




2018-2019
ACADEMIC CATALOG

Mountain Empire Community College

Message from the President

On behalf of the staff and faculty of Mountain Empire Community College, it is my pleasure to welcome you to our campus. Our goal at MECC is to prepare you for meaningful employment or for successful transfer to a four-year college or university upon graduation. We are glad you have chosen MECC to pursue your educational goals. Our faculty and staff are dedicated to ensuring we provide an array of academic programs and training opportunities to create a better career and future for you and your family.

This handbook will serve as a guide to our College's policies and procedures. MECC staff are available to assist you with any questions or concerns you may have. Please consider taking advantage of the many student support services offered at our College designed to assist you in attaining your educational goals. Most importantly, get involved in a club, organization, or activity on campus. We believe your experience at MECC will be academically and personally rewarding.

I wish you the very best in your future endeavors!

Kristen Westover, Ed.D.
President, Mountain Empire Community College

Nondiscrimination Policy
Mountain Empire Community College (MECC) is an open entry institution. Its mission is to provide quality higher education and workforce training programs and services that are financially and geographically accessible and meet individual, business, and community needs. The following pathways exist:

Allied Health	Engineering
Arts & Music	Environmental
Business	Health Sciences
College Transfer	Manufacturing
Construction	Public Safety
Education	Technology

MECC is committed to a policy of nondiscrimination in employment and education opportunity. No person shall be discriminated against in the terms and conditions of employment, personnel practices, or access to and participation in, programs, services, and activities with regard to race, sex, color, creed, religion, age, national origin, disability, marital status, status with regard to public assistance, sexual orientation, or membership or activity in a local commission as defined by law.

Harassment of an individual or group on the basis of race, sex, color, creed, religion, age, national origin, disability, marital status, status with regard to public assistance, sexual orientation, or membership or activity in a local commission has no place in a learning or work environment and is prohibited. Sexual violence has no place in a learning or work environment. Further, MECC shall work to eliminate violence in all its forms. Physical contact by designated system, college, and university staff members may be appropriate if necessary to avoid physical harm to persons or property.

Lack of English skills will not be a barrier to admission or participation. In order to eliminate barriers, we take appropriate measures to assess each student's ability to participate and benefit through placement testing and counseling. Based on the assessment and counseling, students are then provided with campus services or a referral to community services to be better prepared for successful participation.

Nondiscrimination Coordinators:
- Title IX Coordinator – Ron Vicars, Room 136, Godwin Hall, 276.523.7480
- Title IX Coordinator (Students) – Lelia Bradshaw, Room 133, Holton Hall, 276.523.2400 ext. 288
- Title IX Coordinator (Employees) – Pam Giles, Room 137, Godwin Hall, 276.523.2400 ext. 212
- Disabilities Coordinator – Dale Lee, Room 131, Holton Hall, 276.523.2400 ext. 343

This document is available in alternative formats to individuals with disabilities. Consumers with hearing or speech disabilities may contact us via their preferred Telecommunications Relay Service.

Content Disclaimer
Mountain Empire Community College provides its website, catalog, handbooks, and any other printed materials or electronic media for your general guidance. The college does not guarantee that the information contained within them, including, but not limited to, the contents of any page that resides under the DNS registrations of www.mecc.edu is up-to-date, complete and accurate, and individuals assume any risks associated with relying upon such information without checking other credible sources, such as a student's academic advisor. In addition, a student's or prospective student's reliance upon information contained within these sources, or individual program catalogs or handbooks, when making academic decisions does not constitute, and should not be construed as, a contract with the college. Further, the college reserves the right to make changes to any provision or requirement within these sources, as well as changes to any curriculum or program, whether during a student's enrollment or otherwise.

Links or references to other materials and websites provided in the above-referenced sources are also for information purposes only and do not constitute the college's endorsement of products or services referenced.

Table of Contents

Academic Calendar 2018-2019

Summer 2018

LONG SESSION

April	2	Mon	Early enrollment/advisement begins
May	28	Mon	College closed - Memorial Day holiday
	30-31	Wed-Thu	New Student Seminar
June	1	Fri	Tuition due for early enrollment
	1	**Fri**	**FIRST DAY OF CLASSES**
	7	Thu	Last day to add classes without faculty permission
	11	Mon	Last day to add classes with faculty permission, change from audit to credit, drop with a refund, change from credit to audit
July	4	Wed	College closed - Independence Day holiday
	6	Fri	Last day to make-up incomplete grades for spring 2018
	9	Mon	Last day to withdraw from classes without grade penalty
August	**1**	**Wed**	**LAST DAY OF CLASSES**
	2-3	Thu-Fri	FINAL EXAMS
	6	Mon	Grades due at 4:30 pm

FIRST SHORT SESSION

April	2	Mon	Early enrollment/advisement begins
May	28	Mon	College closed - Memorial Day holiday
June	1	Fri	Tuition due for early enrollment
	1	**Fri**	**FIRST DAY OF CLASSES**
	4	Mon	Last day to add classes without faculty permission
	4	Mon	Last day to add classes with faculty permission, change from audit to credit, drop with a refund, change from credit to audit
	18	Mon	Last day to withdraw from classes without grade penalty
	28	**Thu**	**LAST DAY OF CLASSES**
	29	Fri	FINAL EXAMS
July	2	Mon	Grades due at 4:30 pm
	4	Wed	College closed - Independence Day holiday
	6	Fri	Last day to make-up incomplete grades for spring 2018

