequisites: None

This course provides an interdisciplinary survey of the American cultural, social, and political experience. Emphasis is placed on the multicultural character of American society, distinctive qualities of various regions, and the American political system. Upon completion, students should be able to analyze significant cultural, social, and political aspects of American life. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

**HUM 122      Southern Culture** **3    0    3**

Prerequisites: None

Corequisites: None

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.*



	<b>HUM 123</b>	<b>Appalachian Culture</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
Course	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
Descriptions					
	<b>HUM 130</b>	<b>Myth in Human Culture</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.</i>				
	<b>HUM 150</b>	<b>American Women's Studies</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.</i>				
	<b>HUM 160</b>	<b>Introduction to Film</b>	<b>2</b>	<b>2</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.</i>				
	<b>HUM 211</b>	<b>Humanities I</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	ENG 111			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.</i>				

**HUM 212**      **Humanities II**      **3**      **0**      **3**

Prerequisites:    ENG 111

Corequisites:    None

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.*

Course

Descriptions

**HUM 220**      **Human Values and Meaning**      **3**      **0**      **3**

Prerequisites:    ENG 111

Corequisites:    None

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**      **2**      **3**      **3**

Prerequisites:    MAT 121 or MAT 161

Corequisites:    None

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 112**      **Hydraulics/Medium/Heavy Duty**      **1**      **2**      **2**

Prerequisites:    None

Corequisites:    None

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.

## Internet Technologies

**ITN 110**      **Introduction to Web Graphics**      **2**      **2**      **3**

Prerequisites:    ITN 160

Corequisites:    None

This course is the first of two courses covering the creation of web graphics, addressing problems peculiar to WWW display using appropriate software. Topics include web graphics file types, type conversion, RGB color, the browser-safe palette, elementary special effects, image maps, and other related topics. Upon completion, students should be able to create graphics such as banners, buttons, backgrounds, and other graphics for Web pages. Students will create graphics that are optimized for size and graphic file type, properly converted from digitized sources and create useful animated graphics.



Course	<b>ITN 120</b>	<b>Introduction to Internet Multimedia</b>	<b>2</b>	<b>2</b>	<b>3</b>
	Prerequisites:	ITN 110 and CIS 143			
Descriptions	Corequisites:	None			
	This is the first of two courses covering the creation of Internet Multimedia. Topics include Internet multimedia file types, file type conversion, acquisition of digital audio/video, streaming audio/video and graphics animation plug-in programs and other related topics. Upon completion, students should be able to create Internet multimedia presentations utilizing a variety of methods and applications.				
	<b>ITN 160</b>	<b>Principles of Web Design</b>	<b>2</b>	<b>2</b>	<b>3</b>
	Prerequisites:	CIS 110 or CIS 111			
	Corequisites:	None			
This course introduces intermediate to advanced web page design techniques. Topics include effective use of graphics, fonts, colors, navigation tools, advanced markup language elements, as well as a study of bad design techniques. Upon completion, students should be able to employ advanced design techniques to create high impact and highly functional web pages.					
	<b>ITN 170</b>	<b>Introduction to Internet Database</b>	<b>2</b>	<b>2</b>	<b>3</b>
	Prerequisites:	CIS 143, CIS 152, and ITN 160			
	Corequisites:	None			
This is the first of two courses introducing the uses of databases to store, retrieve and query data through HTML forms. Topics include database design for Internet databases, use of ODBC-compliant databases. Upon completion, students should be able to create and maintain a database that will collect, query, and report on data via an HTML form.					
	<b>ITN 220</b>	<b>Advanced Internet Multimedia</b>	<b>2</b>	<b>2</b>	<b>3</b>
	Prerequisites:	ITN 120			
	Corequisites:	None			
This is the second of two courses covering Internet multimedia. Topics include use of advanced Internet multimedia applications. Upon completion, students should be able to create interactive Internet multimedia presentations.					
	<b>ITN 260</b>	<b>Introduction to E-Commerce</b>	<b>2</b>	<b>2</b>	<b>3</b>
	Prerequisites:	ITN 170			
	Corequisites:	None			
This course introduces the concepts and tools to implement electronic commerce via the Internet. Topics include application and server software selection, security transactions, use and verification of credit cards, publishing of catalogs, and site administration. Upon completion, students should be able to set up a working e-commerce Internet web site.					
	<b>ITN 270</b>	<b>Advanced Internet Databases</b>	<b>2</b>	<b>2</b>	<b>3</b>
	Prerequisites:	ITN 170			
	Corequisites:	None			
This is the second of two courses on Internet databases. Topics include database distribution and replication, data warehousing, integration of desktop and Internet database structures. Upon completion, students should be able to design and implement an Internet database.					
	<b>ITN 285</b>	<b>Emerging Technologies</b>	<b>2</b>	<b>2</b>	<b>3</b>
	Prerequisites:	ITN 170			
	Corequisites:	None			
This course will expose students to emerging technologies in the field of Internet Technologies. Emphasis is placed on the new technologies in the Internet related field. Upon completion, students should be aware of the emerging technologies of Internet Technologies.					





	<b>MAC 122</b>	<b>CNC Turning</b>	<b>1</b>	<b>3</b>	<b>2</b>
	Prerequisites: None				
	Corequisites: None				
	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.				
Course					
	<b>MAC 124</b>	<b>CNC Milling</b>	<b>1</b>	<b>3</b>	<b>2</b>
	Prerequisites: None				
	Corequisites: None				
	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.				
Descriptions					
	<b>MAC 151</b>	<b>Machining Calculations</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites: None				
	Corequisites: None				
	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.				
	<b>MAC 152</b>	<b>Advanced Machining Calculations</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites: None				
	Corequisites: None				
	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.				
	<b>MAC 153</b>	<b>Compound Angles</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites: None				
	Corequisites: None				
	This course introduces the application of basic types and uses of compound angles. Emphasis is placed on problem solving by tilting and rotating adjacent angles to resolve an unknown compound angle. Upon completion, students should be able to set up and develop compound angles on parts using problem-solving techniques. This course is a unique concentration requirement of the Tool, Die, and Mold Making concentration in the Machining Technology program.				
	<b>MAC 214</b>	<b>Machining Technology IV</b>	<b>2</b>	<b>12</b>	<b>6</b>
	Prerequisites: MAC 112				
	Corequisites: None				
	This course provides advanced applications and practical experience in the manufacturing of complex parts. Emphasis is placed on inspection, gauging, and the utilization of machine tools. Upon completion, students should be able to manufacture complex assemblies to specifications.				
	<b>MAC 224</b>	<b>Advanced CNC Milling</b>	<b>1</b>	<b>3</b>	<b>2</b>
	Prerequisites: MAC 124				
	Corequisites: None				
	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 1 3 2**

Prerequisites: None

Corequisites: None

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 229 CNC Programming 2 0 2**

Prerequisites: MAC 121, MAC 122, MAC 124, or MAC 226

Corequisites: None

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 241 Jigs and Fixtures I 2 6 4**

Prerequisites: MAC 112

Corequisites: None

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 243 Die Making I 2 6 4**

Prerequisites: MAC 112

Corequisites: None

This course introduces the principles and applications of die making. Topics include types, construction, and application of dies. Upon completion, students should be able to design and build simple dies.

**MAC 244 Die Making II 1 9 4**

Prerequisites: MAC 243

Corequisites: None

This course provides continued study in the application and use of dies. Emphasis is placed on the design and manufacturing of complex dies. Upon completion, students should be able to design and build complex dies. This course is a unique concentration requirement of the Tool, Die, and Mold Making concentration in the Machining Technology program.

**MAC 245 Mold Construction I 2 6 4**

Prerequisites: MAC 112

Corequisites: None

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 246 Mold Construction II 1 9 4**

Prerequisites: MAC 245

Corequisites: None

This course provides continued study in the application and use of molds. Emphasis is placed on design and manufacturing of complex molds. Upon completion, students should be able to design and build complex molds. This course is a unique concentration requirement of the Tool, Die, and Mold Making concentration in the Machining Technology program.

Course

Descriptions



<b>MAC 247</b>	<b>Production Tooling</b>	<b>2</b>	<b>0</b>	<b>2</b>
Prerequisites:	MAC 111			
Corequisites:	None			

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.

Course

Descriptions

## Mathematics

<b>MAT 060</b>	<b>Essential Mathematics</b>	<b>3</b>	<b>2</b>	<b>4</b>
Prerequisites:	MAT 050 or placement			
Corequisites:	RED 080 or placement			

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.

<b>MAT 070</b>	<b>Introductory Algebra</b>	<b>3</b>	<b>2</b>	<b>4</b>
Prerequisites:	MAT 060 or placement			
Corequisites:	RED 080 or placement			

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.

<b>MAT 080</b>	<b>Intermediate Algebra</b>	<b>3</b>	<b>2</b>	<b>4</b>
Prerequisites:	MAT 070 or placement			
Corequisites:	RED 080 or placement			

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.

<b>MAT 101</b>	<b>Applied Mathematics I</b>	<b>2</b>	<b>2</b>	<b>3</b>
Prerequisites:	MAT 060			
Corequisites:	None			

This course is a comprehensive review of arithmetic with basic algebra designed to meet the needs of certificate and diploma programs. Topics include arithmetic and geometric skills used in measurement, ratio and proportion, exponents and roots, applications of percent, linear equations, formulas, and statistics. Upon completion, students should be able to solve practical problems in their specific areas of study. *This course is intended for certificate and diploma programs.*

**MAT 115 Mathematical Models 2 2 3**

Prerequisites: MAT 070

Corequisites: None

This course develops the ability to utilize mathematical skills and technology to solve problems at a level found in non-mathematics-intensive programs.

Topics include applications to percent, ratio and proportion, formulas, statistics, functional notation, linear functions and their groups, probability, sampling techniques, scatter plots, and modeling. Upon completion, students should be able to solve practical problems, reason and communicate with mathematics, and work confidently, collaboratively, and independently.

Course

Descriptions

**MAT 121 Algebra/Trigonometry I 2 2 3**

Prerequisites: MAT 080 or MAT 090

Corequisites: None

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 2 2 3**

Prerequisites: MAT 121

Corequisites: None

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: MAT 080 or MAT 090

Corequisites: None

This course provides an introduction in a nontechnical 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 3 0 3**

Prerequisites: MAT 080 or MAT 090

Corequisites: None

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** 0    2    1

Prerequisites: MAT 080 or MAT 090

Corequisites: MAT 151

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.*

Course

Descriptions

**MAT 161      College Algebra** 3    0    3

Prerequisites: MAT 080 or MAT 090

Corequisites: MAT 161A

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** 0    2    1

Prerequisites: MAT 080 or MAT 090

Corequisites: MAT 161

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** 3    0    3

Prerequisites: MAT 121, MAT 161, MAT 171, or MAT 280

Corequisites: None

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      Precalculus Algebra** 3    0    3

Prerequisites: MAT 080 or MAT 090

Corequisites: MAT 171A

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.*

**MAT 171A      Precalculus Algebra Lab** 0    2    1

Prerequisites: MAT 080 or MAT 090

Corequisites: MAT 171

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.*

<b>MAT 172</b>	<b>Precalculus Trigonometry</b>	<b>3</b>	<b>0</b>	<b>3</b>
Prerequisites:	MAT 171			
Corequisites:	None			
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.</i>				
<b>MAT 172A</b>	<b>Precalculus Trigonometry Lab</b>	<b>0</b>	<b>2</b>	<b>1</b>
Prerequisites:	MAT 171			
Corequisites:	MAT 172			
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
<b>MAT 175</b>	<b>Precalculus</b>	<b>4</b>	<b>0</b>	<b>4</b>
Prerequisites:	High school Algebra III/Trigonometry or MAT 162			
Corequisites:	None			
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.</i>				
<b>MAT 175A</b>	<b>Precalculus Lab</b>	<b>0</b>	<b>2</b>	<b>1</b>
Prerequisites:	High school Algebra III/Trigonometry or MAT 162			
Corequisites:	MAT 175			
This course is a laboratory for MAT 175. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
<b>MAT 191</b>	<b>Selected Topics, Graphic Calculators</b>	<b>1</b>	<b>2</b>	<b>2</b>
Prerequisites:	None			
Corequisites:	None			
This course explores the structure of the TI-86 Graphing Calculator. Topics include the operation of the utility and the specific functional areas such as the catalog; the math, calculus, and test operations; constants, conversions, bases, and complex numbers; graphing; tables; matrices; statistics; equation solving; and programming. Upon completion, students should be able to solve problems in these areas using the graphing calculator.				
<b>MAT 271</b>	<b>Calculus I</b>	<b>3</b>	<b>2</b>	<b>4</b>
Prerequisites:	MAT 172 or MAT 175			
Corequisites:	None			
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.</i>				

Course  
Descriptions



<b>MAT 272</b>	<b>Calculus II</b>	<b>3</b>	<b>2</b>	<b>4</b>
Prerequisites: MAT 271				
Corequisites: None				
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.</i>				
<b>MAT 273</b>	<b>Calculus III</b>	<b>3</b>	<b>2</b>	<b>4</b>
Prerequisites: MAT 272				
Corequisites: None				
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.</i>				
<b>MAT 280</b>	<b>Linear Algebra</b>	<b>3</b>	<b>0</b>	<b>3</b>
Prerequisites: MAT 271				
Corequisites: None				
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.</i>				
<b>MAT 285</b>	<b>Differential Equations</b>	<b>3</b>	<b>0</b>	<b>3</b>
Prerequisites: MAT 272				
Corequisites: None				
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				

## Mechanical

<b>MEC 110</b>	<b>Introduction to CAD/CAM</b>	<b>1</b>	<b>2</b>	<b>2</b>
Prerequisites: None				
Corequisites: None				
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.				

<b>MEC 141</b>	<b>Introduction to Manufacturing Processes</b>	<b>2</b>	<b>2</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

This course covers the properties and characteristics of manufacturing materials and the processes used to form them. Emphasis is placed on manufacturing materials, heat-treating processes, and manufacturing processes. Upon completion, students should be able to identify physical characteristics of materials and describe processes used to manufacture a part.

Course  
Descriptions

<b>*MEC 161</b>	<b>Manufacturing Processes I</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: None

Corequisites: MEC 161A

This course provides the fundamental principles of processing materials into usable forms for the customer. Emphasis is placed on material forming, removal, and value-added processing provided to the customer by the manufacturers. Upon completion, students should be able to apply principles of traditional and nontraditional processing for metals and nonmetals.

<b>*MEC 161A</b>	<b>Manufacturing Processes I Lab</b>	<b>0</b>	<b>3</b>	<b>1</b>
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Prerequisites: None

Corequisites: MEC 161

This course is a laboratory for MEC 161. Emphasis is placed on experiences that enhance the materials presented in MEC 161. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in MEC 161.

<b>*MEC 180</b>	<b>Engineering Materials</b>	<b>2</b>	<b>3</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

This course covers the physical and mechanical properties of materials. Topics include testing, heat treating, ferrous and non-ferrous metals, plastics, composites, and material selection. Upon completion, students should be able to specify basic tests and properties and select appropriate materials on the basis of specific properties.

<b>MEC 231</b>	<b>Computer-Aided Manufacturing I</b>	<b>1</b>	<b>4</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

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.

<b>MEC 232</b>	<b>Computer-Aided Manufacturing II</b>	<b>1</b>	<b>4</b>	<b>3</b>
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Prerequisites: MEC 231

Corequisites: None

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.

<b>MEC 250</b>	<b>Statics and Strength of Materials</b>	<b>4</b>	<b>3</b>	<b>5</b>
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Prerequisites: PHY 131 or PHY 151

Corequisites: None

This course covers the concepts and principles of statics and stress analysis. Topics include systems of forces on structures in equilibrium and analysis of stresses and strains on these components. Upon completion, students should be able to analyze forces and the results of stresses and strains on structural components.



	<b>MEC 263</b>	<b>Electro-Pneu Components</b>	<b>2</b>	<b>4</b>	<b>4</b>
	Prerequisites:	None			
	Corequisites:	None			
Course	This course introduces principles and practical applications of electrical/pneumatic control systems, and primary control devices incorporated in those systems. Emphasis is placed on reading and interpreting ladder diagrams, building control circuits, and troubleshooting valves, switches, and sensors. Upon completion, students should be able to design, build, and troubleshoot basic electro-pneumatic control systems.				
Descriptions	<b>MEC 267</b>	<b>Thermal Systems</b>	<b>2</b>	<b>2</b>	<b>3</b>
	Prerequisites:	PHY 131 or PHY 151			
	Corequisites:	None			
	This course introduces the fundamental laws of thermodynamics. Topics include work and energy, open and closed systems, and heat engines. Upon completion, students should be able to demonstrate a knowledge of the laws and principles that apply to thermal power.				
	<b>*MEC 270</b>	<b>Machine Design</b>	<b>3</b>	<b>3</b>	<b>4</b>
	Prerequisites:	DFT 151, MEC 180, and MEC 250 or MEC 251 and MEC 252			
	Corequisites:	None			
	This course covers the basic principles underlying design and selection of machine elements. Topics include stress analysis, selection of components, power transmission, and other design considerations. Upon completion, students should be able to identify and solve mechanical design problems by applying basic engineering principles.				
	<b>*MEC 288</b>	<b>Manufacturing Engineering Research &amp; Design Project</b>	<b>0</b>	<b>2</b>	<b>1</b>
	Prerequisites:	None			
	Corequisites:	ATR 112			
	This course provides an opportunity to research specific interest areas in the field of manufacturing engineering. Emphasis is on a specific area of concern. Upon completion, students should be able to demonstrate competence through a hands-on project.				
	<b>*MEC 293</b>	<b>Selected Topics in Mechanical Engineering Technology</b>	<b>1</b>	<b>6</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study.				

## Medical Transcription

	<b>MED 121</b>	<b>Medical Terminology I</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>
	Prerequisites:	ENG 090, ENG 090A and RED 090 or placement test				
	Corequisites:	None				
	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.					
	<b>MED 122</b>	<b>Medical Terminology II</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>
	Prerequisites:	MED 121				
	Corequisites:	None				
	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.					

# Marketing and Retailing

**MKT 120 Principles of Marketing 3 0 3**

Prerequisites: None

Corequisites: None

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.

Course

Descriptions

**MKT 121 Retailing 3 0 3**

Prerequisites: None

Corequisites: None

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 3 0 3**

Prerequisites: None

Corequisites: None

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 3 0 3**

Prerequisites: None

Corequisites: None

This course is designed to emphasize the necessity of selling skills in a modern business environment. Emphasis is placed on sales techniques involved in various types of selling situations. Upon completion, students should be able to demonstrate an understanding of the techniques covered.

**MKT 220 Advertising and Sales Promotion 3 0 3**

Prerequisites: None

Corequisites: None

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 3 0 3**

Prerequisites: None

Corequisites: None

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.



	<b>MKT 224</b>	<b>International Marketing</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
Course	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.				
	<b>MKT 225</b>	<b>Marketing Research</b>	<b>3</b>	<b>0</b>	<b>3</b>
Descriptions	Prerequisites:	MKT 120			
	Corequisites:	None			
	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. <i>This course is a unique concentration requirement of the Marketing and Retailing concentration in the Business Administration program.</i>				
	<b>MKT 227</b>	<b>Marketing Applications</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	MKT 120 and MKT 221			
	Corequisites:	None			
	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. <i>This course is a unique concentration requirement of the Marketing and Retailing concentration in the Business Administration program.</i>				

## Medical Laboratory Technology

	<b>MLT 110</b>	<b>Introduction to MLT</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	Enrollment in the Medical Laboratory Technology program				
	Corequisites:	None				
	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.					
	<b>MLT 111</b>	<b>Urinalysis and Body Fluids</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>2</b>
	Prerequisites:	Enrollment in the Medical Laboratory Technology program, MLT 110 and BIO 163				
	Corequisites:	None				
	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.					
	<b>MLT 120</b>	<b>Hematology/Hemostasis</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>4</b>
	Prerequisites:	Enrollment in the Medical Laboratory Technology program, MLT 110 and BIO 163				
	Corequisites:	None				
	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.					

<b>MLT 126</b>	<b>Immunology and Serology</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>2</b>
Prerequisites:	Enrollment in the Medical Laboratory Technology program, MLT 110 and BIO 163				
Corequisites:	None				
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.					
<b>MLT 127</b>	<b>Transfusion Medicine</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>3</b>
Prerequisites:	Enrollment in the Medical Laboratory Technology program and MLT 126				
Corequisites:	None				
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.					
<b>MLT 130</b>	<b>Clinical Chemistry</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>4</b>
Prerequisites:	Enrollment in the Medical Laboratory Technology program, CHM 130, and CHM 130A				
Corequisites:	None				
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.					
<b>MLT 140</b>	<b>Introduction to Microbiology</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>3</b>
Prerequisites:	Enrollment in the Medical Laboratory Technology program				
Corequisites:	None				
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.					
<b>MLT 215</b>	<b>Professional Issues</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>
Prerequisites:	Enrollment in the Medical Laboratory Technology program				
Corequisites:	None				
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 entry-level areas and be prepared for the national certification examination.					

Course

Descriptions



	<b>MLT 240</b>	<b>Special Clinic Microbiology</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	MLT 140				
	Corequisites:	None				
Course	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.					
	<b>*MLT 252</b>	<b>MLT Practicum I**</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>2</b>
Descriptions	Prerequisites:	Enrollment in the Medical Laboratory Technology program, MLT120, MLT 240, MLT 126, MLT 130, BIO 163, CHM 130, and CHM 130A				
	Corequisites:	MLT 111 and MLT 127				
	This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations. Concentration will be in the area of Phlebotomy.					
	<b>*MLT 254</b>	<b>MLT Practicum I**</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>4</b>
	Prerequisites:	Enrollment in the Medical Laboratory Technology program and MLT 252				
	Corequisites:	None				
	This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations. Concentration will be in the area of blood banking.					
	<b>*MLT 255</b>	<b>MLT Practicum I**</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>5</b>
	Prerequisites:	Enrollment in the Medical Laboratory Technology program and MLT 252				
	Corequisites:	None				
	This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations. Concentration will be in the area of microbiology.					
	<b>*MLT 261</b>	<b>MLT Practicum II**</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1</b>
	Prerequisites:	Enrollment in the Medical Laboratory Technology program and MLT 252				
	Corequisites:	None				
	This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations. Concentration will be in the area of donors and component therapy.					
	<b>*MLT 265</b>	<b>MLT Practicum II**</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>5</b>
	Prerequisites:	Enrollment in the Medical Laboratory Technology program and MLT 252				
	Corequisites:	None				
	This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations. Concentration will be in the area of hematology.					





<b>MUS 122</b>	<b>Music Theory II</b>	<b>3</b>	<b>2</b>	<b>4</b>
Prerequisites:	MUS 121			
Corequisites:	None			
Course	This course is a continuation of studies begun in MUS 121. Emphasis is placed on advanced melodic, rhythmic, and harmonic analysis and continued studies in part-writing, ear-training, and sight-singing. Upon completion, students should be able to demonstrate proficiency in the recognition and application of the above. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>			
Descriptions				

## Networking Technology

<b>NET 110</b>	<b>Data Communication/Networking</b>	<b>2</b>	<b>2</b>	<b>3</b>
Prerequisites:	None			
Corequisites:	None			
	This course introduces data communication and networking. Topics include telecommunication standards, protocols, equipment, network topologies, communication software, LANs, WANs, the Internet, and network operating systems. Upon completion, students should be able to demonstrate understanding of the fundamentals of telecommunication and networking.			
<b>NET 112</b>	<b>Security Fund. &amp; Policies</b>	<b>3</b>	<b>0</b>	<b>3</b>
Prerequisites:	None			
Corequisites:	None			
	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 the Internet, current 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.			
<b>NET 120</b>	<b>Network Installation/Administration I</b>	<b>2</b>	<b>2</b>	<b>3</b>
Prerequisites:	NET 110			
Corequisites:	None			
	This course covers the installation and administration of network hardware and system software. Topics include network topologies, various network operating systems, server and workstation installation and configuration, printer services, and connectivity options. Upon completion, students should be able to perform basic installation and administration of departmental networks.			
<b>NET 125</b>	<b>Routing and Switching I</b>	<b>1</b>	<b>4</b>	<b>3</b>
Prerequisites:	None			
Corequisites:	None			
	This course introduces the OSI model, network topologies, IP addressing, and subnet masks, simple routing techniques, and basic switching terminology. Topics include the basic functions of the seven layers of the OSI model, different classes of IP addressing and subnetting, router login scripts. Upon completion, students should be able to list the key internetworking functions of the OSI Networking Layer and how they are performed in a variety of router types.			
<b>NET 126</b>	<b>Routing and Switching II</b>	<b>1</b>	<b>4</b>	<b>3</b>
Prerequisites:	NET 125			
Corequisites:	None			
	This course introduces router configurations, router protocols, switching methods, and hub terminology. Topics include the basic flow control methods, router startup commands, manipulation of router configuration files, IP and data link addressing. Upon completion, students should be able to prepare the initial router configuration files, as well as enable, verify, and configure IP addresses.			

**NET 145 Introduction to Linux 2 2 3**

Prerequisites: None

Corequisites: None

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.

Course

Descriptions

**NET 155 Linux System Administration 2 2 3**

Prerequisites: NET 145 or department approval

Corequisites: None

This course introduces the Linux file system, group administration, and control of system hardware. Topics include installation of Linux on standard and non-standard hardware, create and maintain the Linux file system, configure a NIS client and DHCP client, configure NFS and SMB/Samba, Configure X, Gnome, and KDE, perform basic memory and process management, and configure basic host security. Upon completion, students should be able to perform system administration tasks to a level where they can install, configure, and attach a new Linux workstation to an existing network.

**NET 165 Linux Networking/Security 2 2 3**

Prerequisites: NET 155

Corequisites: None

This course includes skill-building in configuring common network services and security administration using Linux. Topics include server-side setup, configuration, basic administration of common networking services, and security administration using Linux. Upon completion, students should be able to setup a Linux server and configure common network services including security requirements.

**NET 193 Selected Topics in Networking Technology 2 2 3**

Prerequisites: NET 120 and second year status

Corequisites: None

This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Workplace issues of computer network professionals will be examined. Upon completion, students should be able to demonstrate an understanding of the specific area of study.

**NET 220 Network Installation/Administration II 2 2 3**

Prerequisites: NET 120

Corequisites: None

This course covers advanced network installation and administration concepts and procedures. Topics include basic network troubleshooting techniques, advanced print services, traffic management, security, backup, multiple protocol support, server configuration options, fault tolerance, and inter-network options. Upon completion, students should be able to demonstrate understanding of advanced management of departmental networks.

**NET 222 Security Administration I 2 2 3**

Prerequisites: NET 110 and NET 112

Corequisites: None

This course provides an overview of security administration and fundamentals of designing security architectures. Topics include 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.



Course

Descriptions

<b>NET 225</b>	<b>Advanced Router and Switching I</b>	<b>1</b>	<b>4</b>	<b>3</b>
Prerequisites:	NET 126			
Corequisites:	None			
This course introduces advanced router configuration, advanced LAN switching theory and design, VLANs, Novell IPX, and threaded case studies. Topics include router elements and operations, adding routing protocols to a configuration, monitoring IPX operations on the router, LAN segmentation, and advanced switching methods. Upon completion students should be able to describe LAN and network segmentation with bridges, routers and switches and describe a virtual LAN.				
<b>NET 226</b>	<b>Advanced Router and Switching II</b>	<b>1</b>	<b>4</b>	<b>3</b>
Prerequisites:	NET 225			
Corequisites:	None			
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, channels, and function groups, describe the Spanning Tree protocol.				
<b>NET 230</b>	<b>Wide Area Networking</b>	<b>2</b>	<b>2</b>	<b>3</b>
Prerequisites:	NET 120			
Corequisites:	None			
This course is designed to introduce significant aspects of network interconnectivity. Topics include LAN-to-LAN, LAN-to-host, LAN-to-WAN connectivity, Internet connections, and voice-video-data transmission. Upon completion, students should be able to demonstrate an understanding of wide area networking.				
<b>NET 232</b>	<b>Security Admin. II</b>	<b>2</b>	<b>2</b>	<b>3</b>
Prerequisites:	NET 222			
Corequisites:	None			
This course provides the skills necessary to design and implement information security controls. Topics include advanced TCP/IP concepts, network vulnerability analysis, and monitoring. Upon completion, students should be able to distinguish between normal anomalous network traffic, identify common network attack patterns, and implement security solutions.				
<b>NET 240</b>	<b>Network Design</b>	<b>3</b>	<b>0</b>	<b>3</b>
Prerequisites:	NET 110, NET 120, and NET 125			
Corequisites:	None			
This course covers the principles of the design of LANs and WANs. Topics include network architecture, transmission systems, traffic management, bandwidth requirements, Internet working devices, redundancy, and broadband versus base-band systems. Upon completion, students should be able to design a network to meet specified business and technical requirements.				
<b>NET 250</b>	<b>Advanced Networks I</b>	<b>2</b>	<b>2</b>	<b>3</b>
Prerequisites:	NET 110, NET 120, and NET 220			
Corequisites:	None			
This course covers advanced network management, security, and server issues. Topics include server types (file, database, fax, communication, FTP, e-mail, CD-ROM), encryption, authentication, remote monitoring, viruses, and disaster recovery. Upon completion, students should be able to perform advanced monitoring and management of various types of servers and networks.				





<b>NET 280</b>	<b>Networking Project</b>	<b>1</b>	<b>4</b>	<b>3</b>
Prerequisites: NET 110 and NET 240				
Corequisites: NET 251				
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.				

Course

Descriptions

## Nursing

<b>*NUR 101</b>	<b>Practical Nursing I</b>	<b>7</b>	<b>6</b>	<b>6</b>	<b>11</b>
Prerequisites: Admission into the Practical Nursing program					
Corequisites: BIO 163 and PSY 110					
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. <i>This is a diploma-level course.</i>					
<b>*NUR 102</b>	<b>Practical Nursing II</b>	<b>8</b>	<b>0</b>	<b>12</b>	<b>12</b>
Prerequisites: BIO 163, NUR 101, and PSY 110					
Corequisites: ENG 102 and CIS 110					
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. <i>This is a diploma-level course.</i>					
<b>*NUR 103</b>	<b>Practical Nursing III</b>	<b>6</b>	<b>0</b>	<b>12</b>	<b>10</b>
Prerequisites: CIS 110, ENG 102, NUR 102					
Corequisites: None					
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. <i>This is a diploma-level course.</i>					
<b>*NUR 115</b>	<b>Fundamentals of Nursing</b>	<b>2</b>	<b>3</b>	<b>6</b>	<b>5</b>
Prerequisites: Admission into the Associate Degree Nursing program					
Corequisites: None					
This course introduces concepts basic to beginning nursing practice. Emphasis is placed on the application of the nursing process to provide and manage care as a member of the discipline of nursing. Upon completion, students should be able to demonstrate beginning competence in caring for individuals with common alterations of health.					
<b>*NUR 116</b>	<b>Nursing of Older Adults</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>4</b>
Prerequisites: NUR 125 and NUR 255					
Corequisites: None					
This course provides an opportunity to utilize the provider of care and manager of care roles to meet nursing needs of older adults in a variety of settings. Emphasis is placed on the aging process as it applies to normal developmental changes and alterations in health commonly occurring in the older adult. Upon completion, students should be able to apply the nursing process in caring for the older adult.					





	<b>*NUR 189</b>	<b>Nursing Transition</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>2</b>
	Prerequisites:	Admission into the LPN/ADN Bridge program, or Licensed Healthcare Provider with Department Chair approval				
	Corequisites:	NUR 133				
Course	This course is designed to assist the licensed practical nurse in transition to the role of the associate degree nurse. Topics include the role of the registered nurse, nursing process, homeostasis, and validation of selected nursing skills and physical assessment. Upon completion, students should be able to articulate into the ADN program at the level of the generic student.					
Descriptions	<b>*NUR 235</b>	<b>Adult Nursing II</b>	<b>4</b>	<b>3</b>	<b>15</b>	<b>10</b>
	Prerequisites:	ENG 114, NUR 125, NUR 135 and NUR 255				
	Corequisites:	None				
	This course provides expanded concepts related to nursing care for individuals experiencing common complex alterations in health. Emphasis is placed on the nurse's role as a member of a multi-disciplinary team and as a manager of care for a group of individuals. Upon completion, students should be able to provide comprehensive nursing care for groups of individuals with common complex alterations in health.					
	<b>*NUR 255</b>	<b>Professional Issues</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>
	Prerequisites:	NUR 188 and SOC 215				
	Corequisites:	ENG 114 and NUR 185				
	This course explores basic concepts of practice in the management of patient care in a complex health care system. Emphasis is placed on professional, legal, ethical, and political issues and management concepts. Upon completion, students should be able to articulate professional and management concepts.					

## Office Systems Technology

	<b>OST 080</b>	<b>Basic Keyboarding</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites:	None			
	Corequisites:	None			
	This course is designed to develop elementary keyboarding skills. Emphasis is placed on mastery of the keyboard. Upon completion, students should be able to demonstrate basic proficiency in keyboarding.				
	<b>OST 131</b>	<b>Keyboarding</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites:	None			
	Corequisites:	None			
	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.				
	<b>OST 132</b>	<b>Keyboard Skill Building</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites:	OST 134			
	Corequisites:	None			
	This course provides accuracy and speed-building drills. 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.				
	<b>OST 134</b>	<b>Text Entry and Formatting</b>	<b>2</b>	<b>2</b>	<b>3</b>
	Prerequisites:	OST 131 or tested keyboarding proficiency			
	Corequisites:	None			
	This course is designed to provide the 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 mailable documents. Students will be able to complete timed writings at speeds commensurate with employability.				

<b>OST 136</b>	<b>Word Processing</b>	<b>1</b>	<b>2</b>	<b>2</b>
Prerequisites: OST 131 and CIS 110				
Corequisites: None				
This course introduces 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.				
<b>OST 148</b>	<b>Medical Coding, Billing, and Insurance</b>	<b>3</b>	<b>0</b>	<b>3</b>
Prerequisites: CIS 110 and MED 121				
Corequisites: None				
This course introduces CPT and ICD coding as they apply to medical insurance and billing. Emphasis is placed on accuracy in coding, forms preparation, and posting. Upon completion, students should be able to describe the steps of the total billing cycle and explain the importance of accuracy.				
<b>OST 149</b>	<b>Medical Legal Issues</b>	<b>3</b>	<b>0</b>	<b>3</b>
Prerequisites: MED 122				
Corequisites: None				
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.				
<b>OST 164</b>	<b>Text Editing Applications</b>	<b>3</b>	<b>0</b>	<b>3</b>
Prerequisites: English placement test, tested computer keyboarding proficiency				
Corequisites: None				
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.				
<b>OST 184</b>	<b>Records Management</b>	<b>1</b>	<b>2</b>	<b>2</b>
Prerequisites: None				
Corequisites: None				
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. ARMA indexing rules are used.				
<b>OST 201</b>	<b>Medical Transcription I</b>	<b>3</b>	<b>2</b>	<b>4</b>
Prerequisites: OST 136 and OST 164				
Corequisites: MED 122 and OST 136				
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.				
<b>OST 202</b>	<b>Medical Transcription II</b>	<b>3</b>	<b>2</b>	<b>4</b>
Prerequisites: OST 201				
Corequisites: None				
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.				

Course  
Descriptions



	<b>OST 247</b>	<b>CPT Coding in the Medical Office</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites:	MED 122, OST 148			
	Corequisites:	None			
Course	This course provides in-depth coverage of procedural coding. Emphasis is placed on CPT and HCPCS rules for Medicare billing. Upon completion, students should be able to properly code procedures and services performed by physicians in ambulatory settings.				
	<b>OST 248</b>	<b>Diagnostic Coding</b>	<b>1</b>	<b>2</b>	<b>2</b>
Descriptions	Prerequisites:	MED 122 or OST 142			
	Corequisites:	None			
	This course provides an in-depth study of diagnostic coding for the medical office. Emphasis is placed on ICD-9-CM codes used on superbills and other encounter forms. Upon completion, students should be able to apply the principles of diagnostic coding in the physician's office.				
	<b>*OST 286</b>	<b>Professional Development</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	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.				

## Phlebotomy

	<b>*PBT 100</b>	<b>Phlebotomy Technology</b>	<b>5</b>	<b>2</b>	<b>0</b>	<b>6</b>
	Prerequisites:	Enrollment in the Phlebotomy Technology program				
	Corequisites:	PBT 101				
	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. <i>This is a certificate-level course.</i>					
	<b>*PBT 101</b>	<b>Phlebotomy Practicum</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>3</b>
	Prerequisites:	Enrollment in the Phlebotomy Technology program				
	Corequisites:	PBT 100				
	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. <i>This is a certificate-level course.</i>					

## Physical Education

	<b>PED 110</b>	<b>Fit and Well for Life</b>	<b>1</b>	<b>2</b>	<b>2</b>
	Prerequisites:	None			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				

<b>PED 111</b>	<b>Physical Fitness I</b>	<b>0</b>	<b>3</b>	<b>1</b>
Prerequisites: None				
Corequisites: None				
This course provides an individualized approach to physical fitness utilizing the five major components. Emphasis is placed on the scientific basis for setting up and engaging in personalized physical fitness programs. Upon completion, students should be able to set up and implement an individualized physical fitness program. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
<b>PED 112</b>	<b>Physical Fitness II</b>	<b>0</b>	<b>3</b>	<b>1</b>
Prerequisites: PED 111 or department approval				
Corequisites: None				
This course is an intermediate-level fitness class. Topics include specific exercises contributing to fitness and the role exercise plays in developing body systems. Upon completion, students should be able to implement and evaluate an individualized physical fitness program. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
<b>PED 113</b>	<b>Aerobics I</b>	<b>0</b>	<b>3</b>	<b>1</b>
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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
<b>PED 114</b>	<b>Aerobics II</b>	<b>0</b>	<b>3</b>	<b>1</b>
Prerequisites: PED 113 or department approval				
Corequisites: None				
This course provides a continuation of a program of cardiovascular fitness involving rhythmic exercise. Emphasis is placed on a wide variety of aerobic activities which include cardiovascular efficiency, strength, and flexibility. Upon completion, students should be able to participate in and design a rhythmic aerobic exercise routine. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
<b>PED 115</b>	<b>Step Aerobics I</b>	<b>0</b>	<b>3</b>	<b>1</b>
Prerequisites: None				
Corequisites: None				
This course introduces the fundamentals of step aerobics. Emphasis is placed on basic stepping up and down on an adjustable platform; cardiovascular fitness; and upper body, floor, and abdominal exercises. Upon completion, students should be able to participate in basic step aerobics. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
<b>PED 116</b>	<b>Step Aerobics II</b>	<b>0</b>	<b>3</b>	<b>1</b>
Prerequisites: PED 115 or department approval				
Corequisites: None				
This course provides a continuation of step aerobics. Emphasis is placed on a wide variety of choreographed step patterns; cardiovascular fitness; and upper body, abdominal, and floor exercises. Upon completion, students should be able to participate in and design a step aerobics routine. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				

Course  
Descriptions



**PED 117 Weight Training I** 0 3 1

Prerequisites: None

Corequisites: None

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.*

Course

Descriptions

**PED 118 Weight Training II** 0 3 1

Prerequisites: PED 117 or Department Approval

Corequisites: None

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** 0 3 1

Prerequisites: None

Corequisites: None

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** 0 3 1

Prerequisites: None

Corequisites: None

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.*

**PED 121 Walk, Jog, Run** 0 3 1

Prerequisites: None

Corequisites: None

This course covers the basic concepts involved in safely and effectively improving cardiovascular fitness. Emphasis is placed on walking, jogging, or running as a means of achieving fitness. Upon completion, students should be able to understand and appreciate the benefits derived from these activities. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*

**PED 122 Yoga I** 0 2 1

Prerequisites: None

Corequisites: None

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** 0 2 1

Prerequisites: PED\*122

Corequisites: None

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.*

Course

**PED 125 Self-Defense— Beginning** 0 2 1

Prerequisites: None

Corequisites: None

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.*

Descriptions

**PED 126 Self-Defense – Intermediate** 0 2 1

Prerequisites: PED 125

Corequisites: None

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 127 Karate** 0 3 1

Prerequisites: None

Corequisites: None

This course introduces the martial arts using the Japanese Shotokan form. Topics include proper conditioning exercise, book control, proper terminology, historical foundations, and etiquette relating to karate. Upon completion, students should be able to perform line drill techniques and Kata for various ranks. *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

This course emphasizes the fundamentals of golf. Topics include the proper grips, stance, alignment, swings for the short and long game, putting, and the rules and etiquette of golf. Upon completion, students should be able to perform the basic golf shots and demonstrate a knowledge of the rules and etiquette of golf. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*

**PED 129 Golf— Intermediate** 0 2 1

Prerequisites: PED 128

Corequisites: None

This course covers the more advanced phases of golf. Emphasis is placed on refining the fundamental skills and learning more advanced phases of the games such as club selection, trouble shots, and course management. Upon completion, students should be able demonstrate the knowledge and ability to play a recreational round of golf. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*



	<b>PED 130</b>	<b>Tennis — Beginning</b>	<b>0</b>	<b>2</b>	<b>1</b>
	Prerequisites:	None			
	Corequisites:	None			
Course	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
Descriptions	<b>PED 131</b>	<b>Tennis — Intermediate</b>	<b>0</b>	<b>2</b>	<b>1</b>
	Prerequisites:	PED 130 or department approval			
	Corequisites:	None			
	This course emphasizes the refinement of playing skills. Topics include continuing the development of fundamentals, learning advanced serves, strokes, pace and strategies in singles and doubles play. Upon completion, students should be able to play competitive tennis. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
	<b>PED 137</b>	<b>Badminton</b>	<b>0</b>	<b>2</b>	<b>1</b>
	Prerequisites:	None			
	Corequisites:	None			
	This course covers the fundamentals of badminton. Emphasis is placed on the basics of serving, clears, drops, drives, smashes, and the rules and strategies of singles and doubles. Upon completion, students should be able to apply these skills in playing situations. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.</i>				
	<b>PED 139</b>	<b>Bowling — Beginning</b>	<b>0</b>	<b>2</b>	<b>1</b>
	Prerequisites:	None			
	Corequisites:	None			
	This course introduces the fundamentals of bowling. Emphasis is placed on ball selection, grips, stance, and delivery along with rules and etiquette. Upon completion, students should be able to participate in recreational bowling. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
	<b>PED 140</b>	<b>Bowling — Intermediate</b>	<b>0</b>	<b>2</b>	<b>1</b>
	Prerequisites:	PED 139			
	Corequisites:	None			
	This course covers more advanced bowling techniques. Emphasis is placed on refining basic skills and performing advanced shots, spins, pace, and strategy. Upon completion, students should be able to participate in competitive bowling. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
	<b>PED 142</b>	<b>Lifetime Sports</b>	<b>0</b>	<b>2</b>	<b>1</b>
	Prerequisites:	None			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				

**PED 143 Volleyball — Beginning 0 2 1**

Prerequisites: None

Corequisites: None

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.*

Course

Descriptions

**PED 144 Volleyball — Intermediate 0 2 1**

Prerequisites: PED 143 or department approval

Corequisites: None

This course covers more advanced volleyball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to participate in competitive volleyball. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*

**PED 145 Basketball — Beginning 0 2 1**

Prerequisites: None

Corequisites: None

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 146 Basketball — Intermediate 0 2 1**

Prerequisites: PED 145

Corequisites: None

This course covers more advanced basketball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to play basketball at a competitive level. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*

**PED 148 Softball 0 2 1**

Prerequisites: None

Corequisites: None

This course introduces the fundamental skills and rules of softball. Emphasis is placed on proper techniques and strategies for playing softball. Upon completion, students should be able to participate in recreational softball. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*

**PED 170 Backpacking 0 2 1**

Prerequisites: None

Corequisites: None

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.*



	<b>PED 171</b>	<b>Nature Hiking</b>	<b>0</b>	<b>2</b>	<b>1</b>
	Prerequisites:	None			
	Corequisites:	None			
Course	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
Descriptions	<b>PED 180</b>	<b>Cycling</b>	<b>0</b>	<b>2</b>	<b>1</b>
	Prerequisites:	None			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.</i>				
	<b>PED 210</b>	<b>Team Sports</b>	<b>0</b>	<b>3</b>	<b>1</b>
	Prerequisites:	None			
	Corequisites:	None			
	This course introduces the fundamentals of popular American team sports. Emphasis is placed on rules, equipment, and motor skills used in various sports. Upon completion, students should be able to demonstrate knowledge of the sports covered. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
	<b>PED 220</b>	<b>Exercise for Physically Challenged</b>	<b>0</b>	<b>2</b>	<b>1</b>
	Prerequisites:	None			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				

## Philosophy

	<b>PHI 210</b>	<b>History of Philosophy</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	ENG 111			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.</i>				
	<b>PHI 215</b>	<b>Philosophical Issues</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	ENG 111			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.</i>				

**PHI 230 Introduction to Logic** 3 0 3

Prerequisites: ENG 111

Corequisites: None

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.*

Course

Descriptions

**PHI 240 Introduction to Ethics** 3 0 3

Prerequisites: ENG 111

Corequisites: None

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** 3 0 3

Prerequisites: None

Corequisites: None

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 0 3

Prerequisites: None

Corequisites: PHY 110A

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.*



	<b>PHY 110A</b>	<b>Conceptual Physics Lab</b>	<b>0</b>	<b>2</b>	<b>1</b>
	Prerequisites:	None			
	Corequisites:	PHY 110			
Course	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.</i>				
Descriptions	<b>PHY 122</b>	<b>Applied Physics II</b>	<b>3</b>	<b>2</b>	<b>4</b>
	Prerequisites:	None			
	Corequisites:	None			
	This algebra-based course introduces fundamental physical concepts as applied to industrial and service technology fields. Emphasis is placed on systems of units, problem-solving methods, graphical analysis, static electricity, AC and DC circuits, magnetism, transformers, AC and DC motors, and generators. Upon completion, students should be able to demonstrate an understanding of the principles studied as applied in industrial and service fields.				
	<b>PHY 125</b>	<b>Health Sciences Physics</b>	<b>3</b>	<b>2</b>	<b>4</b>
	Prerequisites:	None			
	Corequisites:	None			
	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.				
	<b>PHY 131</b>	<b>Physics — Mechanics</b>	<b>3</b>	<b>2</b>	<b>4</b>
	Prerequisites:	MAT 121			
	Corequisites:	None			
	This algebra/trigonometry-based course introduces fundamental physical concepts as applied to engineering technology fields. Topics include systems of units, problem-solving methods, graphical analysis, vectors, motion, forces, Newton's laws of motion, work, energy, power, momentum, and properties of matter. Upon completion, students should be able to apply the principles studied to applications in engineering technology fields.				
	<b>PHY 151</b>	<b>College Physics I</b>	<b>3</b>	<b>2</b>	<b>4</b>
	Prerequisites:	MAT 161 or MAT 171			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.</i>				

<b>PHY 152</b>	<b>College Physics II</b>	<b>3</b>	<b>2</b>	<b>4</b>
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Prerequisites: PHY 151  
 Corequisites: None

This course uses algebra- and trigonometry-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include electrostatic forces, electric fields, electric potentials, direct-current circuits, magnetostatic forces, magnetic fields, electromagnetic induction, alternating-current circuits, and light. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

Course  
 Descriptions

<b>*PHY 251</b>	<b>General Physics I</b>	<b>3</b>	<b>3</b>	<b>4</b>
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Prerequisites: MAT 271  
 Corequisites: MAT 272

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.*

<b>*PHY 252</b>	<b>General Physics II</b>	<b>3</b>	<b>3</b>	<b>4</b>
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Prerequisites: MAT 272 and PHY 251  
 Corequisites: None

This course uses calculus-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include electrostatic forces, electric fields, electric potentials, direct-current circuits, magnetostatic forces, magnetic fields, electromagnetic induction, alternating-current circuits, and light. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

## Plastics

<b>PLA 110</b>	<b>Introduction to Plastics</b>	<b>2</b>	<b>0</b>	<b>2</b>
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Prerequisites: None  
 Corequisites: None

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.



## Political Science

**POL 110 Introduction to Political Science 3 0 3**

Prerequisites: None

Corequisites: None

Course

Descriptions

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 nondemocratic 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 0 3**

Prerequisites: None

Corequisites: None

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 210 Comparative Government 3 0 3**

Prerequisites: None

Corequisites: None

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.*

## Psychology

**PSY 110 Life Span Development 3 0 3**

Prerequisites: None

Corequisites: None

This course provides an introduction to the study of human growth and development. Emphasis is placed on the physical, cognitive, and psychosocial aspects of development from conception to death. Upon completion, students should be able to demonstrate knowledge of development across the life span and apply this knowledge to their specific field of study. *This course is intended for certificate, diploma, and A.A.S. degree programs.*

**PSY 118 Interpersonal Psychology 3 0 3**

Prerequisites: None

Corequisites: None

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.*





# Radiography

Course	<b>RAD 110</b>	<b>Radiography Introduction and Patient Care</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>3</b>
Descriptions	Prerequisites: Enrollment in Radiography program Corequisites: BIO 163, RAD 111, RAD 151, and RAD 182		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.			
	<b>RAD 111</b>	<b>RAD Procedures I</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>4</b>
	Prerequisites: Enrollment in the Radiography program Corequisites: BIO 163, RAD 110, RAD 151, and RAD 182		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.			
	<b>RAD 112</b>	<b>RAD Procedures II</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>4</b>
	Prerequisites: BIO 163, RAD 110, RAD 111, RAD 151, and RAD 182 Corequisites: RAD 121 and RAD 161		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.			
	<b>RAD 121</b>	<b>Radiographic Imaging I</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites: RAD 110, RAD 111, and RAD 151 Corequisites: RAD 112 and RAD 161		This course covers factors of image quality and methods of exposure control. Topics include density, contrast, recorded detail, distortion, technique charts, manual and automatic exposure control, and tube rating charts. Upon completion, students should be able to demonstrate an understanding of exposure control and the effects of exposure factors on image quality.			
	<b>RAD 122</b>	<b>Radiographic Imaging II</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>2</b>
	Prerequisites: RAD 112, RAD 121, and RAD 161 Corequisites: RAD 131 and RAD 171		This course covers image receptor systems and processing principles. Topics include film, film storage, processing, intensifying screens, grids, and beam limitation. Upon completion, students should be able to demonstrate the principles of selection and usage of imaging accessories to produce quality images.			
	<b>RAD 131</b>	<b>Radiographic Physics I</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>2</b>
	Prerequisites: RAD 112, RAD 121, and RAD 161 Corequisites: RAD 122 and RAD 171		This course introduces the fundamental principles of physics that underlie diagnostic X-ray production and radiography. Topics include electromagnetic waves, electricity and magnetism, electrical energy, and power and circuits as they relate to radiography. Upon completion, students should be able to demonstrate an understanding of basic principles of physics as they relate to the operation of radiographic equipment.			
	<b>*RAD 151</b>	<b>RAD Clinical Education I</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>2</b>
	Prerequisites: Enrollment in the Radiography program Corequisites: RAD 110, RAD 111, and RAD 182		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.			

<b>*RAD 161</b>	<b>RAD Clinical Education II</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>5</b>
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Prerequisites: RAD 110, RAD 111, RAD 151, and RAD 182

Corequisites: RAD 112 and RAD 121

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.

Course

<b>*RAD 171</b>	<b>RAD Clinical Education III</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>4</b>
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Prerequisites: RAD 112, RAD 121, and RAD 161

Corequisites: RAD 122 and RAD 131

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.

Descriptions

<b>*RAD 182</b>	<b>RAD Clinical Elective</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>2</b>
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Prerequisites: Enrollment in the Radiography program

Corequisites: RAD 110, RAD 111, and RAD 151

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.

<b>RAD 211</b>	<b>RAD Procedures III</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: RAD 112 and RAD 122

Corequisites: RAD 231, RAD 241, and RAD 251

This course provides the knowledge and skills necessary to perform standard and specialty radiographic procedures. Emphasis is placed on radiographic specialty procedures, pathology, and advanced imaging. Upon completion, students should be able to demonstrate competence in these areas.

<b>RAD 231</b>	<b>Radiographic Physics II</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>2</b>
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Prerequisites: RAD 122, RAD 131, and RAD 171

Corequisites: RAD 211, RAD 241, and RAD 251

This course continues the study of physics that underlie diagnostic X-ray production and radiographic and fluoroscopic equipment. Topics include X-ray production, electromagnetic interactions with matter, X-ray devices, equipment circuitry, targets, filtration, and dosimetry. Upon completion, students should be able to demonstrate an understanding of the application of physical concepts as related to image production.

<b>RAD 241</b>	<b>Radiation Protection</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>
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Prerequisites: RAD 122, RAD 131, and RAD 171

Corequisites: RAD 211, RAD 231, and RAD 251

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.

<b>RAD 245</b>	<b>Radiographic Analysis</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: RAD 211, RAD 231, RAD 241, and RAD 251

Corequisites: RAD 261 and RAD 291

This course provides an overview of imaging concepts and introduces methods of quality assurance. Topics include a systematic approach for image evaluation and analysis of imaging service and quality assurance. Upon completion, students should be able to establish and administer a quality assurance program and conduct a critical review of images.



	<b>*RAD 251</b>	<b>RAD Clinical Education IV</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>7</b>
	Prerequisites:	RAD 122, RAD 131, and RAD 171				
	Corequisites:	RAD 211, RAD 231, and RAD 241				
Course	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.					
Descriptions	<b>*RAD 261</b>	<b>RAD Clinical Education V</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>7</b>
	Prerequisites:	RAD 211, RAD 231, RAD 241, and RAD 251				
	Corequisites:	RAD 245 and RAD 291				
	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.					
	<b>RAD 291</b>	<b>Selected Topics in Radiography</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>1</b>
	Prerequisites:	Enrollment in the Radiography program, RAD 211, RAD 231, RAD 241, and RAD 251				
	Corequisites:	RAD 245 and RAD 261				
	This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study. This course is designed to serve as a capstone course for the final semester Radiography student.					

## Real Estate Appraisal

	<b>*REA 101</b>	<b>Introduction to Real Estate Appraisal R-1</b>	<b>2</b>	<b>0</b>	<b>2</b>
	Prerequisites:	None			
	Corequisites:	None			
	This course introduces the entire valuation process, with specific coverage of residential neighborhood and property analysis. Topics include basic real property law, concepts of value and operation of real estate markets, mathematical and statistical concepts, finance, and residential construction/design. Upon completion, students should be able to demonstrate adequate preparation for REA 102. <i>This course is required for the Real Estate Appraisal certificate.</i>				
	<b>*REA 102</b>	<b>Valuation Principles and Procedures R-2</b>	<b>2</b>	<b>0</b>	<b>2</b>
	Prerequisites:	REA 101			
	Corequisites:	None			
	This course introduces procedures used to develop an estimate of value and how the various principles of value relate to the application of such procedures. Topics include the sales comparison approach, site valuation, sales comparison, the cost approach, the income approach, and reconciliation. Upon completion, students should be able to complete the Uniform Residential Appraisal Report (URAR). <i>This course is required for the Real Estate Appraisal certificate.</i>				
	<b>*REA 103</b>	<b>Applied Residential Property Valuation R-3</b>	<b>1</b>	<b>0</b>	<b>1</b>
	Prerequisites:	REA 102			
	Corequisites:	None			
	This course covers the laws and standards practiced by appraisers in the appraisal of residential 1-4 unit properties and small farms. Topics include Financial Institutions Reform and Recovery Enforcement Act (FIRREA), and North Carolina statutes and rules. Upon completion, students should be able to demonstrate eligibility to sit for the NC Appraisal Board license trainee examination. <i>This course is required for the Real Estate Appraisal certificate.</i>				

**REA 104      USPAP R-4** **1      0      1**

Prerequisites: REA 103

Corequisites: None

This course introduces all aspects of the appraisers conduct, ethics and competency. Topics include appraisal standards, reviews, reports, and the confidentiality provisions as set forth by the North Carolina Appraisal Board. Upon completion, students should be able to sit for the National USPAP examination.

Course

**\*REA 201      Introduction to Income Property Appraisal G-1** **2      0      2**

Prerequisites: REA 104

Corequisites: None

This course introduces concepts and techniques used to appraise real estate income properties. Topics include real estate market analysis, property analysis and site valuation, how to use financial calculators, present value, NOI, and before-tax cash flow. Upon completion, students should be able to estimate income property values using direct capitalization and to sit for the NC Certified Residential Appraiser examination. *This course is required for the Real Estate Appraisal certificate.*

Descriptions

**\*REA 202      Advanced Income Capitalization Procedures G-2** **2      0      2**

Prerequisites: REA 201

Corequisites: A financial calculator is required for this course.

This course expands direct capitalization techniques and introduces yield capitalization. Topics include yield rates, discounted cash flow, financial leverage, and traditional yield capitalization formulas. Upon completion, students should be able to estimate the value of income producing property using yield capitalization techniques. *This course is required for the Real Estate Appraisal certificate.*

**\*REA 203      Applied Income Property Valuation G-3** **2      0      2**

Prerequisites: REA 202

Corequisites: None

This course covers the laws, rules, and standards pertaining to the principles and practices applicable to the appraisal of income properties. Topics include FIRREA, USPAP, Uniform Commercial and Industrial Appraisal Report (UCIAR) form, North Carolina statutes and rules, and case studies. Upon completion, students should be able to prepare a narrative report that conforms to the USPAP and sit for the NC Certified General Appraisal examination. *This course is required for the Real Estate Appraisal certificate.*

## Reading

**RED 080      Introduction to College Reading** **3      2      4**

Prerequisites: ENG 075 or RED 070 or placement

Corequisites: None

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** **3      2      4**

Prerequisites: ENG 085 or RED 080 or placement

Corequisites: None

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 3

Prerequisites: None

Corequisites: None

Course

Descriptions

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 211 Intro to Old Testament** 3 0 3

Prerequisites: None

Corequisites: None

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

This course is a survey of the literature of first-century Christianity with readings from the gospels, Acts, and the Pauline and pastoral letters. Topics include the literary structure, audience, and religious perspective of the writings, as well as the historical and cultural context of the early Christian community. Upon completion, students should be able to use the tools of critical analysis to read and understand New Testament literature. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

**REL 221 Religion in America** 3 0 3

Prerequisites: None

Corequisites: None

This course is an examination of religious beliefs and practice in the United States. Emphasis is placed on mainstream religious traditions and non-traditional religious movements from the Colonial period to the present. Upon completion, students should be able to recognize and appreciate the diversity of religious traditions in America. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

## Real Estate

**\*RLS 112 Real Estate Fundamentals** 5 0 5

Prerequisites: None

Corequisites: None

This course provides basic instruction in real estate principles and practices. Topics include law, finance, brokerage, closing, valuation, management, taxation, mathematics, construction, land use, property insurance, and NC License Law and Commission Rules. Upon completion, students should be able to demonstrate basic knowledge and skills necessary for real estate sales.

<b>RLS 113</b>	<b>Real Estate Mathematics</b>	<b>2</b>	<b>0</b>	<b>2</b>
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Prerequisites: None

Corequisites: None

This course provides basic instruction in business mathematics applicable to real estate situations. Topics include area computations, percentage of profit/loss, bookkeeping and accounting methods, appreciation and depreciation, financial calculations and interest yields, property valuation, insurance, taxes, and commissions. Upon completion, students should be able to demonstrate proficiency in applied real estate mathematics.

Course

Descriptions

<b>*RLS 117</b>	<b>Real Estate Broker</b>	<b>4</b>	<b>0</b>	<b>4</b>
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Prerequisites: RLS 112 or current real estate license

Corequisites: None

This course consists of advanced-level instruction on a variety of topics related to real estate law and brokerage practices. Topics include real estate brokerage, finance and sales, RESPA, fair housing issues, selected N.C. Real Estate License law and N.C. Real Estate Commission Rule issues. Upon completion, students should be able to demonstrate knowledge of real estate brokerage, law, and finance.

<b>RLS 192</b>	<b>Selected Topics in Real Estate</b>	<b>2</b>	<b>0</b>	<b>2</b>
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Prerequisites: None

Corequisites: None

This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study. Topics will include land use controls, proper method of measuring improvements, commercial real estate, property management, selling techniques, and other aspects of the real estate industry.

## Substance Abuse

<b>*SAB 110</b>	<b>Substance Abuse Overview</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

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.



## Social/Behavioral Science Electives

The following courses are classified as Social/Behavioral Sciences. For more information, see the course description. These courses may be used as Social/Behavioral Science for A.A., A.S., and A.A.S. Degree Programs, unless otherwise noted.

Course

Descriptions

### ANTHROPOLOGY

ANT 210	General Anthropology
ANT 220	Cultural Anthropology
ANT 230	Physical Anthropology
ANT 230A	Physical Anthropology Lab
ANT 240	Archaeology

### PSYCHOLOGY

*PSY 110	Life Span Development
*PSY 118	Interpersonal Psychology
PSY 150	General Psychology
PSY 237	Social Psychology
PSY 241	Developmental Psychology
PSY 281	Abnormal Psychology

### ECONOMICS

ECO 151	Survey of Economics
ECO 251	Principles of Microeconomics
ECO 252	Principles of Macroeconomics

### SOCIOLOGY

SOC 210	Introduction to Sociology
SOC 213	Sociology of the Family
SOC 220	Social Problems
SOC 225	Social Diversity
SOC 240	Social Psychology

### 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

### POLITICAL SCIENCE

POL 110	Introduction to Political Science
POL 120	American Government
POL 210	Comparative Government

*\* This course is intended for diploma, certificate, and A.A.S. degree programs. It does not meet the requirements for the A.A. or A.S. degree, and it will not transfer to a senior institution in the University of North Carolina System under the guidelines of the North Carolina Community College System–University of North Carolina Comprehensive Articulation Agreement.*

## Sociology

**SOC 210 Introduction to Sociology** **3 0 3**

Prerequisites: None

Corequisites: None

This course introduces the scientific study of human society, culture, and social interactions. Topics include socialization, research methods, diversity and inequality, cooperation and conflict, social change, social institutions, and organizations. Upon completion, students should be able to demonstrate knowledge of sociological concepts as they apply to the interplay among individuals, groups, and societies. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.*

**SOC 213 Sociology of the Family 3 0 3**

Prerequisites: None

Corequisites: None

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.*

Course

Descriptions

**SOC 215 Group Processes 3 0 3**

Prerequisites: None

Corequisites: None

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.*

**SOC 220 Social Problems 3 0 3**

Prerequisites: None

Corequisites: None

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

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

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.*



	<b>SOC 234</b>	<b>Sociology of Gender</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
Course	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				
Descriptions	<b>SOC 240</b>	<b>Social Psychology</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral science.</i>				
	<b>SOC 254</b>	<b>Rural and Urban Sociology</b>	<b>3</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None			
	Corequisites:	None			
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.</i>				

## Sonography

	<b>SON 110</b>	<b>Introduction to Sonography</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>3</b>
	Prerequisites:	None				
	Corequisites:	SON 130				
	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.					
	<b>SON 111</b>	<b>Sonographic Physics</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>4</b>
	Prerequisites:	CVS 163 or SON 110				
	Corequisites:	None				
	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.					
	<b>SON 120</b>	<b>SON Clinical Ed I</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>5</b>
	Prerequisites:	SON 110				
	Corequisites:	None				
	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.					

<b>SON 121</b>	<b>SON Clinical Ed II</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>5</b>
Prerequisites: SON 120					
Corequisites: None					
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.					
<b>SON 130</b>	<b>Abdominal Sonography I</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>3</b>
Prerequisites: None					
Corequisites: None					
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.					
<b>SON 131</b>	<b>Abdominal Sonography II</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>2</b>
Prerequisites: SON 130					
Corequisites: None					
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.					
<b>SON 140</b>	<b>Gynecological Sonography</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>
Prerequisites: SON 110					
Corequisites: None					
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.					
<b>SON 220</b>	<b>SON Clinical Ed III</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>8</b>
Prerequisites: SON 121					
Corequisites: None					
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.					
<b>SON 221</b>	<b>SON Clinical Ed IV</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>8</b>
Prerequisites: SON 220					
Corequisites: None					
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.					
<b>SON 225</b>	<b>Case Studies</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>1</b>
Prerequisites: SON 110 or CVS 163					
Corequisites: None					
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.					

Course

Descriptions



	<b>SON 241</b>	<b>Obstetrical Sonography I</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>
	Prerequisites:	SON 110				
	Corequisites:	None				
Course	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.					
Descriptions	<b>SON 242</b>	<b>Obstetrical Sonography II</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>
	Prerequisites:	SON 241				
	Corequisites:	None				
	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.					
	<b>SON 250</b>	<b>Vascular Sonography</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>2</b>
	Prerequisites:	SON 111				
	Corequisites:	None				
	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.					
	<b>SON 289</b>	<b>Sonographic Topics</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>
	Prerequisites:	SON 220				
	Corequisites:	SON 221				
	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

	<b>SPA 111</b>	<b>Elementary Spanish I</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>
	Prerequisites:	None				
	Corequisites:	None				
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.</i>					
	<b>SPA 112</b>	<b>Elementary Spanish II</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>
	Prerequisites:	SPA 111				
	Corequisites:	None				
	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. <i>This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.</i>					

<b>SPA 120</b>	<b>Spanish for the Workplace</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: None

Corequisites: None

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.

Course

Descriptions

<b>SPA 211</b>	<b>Intermediate Spanish I</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: SPA 112

Corequisites: None

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.*

<b>SPA 212</b>	<b>Intermediate Spanish II</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: SPA 211

Corequisites: None

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.*

<b>SPA 221</b>	<b>Spanish Conversation</b>	<b>3</b>	<b>0</b>	<b>3</b>
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Prerequisites: SPA 212

Corequisites: None

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 pre-major and/or elective course requirement.*

## Surveying

<b>SRV 110</b>	<b>Surveying I</b>	<b>2</b>	<b>6</b>	<b>4</b>
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Prerequisites: EGR 115 and MAT 121

Corequisites: None

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.

<b>SRV 111</b>	<b>Surveying II</b>	<b>2</b>	<b>6</b>	<b>4</b>
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Prerequisites: SRV 110

Corequisites: None

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.



	<b>SRV 210</b>	<b>Surveying III</b>	<b>2</b>	<b>6</b>	<b>4</b>
	Prerequisites:	SRV 110			
	Corequisites:	None			
Course	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.				
	<b>SRV 220</b>	<b>Surveying Law</b>	<b>2</b>	<b>2</b>	<b>3</b>
Descriptions	Prerequisites:	SRV 110			
	Corequisites:	None			
	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.				
	<b>SRV 230</b>	<b>Subdivision Planning</b>	<b>1</b>	<b>6</b>	<b>3</b>
	Prerequisites:	SRV 111, SRV 210, and CIV 211			
	Corequisites:	None			
	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.				
	<b>SRV 240</b>	<b>Topographic/Site Surveying</b>	<b>2</b>	<b>6</b>	<b>4</b>
	Prerequisites:	None			
	Corequisites:	SRV 210			
	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.				
	<b>SRV 250</b>	<b>Advanced Surveying</b>	<b>2</b>	<b>6</b>	<b>4</b>
	Prerequisites:	SRV 111			
	Corequisites:	None			
	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.				
	<b>SRV 260</b>	<b>Field and Office Practices</b>	<b>1</b>	<b>3</b>	<b>2</b>
	Prerequisites:	Completion of three semesters of the Surveying Technology program			
	Corequisites:	None			
	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

<b>SUR 110</b>	<b>Introduction to Surgical Technology</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>
Prerequisites:	None				
Corequisites:	BIO 163 and SUR 111				
<p>This course provides a comprehensive study of the operative environment, professional roles, moral/legal/ethical responsibilities, and medical communications used in surgical technology. Topics include historical development, professional behaviors, medical terminology, interdepartmental/peer/relationships, operating room environment/safety, pharmacology, anesthesia, incision sites, and physiology of wound healing. Upon completion, students should be able to apply theoretical knowledge of the course topics to the operative environment.</p>					
<b>SUR 111</b>	<b>Periop Patient Care</b>	<b>5</b>	<b>6</b>	<b>0</b>	<b>7</b>
Prerequisites:	None				
Corequisites:	BIO 163 and SUR 110				
<p>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.</p>					
<b>SUR 122</b>	<b>Surgical Procedures I</b>	<b>5</b>	<b>3</b>	<b>0</b>	<b>6</b>
Prerequisites:	BIO 163, SUR 110 and SUR 111				
Corequisites:	BIO 175 and SUR 123 or STP 101				
<p>This course introduces a comprehensive study of surgical procedures in the following specialties: general, gastrointestinal, obstetrical/gynecology, urology, otorhinolaryngology, and plastics/reconstructive. Emphasis is placed on related surgical anatomy, pathology, and procedures thereby enhancing 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.</p>					
<b>SUR 123</b>	<b>SUR Clinical Practice I</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>7</b>
Prerequisites:	BIO 163, SUR 110 and SUR 111				
Corequisites:	BIO 175 and SUR 122				
<p>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.</p>					
<b>SUR 134</b>	<b>Surgical Procedures II</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>5</b>
Prerequisites:	BIO 175 and SUR 122, SUR 123 or STP 101				
Corequisites:	SUR 135 and SUR 137				
<p>This course introduces orthopedic, neurosurgical, peripheral vascular, thoracic, cardiovascular, and ophthalmology surgical specialties. Emphasis is placed on related surgical anatomy, pathology, and procedures thereby enhancing 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.</p>					

Course  
Descriptions



**SUR 135**      **SUR Clinical Practice II**      0      0      12      4  
 Prerequisites:    BIO 175, SUR 122 and SUR 123  
 Corequisites:    SUR 134 and SUR 137  
 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.

Course

Descriptions

**SUR 137**      **Prof Success Prep**      1      0      0      1  
 Prerequisites:    BIO 175, SUR 122 and SUR 123  
 Corequisites:    SUR 134 and SUR 135  
 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.

## Social Work

**\*SWK 110**      **Introduction to Social Work**      3      0      0      3  
 Prerequisites:    None  
 Corequisites:    None  
 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 is a unique concentration requirement of the Social Service concentration in the Human Services Technology program.*

**\*SWK 113**      **Working with Diversity**      3      0      0      3  
 Prerequisites:    None  
 Corequisites:    None  
 This course examines and promotes understanding, sensitivity, awareness, and knowledge of human diversity. Emphasis is placed on professional responsibilities, duties, and skills critical to multicultural human services practice. Upon completion, students should be able to integrate and expand knowledge, skills, and cultural awareness relevant to diverse populations. *This course is a unique concentration requirement of the Social Service concentration in the Human Services Technology program.*

**SWK 115**      **Community Resources**      2      2      0      3  
 Prerequisites:    None  
 Corequisites:    None  
 This course introduces community resources essential to social work practice. Emphasis is placed on awareness of and interaction with community service personnel. Upon completion, students should be able to identify resources and assess critical community needs. *This course is a unique concentration requirement of the Social Service concentration in the Human Services Technology program.*

**\*SWK 214 Social Work Law 3 0 0 3**

Prerequisites: SWK 110

Corequisites: None

This course introduces the major provisions of social services law, current trends, legislative developments, and court procedures. Emphasis is placed on the interpretation of the laws and court decisions related to various social services populations. Upon completion, students should be able to interpret these laws and their implications for social services practice. *This course is a unique concentration requirement of the Social Service concentration in the Human Services Technology program.*

Course

Descriptions

**\*SWK 220 SWK Issues in Client Services 3 0 0 3**

Prerequisites: None

Corequisites: None

This course introduces the professional standards, values, and issues in social services. Topics include confidentiality, assessment of personal values, professional responsibilities, competencies, and ethics. Upon completion, students should be able to understand and discuss multiple ethical issues applicable to social work and apply various decision-making models to current issues. *This course is a unique concentration requirement of the Social Service concentration in the Human Services Technology program.*

## Welding

**WLD 110 Cutting Processes 1 3 2**

Prerequisites: Admission to Welding Program

Corequisites: None

This course introduces oxy-fuel and plasma-arc cutting systems. Topics include safety, proper equipment setup, and operation of oxy-fuel and plasma-arc cutting equipment with emphasis on straight line, curve and bevel cutting. Upon completion, students should be able to oxy-fuel and plasma-arc cut metals of varying thickness.

**WLD 111 Oxy-Fuel Welding 1 3 2**

Prerequisites: None

Corequisites: None

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 1 3 2**

Prerequisites: None

Corequisites: None

This course introduces basic welding and cutting. Emphasis is placed on beads applied with gases, mild steel fillers, and electrodes and the capillary action of solder. Upon completion, students should be able to set up welding and oxy-fuel equipment and perform welding, brazing, and soldering processes.

**WLD 115 SMAW (Stick) Plate 2 9 5**

Prerequisites: None

Corequisites: None

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 1 9 4**

Prerequisites: WLD 115

Corequisites: None

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 2 6 4**

Prerequisites: None

Corequisites: None

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.

**WLD 122 GMAW (MIG) Plate/Pipe 1 6 3**

Prerequisites: WLD 121

Corequisites: None

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 131 GTAW (TIG) Plate 2 6 4**

Prerequisites: None

Corequisites: None

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**

Prerequisites: WLD 131

Corequisites: None

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: None

This course introduces the basic symbols and specifications used in welding. Emphasis is placed on interpretation of lines, notes, welding symbols, and specifications. Upon completion, students should be able to read and interpret symbols and specifications commonly used in welding.

**WLD 143 Welding Metallurgy 1 2 2**

Prerequisites: None

Corequisites: None

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.

Course

Descriptions

<b>WLD 151</b>	<b>Fabrication I</b>	<b>2</b>	<b>6</b>	<b>4</b>
Prerequisites: WLD 110, WLD 115, WLD 116, and WLD 131				
Corequisites: None				
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.				
<b>WLD 221</b>	<b>GMAW (MIG) Pipe</b>	<b>1</b>	<b>6</b>	<b>3</b>
Prerequisites: None				
Corequisites: None				
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 GMAW welds to applicable codes on pipe with prescribed electrodes in various positions.				
<b>WLD 261</b>	<b>Certification Practices</b>	<b>1</b>	<b>3</b>	<b>2</b>
Prerequisites: WLD 115, WLD 121, and WLD 131				
Corequisites: None				
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.				
<b>WLD 262</b>	<b>Inspection and Testing</b>	<b>2</b>	<b>2</b>	<b>3</b>
Prerequisites: None				
Corequisites: None				
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.				

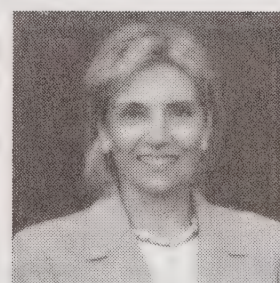
Course

Descriptions





Administration,  
Faculty,  
and Staff





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B.S., University of North Carolina at Asheville
- Peggy A. Rich** \_\_\_\_\_ **Evening Admissions Clerk**  
A.A., Asheville-Buncombe Technical Community College
- Sherrill G. Thompson** \_\_\_\_\_ **Career Counselor**  
B.A., William Smith and Hobart Colleges; M.Ed., University of North Carolina-Greensboro; National Certified Counselor
- Martha Tillman** \_\_\_\_\_ **Secretary**  
A.A.S., Asheville-Buncombe Technical Community College; B.S., Mars Hill College; M.B.A., Montreat College

## OFFICE OF ADMINISTRATIVE SERVICES

- Richard Mauney** \_\_\_\_\_ **Vice President, Administrative Services**  
B.A., Lenoir Rhyne College; M.B.A., Western Carolina University; further study, Memphis State University
- Eulallia C. Bates** \_\_\_\_\_ **Switchboard Operator/Receptionist**
- Ronald W. Biddix, Sr.** \_\_\_\_\_ **Security Officer**  
A.A.S., Asheville-Buncombe Technical Community College
- Amanda F. Born** \_\_\_\_\_ **Secretary/Receptionist**  
B.A., College of Charleston
- Shelby Burnett** \_\_\_\_\_ **Administrative Assistant**  
A.A.S., Asheville-Buncombe Technical Community College
- Jenifer A. Burns** \_\_\_\_\_ **Secretary**  
B.S., University of North Carolina at Asheville
- Mary Alice Church-Steurer, C.P.A.** \_\_\_\_\_ **Director, Business Services**  
B.A., Western Carolina University
- Calven Davidson** \_\_\_\_\_ **Coordinator, Operation Services**
- Lynn Deyton** \_\_\_\_\_ **Director, Financial Aid**  
B.S., M.A.Ed., Western Carolina University
- Joyce Dover** \_\_\_\_\_ **Accounting Clerk/Student Accounts**
- Tina Fountain** \_\_\_\_\_ **Accounts Payable Clerk**  
A.A.S., Asheville-Buncombe Technical Community College; B.B.A., Montreat College
- E. Davis Gibson** \_\_\_\_\_ **Director, Security/Safety**  
B.P.A., University of Mississippi
- Robin S. Grooms** \_\_\_\_\_ **Coordinator, Equipment/Facilities Inventory**  
A.A.S., Asheville-Buncombe Technical Community College

- Mary A. Harper** \_\_\_\_\_ **Bookstore Sales and Inventory Associate**  
A.A.S., Asheville-Buncombe Technical Community College
- Kara Keller** \_\_\_\_\_ **Associate Director, Security**  
A.A.S., Asheville-Buncombe Technical Community College
- Don Kent** \_\_\_\_\_ **Coordinator, Custodial Services**
- Traci Lyda** \_\_\_\_\_ **Accounting Technician/Cash Receipts**  
A.A.S., Asheville-Buncombe Technical Community College
- Linda Mack** \_\_\_\_\_ **Duplicating/Mail Clerk**
- Laurie A. Manley** \_\_\_\_\_ **Computer Center Specialist**  
A.A.S., Asheville-Buncombe Technical Community College; B.M., Mars Hill College; graduate study: Rice University
- Brian S. McCall, C.C.N.A.** \_\_\_\_\_ **Technical Support Specialist II**  
A.A.S. (two degrees), Southwestern Community College; B.S., Western Carolina University
- David C. McKinney** \_\_\_\_\_ **Director, Information Systems Technology**  
A.A.S. (two degrees), Asheville-Buncombe Technical Community College
- Angela C. Merrell** \_\_\_\_\_ **Accounting Supervisor**  
A.A.S., Asheville-Buncombe Technical Community College; B.S., University of North Carolina at Asheville
- Joyce M. Moncada** \_\_\_\_\_ **Financial Aid Assistant**  
A.A.S., Asheville-Buncombe Technical Community College
- Lee R. Pack, Jr.** \_\_\_\_\_ **Coordinator, Maintenance Operations**  
Diploma, Asheville-Buncombe Technical Community College; Diploma, Haywood Community College
- Maretta K. Pinson** \_\_\_\_\_ **Bookstore Manager**  
A.A.S., Asheville-Buncombe Technical Community College
- Eugene Pressley, M.C.P., M.C.S.E.** \_\_\_\_\_ **Network Administrator**  
A.A.S. (two degrees), Asheville-Buncombe Technical Community College
- Randal K. Rose** \_\_\_\_\_ **Associate Director, Plant Operations**  
Technical Diploma, Asheville-Buncombe Technical Community College; N.C. Licensed Heating and Air Conditioning, Refrigeration
- Jackie M. Searcy** \_\_\_\_\_ **Secretary/Receptionist, Financial Aid**  
A.A.S., Asheville-Buncombe Technical Community College
- Benny R. Smith** \_\_\_\_\_ **Director, Plant Operations**
- Crystal C. Smith** \_\_\_\_\_ **Financial Aid Assistant**  
A.A., Anderson College
- Timothy D. Stafford** \_\_\_\_\_ **Coordinator, Material Services**  
A.A.S., Forsyth Technical Community College
- Ramona Stevens** \_\_\_\_\_ **Coordinator, Student Accounts and Operations**  
A.A.S., Asheville-Buncombe Technical Community College; B.S., University of North Carolina at Asheville
- Donna Sampson Taylor** \_\_\_\_\_ **Bookstore Sales Associate**  
A.A.S., Asheville-Buncombe Technical Community College; PSP (State)
- John R. Tucker** \_\_\_\_\_ **Technical Support Specialist II**  
A.A.S., Aiken Technical College; Certification: Autocad 2000 Technical Competency
- Donna Turner** \_\_\_\_\_ **Associate Director, Financial Aid**  
B.S., Appalachian State University
- Vaughn Warren** \_\_\_\_\_ **Coordinator, Security/Enka Campus**  
A.A.S., Asheville-Buncombe Technical Community Colleges
- Rebecca R. Watkins** \_\_\_\_\_ **Purchasing Agent**  
A.A.S., Asheville-Buncombe Technical Community College
- Elizabeth K. Williams** \_\_\_\_\_ **Software Support Specialist / Helpdesk**  
A.A.S. (two degrees), Asheville-Buncombe Technical Community College
- Susan A. Williams** \_\_\_\_\_ **Payroll Accountant**  
A.A.S., Asheville-Buncombe Technical Community College



## OFFICE OF COLLEGE RELATIONS

- Anita R. Metcalf \_\_\_\_\_ Vice President, College Relations  
B.A., University of North Carolina at Greensboro; M.S., Western Carolina University
- Paulette Brownlee \_\_\_\_\_ Director, Personnel  
B.A., University of North Carolina at Asheville; M.S. Western Carolina University
- Mona L. Cornwell \_\_\_\_\_ Director, Communications  
B.A., University of North Carolina at Asheville
- Vanessa R. Crouch \_\_\_\_\_ Secretary  
B.S., University of North Carolina at Asheville
- Libby B. Hodan \_\_\_\_\_ Foundation Development Officer  
B.A., M.Ed., Clemson University
- Brenda L. Katona \_\_\_\_\_ Administrative Assistant  
A.A.S., Asheville-Buncombe Technical Community College; B.S., Mars Hill College; PSP (State, National), CEOE
- Justin L. Page \_\_\_\_\_ Graphic Designer  
B.F.A., Appalachian State University
- John R. Painter \_\_\_\_\_ Communications Specialist  
B.S., West Virginia University
- Carol L. Rovello \_\_\_\_\_ Director, Employee and Organization Development  
B.A., Glassboro State College; M.A., Rider College

## FACULTY

### DIVISION OF ALLIED HEALTH AND PUBLIC SERVICE EDUCATION

- Ned H. Fowler, E.M.T.-P (1983) \_\_\_\_\_ Dean, Allied Health and Public Service Education  
A.A.S., Asheville-Buncombe Technical Community College; B.S., Western Carolina University; M.A. Ed., Western Carolina University
- J. Tisha Anderson, C.D.A. (1999) \_\_\_\_\_ Instructor, Allied Dental Programs  
Diploma, Asheville-Buncombe Technical Community College; Certified Dental Assistant
- Christy C. Andrews, R.N. (1998) \_\_\_\_\_ Instructor, Nursing  
B.S.N., Western Carolina University; M.S.N., University of North Carolina at Charlotte
- Karen M. Baker, R.N. (1998) \_\_\_\_\_ Instructor, Nursing  
A.D.N., Asheville-Buncombe Technical Community College; B.S.N., Western Carolina University; M.S.N., University of North Carolina-Charlotte
- Tamara W. Baldwin, C.D.A., R.D.H.(1992) \_\_\_\_\_ Instructor, Allied Dental Programs  
A.A.S., Asheville-Buncombe Technical Community College; B.S., Mars Hill College
- Cindy P. Benton, R.N., F.N.P-C (2003) \_\_\_\_\_ Instructor, Nursing  
B.S.N., Western Carolina University; M.S.N., Medical University of South Carolina
- Scott J. Bissinger (1988) \_\_\_\_\_ Director, Law Enforcement Academy  
A.A.S., Asheville-Buncombe Technical Community College; B.S., M.S., University of North Carolina at Charlotte
- Paula M. Boyles (2003) \_\_\_\_\_ Instructor, Nursing  
B.S.N., State University of New York at Stony Brook; M.H.D.L., University of North Carolina at Charlotte
- Laura L. Brown, R.N., C.P.N., C.A.P.A., C.P.A.N. (2002) \_\_\_\_\_ Instructor, Nursing  
Diploma in Nursing, Peter Bent Brigham Hospital School of Nursing; B.S.N., Winston Salem State University
- M. Joan Buchanan (2004) \_\_\_\_\_ Instructor, Nursing  
B.S.N., University of North Carolina at Greensboro
- Chastity L. Case, R.T.(R), R.D.M.S., R.V.T. (2001) \_\_\_\_\_ Instructor, Medical Sonography  
A.A.S., Asheville-Buncombe Technical Community College; Certificate, School of Diagnostic Medical Sonography, Grady Memorial Hospital, Atlanta, GA
- Brenda Causey, R.N. (1976) \_\_\_\_\_ Chairperson, Nursing  
Diploma, Memorial Mission Hospital School of Nursing; B.S.N., Western Carolina University; M.S.N., University of North Carolina at Charlotte

- Donna Helen Crisp, J.D., R.N., C.S. (2003)** \_\_\_\_\_ Instructor, Nursing  
B.A., NC State University; J.D., North Carolina Central University; B.S.N., M.S.N., University of North Carolina at Chapel Hill
- Robert S. Eldridge, D.D.S. (1997)** \_\_\_\_\_ Instructor, Allied Dental Programs  
B.S., Carson Newman College; M.A. Ed., Western Carolina University; D.D.S., Emory University School of Dentistry
- Chris C. Fay (2003)** \_\_\_\_\_ Assistant Director, Law Enforcement Academy  
BLET Certificate, Asheville-Buncombe Technical Community College; B.A., M.A., University of New Mexico
- Carla B. Fullam (2003)** \_\_\_\_\_ Instructor, Social Service Associate  
B.A., University of North Carolina at Asheville; M.S., Western Carolina University
- Audry M. Greenwell, R.N. (1998)** \_\_\_\_\_ Instructor, Nursing  
B.S.N., Spalding University; M.S.N., University of North Carolina at Charlotte
- Barbara B. Harrison, M.T. (ASCP) S.M. (2003)** \_\_\_\_\_ Instructor, Medical Laboratory Technology  
B.S., Aurora University; M.S., University of South Carolina
- Melba A. Hawkins (2004)** \_\_\_\_\_ Instructor, Early Childhood/Smart Start  
B.S., Mars Hill College; M.S.H.E. and M.L.S., University of North Carolina at Greensboro
- Dianne B. Hughes (1999)** \_\_\_\_\_ Instructor, Early Childhood Associate  
B.A., Mars Hill College; M.A. Ed., Western Carolina University
- Melissa Hyatt, M.T. (1996)** \_\_\_\_\_ Chairperson, Medical Laboratory Technology  
A.A.S., Asheville-Buncombe Technical Community College; B.S., Western Carolina University; further study, Western Carolina University
- Jacqueline A. Jones-Nickens, M.S.W. (1995)** \_\_\_\_\_ Chairperson, Social Service Associate  
B.S., University of North Carolina at Greensboro; M.S.W, University of North Carolina at Chapel Hill
- Robin B. Keith, R.N., C.N.O.R. (2003)** \_\_\_\_\_ Chairperson, Surgical Technology  
LPN Diploma, Guilford Technical Community College; A.D.N., Mount Hood Community College; B.S.N., Western Carolina University
- Pamela N. Kirby (2002)** \_\_\_\_\_ Instructor, Early Childhood Associate  
B.S., Radford University; M.A.Ed, Western Carolina University
- Stacy Lowe, R.T. (R) (M.R.) (1997)** \_\_\_\_\_ Instructor, Medical Imaging  
A.A.S., Paducah Community College; B.S., M.S.Ed., Southern Illinois University
- Sheryl E. Lussier, R.N.C. (1998)** \_\_\_\_\_ Instructor, Nursing  
Diploma, Seton School of Nursing; B.S.N., University of Phoenix
- R. Keith Owens, E.M.T.-P (1999)** \_\_\_\_\_ Chairperson, Emergency Medical Science  
A.A.S., Guilford Technical Community College; B.A., John Wesley College
- Brenda Phillips, R.T. (R) (1992)** \_\_\_\_\_ Instructor, Medical Imaging  
A.A.S., Asheville-Buncombe Technical Community College; B.A., Berea College
- Cathy B. Pollock (1993)** \_\_\_\_\_ Chairperson, Early Childhood  
B.S., M.S., Western Carolina University
- Joyce Robertson, R.N.C. (1967)** \_\_\_\_\_ Instructor, Nursing  
B.S.N., Berea College
- Elizabeth Scarbrough, J.D. (2004)** \_\_\_\_\_ Instructor, Criminal Justice Technology  
A.A., Palm Beach Community College; B.A., University of North Carolina at Chapel Hill; J.D., University of Georgia
- Sherry Morrow Shields, R.D.H. (1973)** \_\_\_\_\_ Instructor, Allied Dental Programs  
A.A.S., Central Piedmont Community College; B.S., University of North Carolina at Chapel Hill
- Clinton H. Smoke (2000)** \_\_\_\_\_ Chairperson, Fire Protection Technology  
M.B.A., College of William and Mary; B.S., John Jay College; B.A., Old Dominion University
- Rebecca Sroda, R.D.H. (1993)** \_\_\_\_\_ Instructor, Allied Dental Programs  
B.S., University of Detroit; M.S., University of Michigan; further graduate study: University of Michigan
- Stephen G. Stafford, E.M.T.-P (2003)** \_\_\_\_\_ Instructor, Emergency Medical Science  
A.A.S., Asheville-Buncombe Technical Community College
- Shaun Riley Tate, R.D.H. (1978)** \_\_\_\_\_ Chairperson, Allied Dental Programs  
B.S., East Tennessee State University; M.A.Ed., Western Carolina University
- Debra C. Whisenant, R.N. (2003)** \_\_\_\_\_ Instructor, Nursing  
B.S.N., Western Carolina University



- Debra Wilson, R.T. (R) (1991)** \_\_\_\_\_ **Chairperson, Medical Imaging**  
A.A.S., Asheville-Buncombe Technical Community College; B.S., Mars Hill College; M.P.H., University of North Carolina at Chapel Hill
- Jane H. Wissinger, R.N. (1998)** \_\_\_\_\_ **Instructor, Nursing**  
B.S., Grove City College; M.S., Virginia Polytechnic Institute and State University; M.S.N., University of Tennessee

## DIVISION OF ARTS AND SCIENCES

- Thomas F. Dechant (1990)** \_\_\_\_\_ **Dean, Arts and Sciences**  
B.A., University of North Carolina at Asheville; M.S., Western Carolina University; Ed.D., North Carolina State University
- James Wesley Adams (1999)** \_\_\_\_\_ **Instructor, Chemistry**  
B.S., College of Charleston; M.S., University of North Carolina at Wilmington
- Kenet M. Adamson (2002)** \_\_\_\_\_ **Interim Chairperson, English/Communications**  
B.S., University of Florida; B.A., Georgia State University; M.A., Western Carolina University
- Joseph G. Allawos (2000)** \_\_\_\_\_ **Instructor, Biology**  
B.S., College of Charleston; M.S., University of Tennessee
- Jerry L. Ashe (1996)** \_\_\_\_\_ **Instructor, Mathematics**  
A.A., Daytona Beach Community College; B.S., University of Central Florida; M.S., University of Central Florida; further graduate study: University of Central Florida
- April D. Birchfield (2003)** \_\_\_\_\_ **Instructor, Social/Behavioral Sciences**  
B.A., University of North Carolina at Asheville; M.A., Wake Forest University
- Jennifer Browning (2003)** \_\_\_\_\_ **Instructor, English/Communications**  
B.A., University of North Carolina at Asheville; M.A., Georgia State University; further graduate study, Georgia State University
- Jacqueline Caldwell (1999)** \_\_\_\_\_ **Instructor, Mathematics**  
B.S., North Carolina State University; M.A., Western Carolina University
- Peter Carswell (1992)** \_\_\_\_\_ **Instructor, Social/Behavioral Sciences**  
B.A., University of Hawaii; B.S., SUNY at Albany; M.S.C.P., Chaminade University of Honolulu
- Sun Chae (2002)** \_\_\_\_\_ **Instructor, Humanities/Fine Arts**  
B.A., New College; M.A., University of Florida
- R. Trent Codd (1999)** \_\_\_\_\_ **Instructor, Mathematics**  
A.A., Miami-Dade Community College; B.S., M.A., University of Miami Florida International University
- Karma Crouch (1992)** \_\_\_\_\_ **Chairperson, Mathematics**  
B.S., Appalachian State University; M.A.Ed., Western Carolina University
- Charles P. Cummings, Ph.D (2001)** \_\_\_\_\_ **Instructor, Social/Behavioral Sciences**  
B.A., State University of New York at Buffalo; M.A., PhD., Georgia State University
- T. Ren Decatur (1996)** \_\_\_\_\_ **Instructor, English/Communications**  
B.A., University of North Carolina at Charlotte; M.A., University of Idaho; further graduate study: University of Vienna (Austria)
- T. Gigi Derballa (1999)** \_\_\_\_\_ **Chairperson, Developmental Studies**  
A.A., Seminole Community College; B.A., M.A., University of Central Florida
- Rock E. Doddridge (2003)** \_\_\_\_\_ **Instructor, Social/Behavioral Sciences**  
B.A., M.A.Ed., University of Florida; M.Div., D.Min, Fuller Theological Seminary; Ph.D., Loyola University of Chicago; M.A.R.E., North Park Theological Seminary
- Thelbert W. Dowdy (1999)** \_\_\_\_\_ **Instructor, Social/Behavioral Sciences**  
B.A., Western Carolina University; M.A., Appalachian State University
- Matthew A. Fender (1990)** \_\_\_\_\_ **Chairperson, Chemistry/Physics**  
A.A.S., Asheville-Buncombe Technical Community College; B.S., M.S., Western Carolina University; further graduate study: Western Carolina University
- Kathy Godfrey (2004)** \_\_\_\_\_ **Instructor, English/Communications**  
A.A., Asheville-Buncombe Technical Community College; B.A., University of North Carolina at Asheville; M.A., University of Tennessee
- Sandi Goodridge (1986)** \_\_\_\_\_ **Instructor, English/Communications**  
B.A., M.A.Ed., University of South Carolina; further graduate study: Western Carolina University

- Randee B. Goodstadt (1993)** \_\_\_\_\_ **Chairperson, Social/Behavioral Sciences**  
B.A., Kent State; M.A., Harvard University; further graduate study: Harvard University
- John Graham (1991)** \_\_\_\_\_ **Instructor, Chemistry/Physics**  
B.S., M.S.T., University of Florida
- W. Michael Gray (1981)** \_\_\_\_\_ **Chairperson, Biology**  
B.A., M.S., Appalachian State University; further graduate study: Western Carolina University
- Elizabeth F. Hester (1994)** \_\_\_\_\_ **Instructor, Developmental Studies**  
B.A., Salem College; M.A., Appalachian State University
- David Holcombe (1992)** \_\_\_\_\_ **Instructor, English/Communications**  
B.A., Mars Hill College; M.A., Indiana State University; further graduate study: Western Carolina University
- William Hooper (1992)** \_\_\_\_\_ **Instructor, Chemistry/Physics**  
A.S., Isothermal Community College; B.S., M.S., University of North Carolina at Chapel Hill; further graduate study: Western Carolina University
- Scott Jackson (2003)** \_\_\_\_\_ **Instructor, Biology**  
B.A., University of North Carolina; M.S., University of Oregon; further study, Southern Oregon University and Highlands Biological Station
- C. Lisa Johnson (1989)** \_\_\_\_\_ **Instructor, English/Communications**  
B.A., M.A., Western Carolina University; further graduate study: Indiana University of Pennsylvania
- Sharon Killian (1992)** \_\_\_\_\_ **Instructor, Developmental Studies**  
B.A., University of North Carolina at Greensboro; Developmental Education Certificate, North Carolina State University
- Kenn D. Kotara (2003)** \_\_\_\_\_ **Instructor, Humanities/Fine Arts**  
B.F.A., M.F.A., Louisiana Tech University
- Ronald P. Layne (2002)** \_\_\_\_\_ **Instructor, Mathematics and Developmental Studies**  
A.S., Asheville-Buncombe Technical Community College; B.A., University of North Carolina at Asheville; further graduate study: Western Carolina University
- Alison B. Long (2003)** \_\_\_\_\_ **Instructor, English/Communications**  
B.A., Purdue University - Calumet; B.S.N., M.A., University of North Carolina at Greensboro
- Deborah K. Lonon (1999)** \_\_\_\_\_ **Instructor, English/Communications**  
B.A., Adrian College; M.A., University of North Carolina at Greensboro; further graduate study: UNCG; University of Southern Maine; International Readers Theatre Institute
- Toby L. Mapes (2002)** \_\_\_\_\_ **Instructor, Biology**  
B.S., North Dakota State University; M.S., Oklahoma State University; Ph.D., University of Maryland - College Park
- Holly C. McCurry (1999)** \_\_\_\_\_ **Chairperson, Instructor,  
Health & Physical Education/Wellness Coordinator**  
B.S., M.A., Western Carolina University
- Kelly Q. McEnany (1999)** \_\_\_\_\_ **Instructor, Social/Behavioral Sciences**  
B.A., University of Wisconsin at Madison; M.S.Ed., Western Carolina University
- Margaret Sue H. Olesiuk (1998)** \_\_\_\_\_ **Instructor, History**  
B.A., M.A.T., University of North Carolina at Chapel Hill
- M. Susan Paterson (1992)** \_\_\_\_\_ **Instructor, Developmental Studies**  
B.A., University of North Carolina at Chapel Hill; M.A.Ed., Western Carolina University
- Glenn C. Ratcliff (2001)** \_\_\_\_\_ **Instructor, Chemistry/Physics**  
B.S., University of North Carolina at Asheville; M.S., Ph.D., University of North Carolina at Chapel Hill
- Sherry L. Ratzlaff (2004)** \_\_\_\_\_ **Instructor, Biology**  
A.S., Virginia Western Community College; B.S., Radford University; M.S., Oklahoma State University
- Danielle Richardson (2004)** \_\_\_\_\_ **Instructor, Spanish**  
B.A., University of North Carolina at Asheville; M.A.T.L., The University of Southern Mississippi
- Valerie L. Rogers (2001)** \_\_\_\_\_ **Instructor, Mathematics**  
A.A., Santa Fe Community College; B.A., Mercer University; M.S., Western Carolina University
- Kathleen Ross (1996)** \_\_\_\_\_ **Instructor, Developmental Studies**  
B.A., Michigan State University; M.A.Ed., Western Carolina University
- Kenneth N. Rudolph (1998)** \_\_\_\_\_ **Instructor, Social/Behavioral Sciences**  
B.S., North Carolina State University; M.S., University of Utah



- T. David Smith (1999)** \_\_\_\_\_ **Chairperson, Humanities/Fine Arts**  
B.A., California State University-Fresno; M.A., University of Florida
- Carol W. Stanford (2003)** \_\_\_\_\_ **Instructor, Health & Physical Education/Intramurals Director**  
B.S., M.A.Ed., Western Carolina University
- Charles Lee Swendsen (2003)** \_\_\_\_\_ **Instructor, Biology**  
B.S., Morningside College; M.S., Ph.D., University of Iowa
- Christine Tibbetts (1999)** \_\_\_\_\_ **Instructor, English/Communications**  
B.A., Agnes Scott College; M.Ed., Emory University; further graduate study: Western Carolina University
- Sharon Trammel (1999)** \_\_\_\_\_ **Instructor, Humanities/Fine Arts**  
B.A., University of North Carolina-Asheville; M.F.A., University of North Carolina-Greensboro; Renaissance Art Study, Florence, Italy
- Paula W. Trilling (2001)** \_\_\_\_\_ **Instructor, Biology**  
A.S., Asheville-Buncombe Technical Community College; B.A., University of North Carolina-Asheville; M.A.Ed., Western Carolina University
- Heather K. Vaughn (2000)** \_\_\_\_\_ **Instructor, English/Communications**  
B.A., Elon College; M.A., University of Nebraska - Lincoln
- Valerie K. Watts (2000)** \_\_\_\_\_ **Instructor, Humanities/Fine Arts**  
A.A., Bucks Community College; B.A., Rider College; M.A., University of Georgia; further study: Universidad de Madrid, Madrid, Spain
- George Robert Webb, Jr. (2004)** \_\_\_\_\_ **Instructor, Mathematics**  
B.A., University of North Carolina at Asheville; M.A.Ed., Western Carolina University
- Laurel H. Young (2001)** \_\_\_\_\_ **Instructor, Biology**  
B.S., University of Tennessee, M.S., Western Carolina University
- Leesa Young (1995)** \_\_\_\_\_ **Instructor, Social/Behavioral Sciences**  
B.A., North Carolina State University; M.H.R., University of Oklahoma

## **DIVISION OF BUSINESS AND HOSPITALITY EDUCATION**

- Joseph W. Franklin, C.C.P. (1980)** \_\_\_\_\_ **Dean, Business and Hospitality Education**  
B.S., Mars Hill College; M.A., Appalachian State University; Ed.S., Western Carolina University; Ed.D., East Tennessee State University
- Jonathan H. Bricker (2000)** \_\_\_\_\_ **Instructor, Business Administration**  
B.S., University of Oregon; M.A., University of Tennessee
- Donnah M. Cole, R.H.I.A. (2003)** \_\_\_\_\_ **Instructor, Administrative/Medical Systems Technologies**  
B.S., Western Carolina University
- Vincent J. Donatelli (2001)** \_\_\_\_\_ **Instructor, Hospitality Education**  
A.O.S., Certificate, Culinary Institute of America
- Kathleen Doole (1995)** \_\_\_\_\_ **Instructor, Business Computer Technologies**  
A.A.S., Blue Ridge Community College; B.A., William Paterson College of New Jersey; M.A.Ed., Western Carolina University; further graduate study, North Carolina State University
- John H. Humphrey, Jr., C.C.P. (1987)** \_\_\_\_\_ **Instructor, Business Computer Technologies**  
B.S., North Carolina State University; M.B.A., University of North Carolina at Chapel Hill; further graduate study: North Carolina State University, East Tennessee State University
- Carolyn B. Hutchinson, C.P.A., C.I.A. (2000)** \_\_\_\_\_ **Instructor, Business Administration**  
B.S., University of North Carolina at Asheville; M.B.A., Clemson University
- Jacqueline A. Larsen (2002)** \_\_\_\_\_ **Instructor, Business Computer Technologies**  
B.A., M.B.A., Cleveland State University
- Philip R. Leftwich (1996)** \_\_\_\_\_ **Chairperson, Business Administration**  
B.S.B.A., Western Carolina University; M.B.A., University of North Carolina at Charlotte; A.B.D.Ed., North Carolina State University
- Lewis R. Lightner, Jr. (2000)** \_\_\_\_\_ **Chairperson, Networking Technologies**  
A.A.S., Asheville-Buncombe Technical Community College
- Steven L. Marcus (2001)** \_\_\_\_\_ **Instructor, Networking Technologies**  
A.A.S., Haywood Community College; B.S., University of North Carolina at Asheville

- Mark Moritz (2001)** \_\_\_\_\_ Instructor, Hospitality Education  
A.O.S., Johnson & Wales University
- Michael J. O'Kane (2001)** \_\_\_\_\_ Instructor, Business Computer Technologies  
B.A., Sheffield Polytechnic; M.S., State University of New York at Binghamton
- Carol C. Paxton (1999)** \_\_\_\_\_ Instructor, Business Computer Technologies  
A.A.S., Asheville-Buncombe Technical Community College; B.S., M.B.A., M.A.Ed., Western Carolina University;  
further study: East Tennessee State University
- Robert H. Potts (2001)** \_\_\_\_\_ Coordinator, Real Estate Programs  
A.A.S., Southwestern Community College; B.S.B.A., Western Carolina University; further study: Asheville-Buncombe  
Technical Community College
- Andrew T. Pratt (2003)** \_\_\_\_\_ Instructor, Hospitality Education  
A.A.S., University of Hawaii; A.O.S., New England Culinary Institute
- Kelly C. Randolph, C.P.A. (1998)** \_\_\_\_\_ Instructor, Business Administration  
B.S.B.A., M.S., Appalachian State University
- Walter A. Rapetski, Jr. (1998)** \_\_\_\_\_ Instructor, Hospitality Education  
A.A.S., B.S., M.S., Rochester Institute of Technology
- Marlene Roden (1999)** \_\_\_\_\_ Instructor, Business Computer Technologies  
B.S., graduate study, Western Carolina University
- Marilyn K. Schmid (1989)** \_\_\_\_\_ Instructor, Administrative/Medical Systems Technologies  
B.S., M.S.T.E., University of Akron; further graduate study: University of New Orleans, Western Carolina University
- Gary A. Schwartz (1984)** \_\_\_\_\_ Instructor, Hospitality Education  
B.A., University of Michigan; J.D., Harvard Law; graduate study: University of Cincinnati
- Misty L. Shuler, R.H.I.A. (1998)** Chairperson, Administrative/Medical Systems Technologies  
B.S., Western Carolina University
- Pamela J. Silvers (1996)** \_\_\_\_\_ Chairperson, Business Computer Technologies  
B.S., University of North Carolina at Asheville; M.A.Ed., Western Carolina University
- Sheila Tillman (1990)** \_\_\_\_\_ Chairperson, Hospitality Education  
A.A.S., Asheville-Buncombe Technical Community College; B.S., University of Rhode Island; M.A.Ed, Western  
Carolina University
- Kathy S. Toler (1983)** \_\_\_\_\_ Instructor, Business Administration  
B.A., M.A.T., University of South Carolina; further graduate study: Western Carolina University
- Charlie K. Widner (1999)** \_\_\_\_\_ Instructor, Food Service Technology  
A.A.S., Asheville-Buncombe Technical Community College
- William L. Wolfe (2001)** \_\_\_\_\_ Instructor, Networking Technologies  
A.A.S., Asheville-Buncombe Technical Community College; B.S., University of North Carolina - Asheville
- Rhonda P. Wood (1993)** \_\_\_\_\_ Instructor, Administrative/Medical Systems Technologies  
A.A.S., Asheville-Buncombe Technical Community College; B.S., University of North Carolina at Asheville; M.A.Ed.,  
Western Carolina University; further graduate study: Western Carolina University

## **DIVISION OF ENGINEERING AND APPLIED TECHNOLOGY**

- Robert L. Anderson (1993)** \_\_\_\_\_ Dean, Engineering and Applied Technology  
B.S., M.In.Ed., Clemson University; further graduate study, Clemson University, North Carolina State University
- Samuel L. Barnes (1988)** \_\_\_\_\_ Instructor, Machining Technology  
Diploma, Technical Diploma, A.A.S., Asheville-Buncombe Technical Community College; B.S., Western Carolina  
University; Master Tool & Die Maker
- Larry S. Boyd (1986)** \_\_\_\_\_ Chairperson, Machining, Tool & Die, and Welding  
A.A.S., Asheville-Buncombe Technical Community College; B.S.M.E.T., Western Carolina University, University of  
North Carolina at Asheville
- Kenneth F. Czarnomski (2003)** \_\_\_\_\_ Chairperson, Construction Management Technology  
B.S., B.A., Lawrence Institute of Technology
- Lynn V. Ehrke (2003)** \_\_\_\_\_ Instructor, Civil Engineering/CAD  
B.S., M.S., Ph.D, Virginia Polytechnic Institute; M.B.A., University of Pittsburgh



- Charles P. Farmer (2003)** \_\_\_\_\_ **Instructor, Welding Technology**  
Diploma, Asheville-Buncombe Technical Community College; B.S., Mars Hill College
- M. Kevin Fletcher (2003)** \_\_\_\_\_ **Instructor, Automotive Service Technology**  
A.A.S., Asheville-Buncombe Technical Community College; ASE, Master Automotive Technician; ASE Certified, Engines, Heavy Trucks, Electrical, Diesel
- Robert Hixson (1996)** \_\_\_\_\_ **Chairperson, Civil Engineering/Surveying Technology**  
B.S. U.S. Military Academy, M.E., University of Florida; North Carolina, PE.
- J. Benjamin Houston (1999)** \_\_\_\_\_ **Instructor, Electronics**  
A.A.S., Asheville-Buncombe Technical Community College; B.A., University of North Carolina-Chapel Hill
- Sherian D. Howard (1985)** \_\_\_\_\_ **Chairperson, CAD Systems Management**  
A.A.S., Asheville-Buncombe Technical Community College; B.S.M.E.T., Western Carolina University, University of North Carolina at Asheville; M.S., Western Carolina University
- Henry Z. Jackson (1999)** \_\_\_\_\_ **Chairperson, Mechanical Engineering Technology**  
B.S., M.S., Georgia Institute of Technology; P.E. in North Carolina, Georgia
- Lauren D. Karahalos (2004)** \_\_\_\_\_ **Instructor, Computer-Aided Design**  
B.S., Appalachian State University
- J. Christopher Martin (2004)** \_\_\_\_\_ **Instructor, Computer Engineering Technology**  
A.A.S., Asheville-Buncombe Technical Community College
- Frank Miceli (1992)** \_\_\_\_\_ **Chairperson, Electronics Engineering Technology**  
A.A.S., State University of New York at Farmingdale; B.S.E.E., Ohio State University; graduate study: Polytechnic Institute of New York, M.S., Western Carolina University
- Brian O'Connor (1999)** \_\_\_\_\_ **Instructor, Civil Engineering/Surveying Technology**  
B.S. (two degrees), North Carolina State University; Professional Engineer Certification; Professional Land Surveyor Certification
- Stephen Thomas Sharar II (1995)** \_\_\_\_\_ **Instructor, Electronics**  
A.A.S., Asheville-Buncombe Technical Community College; B.S., Pennsylvania State University; further study: Western Carolina University
- David W. Walker (1993)** \_\_\_\_\_ **Instructor, Heavy Equipment and Transport Technology**  
Diplomas, A.A.S., Asheville-Buncombe Technical Community College; Caterpillar Service Training School
- William W. Wells (1985)** \_\_\_\_\_ **Chairperson, Air Conditioning**  
Technical diploma, Asheville-Buncombe Technical Community College; B.A., University of North Carolina at Asheville, graduate study; Western Carolina University; N.C. Licensed Heating, Air Conditioning, Refrigeration, and Electrical Contractor
- Richard A. Wolfe (1993)** \_\_\_\_\_ **Chairperson, Automotive/Heavy Equipment**  
Diplomas, A.A.S., Asheville-Buncombe Technical Community College; B.S., Western Carolina University; ASE Certified; GM Certification, GM Training Center; Ford Certification, Ford Training Center

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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.





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# ABTech

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