SECOND SHORT SESSION

April	2	Mon	Early enrollment/advisement begins
July	4	Wed	College closed - Independence Day holiday
	5	Thu	Tuition due for early enrollment
	5	**Thu**	**FIRST DAY OF CLASSES**
	5	Thu	Last day to add classes without faculty permission
	6	Fri	Last day to make-up incomplete grades for spring 2018
	9	Mon	Last day to add classes with faculty permission, change from audit to credit, drop with a refund, change from credit to audit
	23	Mon	Last day to withdraw from classes without grade penalty
August	**1**	**Wed**	**LAST DAY OF CLASSES**
	2	Thu	FINAL EXAMS
	6	Mon	Grades due at 4:30 pm

3W1 (THREE WEEK FIRST) SESSION

June	**1**	**Fri**	**FIRST DAY OF CLASSES**
	1	Fri	Last day to add classes without faculty permission
	4	Mon	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
	12	Tue	Last day to withdraw from classes without grade penalty
	20	**Wed**	**LAST DAY OF CLASSES**

3W2 (THREE WEEK SECOND) SESSION

June	**22**	**Fri**	**FIRST DAY OF CLASSES**
	22	Fri	Last day to add classes without faculty permission
	25	Mon	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
July	3	Tue	Last day to withdraw from classes without grade penalty
	11	**Wed**	**LAST DAY OF CLASSES**

3W3 (THREE WEEK THIRD) SESSION

July	**13**	**Fri**	**FIRST DAY OF CLASSES**
	13	Fri	Last day to add classes without faculty permission
	16	Mon	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
	24	Tue	Last day to withdraw from classes without grade penalty
August	**1**	**Wed**	**LAST DAY OF CLASSES**

Fall 2018

August	16-17	Thu-Fri	Faculty/staff in-service days
	20-21	Mon-Tue	Enrollment/advisement/Welcome Week
	22	Wed	Tuition due for early enrollment
	22	**Wed**	**FIRST DAY OF CLASSES**
	28	Tue	Last day to add classes without faculty permission
September	3	Mon	College closed - Labor Day holiday
	10	Mon	Last day to add classes with faculty permission, change from audit to credit, drop with a refund, change from credit to audit
October	19	Fri	In-service day - No day or evening classes
	25	Thu	Spring early enrollment begins
	29	Mon	Last day to withdraw from classes without grade penalty
November	2	Fri	Application deadline for fall graduation
	16	Fri	Last day to make up incomplete grades from summer 2018
	21	Wed	College closes at noon - No day or evening classes
	22-23	Thu-Fri	College closed - Thanksgiving holiday
December	**10**	**Mon**	**LAST DAY OF CLASSES**
	11-14, 17	Tue-Fri, Mon	FINAL EXAMS
	18	Tue	Faculty/staff in-service day - Grades due at 4:30 pm
	19-20	Wed-Thu	Professional development days
	21-31	Fri-Mon	College closed - Christmas holiday

8W1 (EIGHT WEEK FIRST) SESSION

Aug.	**22**	**Wed**	**FIRST DAY OF CLASSES**
	26	Sun	Last day to add classes without faculty permission
	29	Wed	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
Sep.	24	Mon	Last day to withdraw from classes without grade penalty
Oct.	**16**	**Tue**	**LAST DAY OF CLASSES**

8W2 (EIGHT WEEK SECOND) SESSION

Oct.	**18**	**Thu**	**FIRST DAY OF CLASSES**
	22	Mon	Last day to add classes without faculty permission
	26	Fri	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
Nov.	20	Tue	Last day to withdraw from classes without grade penalty
Dec.	**13**	**Thu**	**LAST DAY OF CLASSES**

5W1 (FIVE WEEK FIRST) SESSION

Aug.	**22**	**Wed**	**FIRST DAY OF CLASSES**
	23	Thu	Last day to add classes without faculty permission
	27	Mon	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
Sep.	12	Wed	Last day to withdraw from classes without grade penalty
	26	**Wed**	**LAST DAY OF CLASSES**

5W2 (FIVE WEEK SECOND) SESSION

Sep.	**27**	**Thu**	**FIRST DAY OF CLASSES**
	28	Wed	Last day to add classes without faculty permission
Oct.	1	Mon	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
	17	Wed	Last day to withdraw from classes without grade penalty
	31	**Wed**	**LAST DAY OF CLASSES**

5W3 (FIVE WEEK THIRD) SESSION

Nov.	**1**	**Thu**	**FIRST DAY OF CLASSES**
	2	Fri	Last day to add classes without faculty permission
	6	Tue	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
	26	Mon	Last day to withdraw from classes without grade penalty
Dec.	**10**	**Thu**	**LAST DAY OF CLASSES**

3W1 (THREE WEEK FIRST) SESSION

Aug.	**22**	**Wed**	**FIRST DAY OF CLASSES**
	22	Wed	Last day to add classes without faculty permission
	27	Mon	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
Sep.	7	Fri	Last day to withdraw from classes without grade penalty
	18	**Tue**	**LAST DAY OF CLASSES**

3W2 (THREE WEEK SECOND) SESSION

Sep.	**19**	**Wed**	**FIRST DAY OF CLASSES**
	19	Wed	Last day to add classes without faculty permission
	24	Mon	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
Oct.	5	Fri	Last day to withdraw from classes without grade penalty
	16	**Tue**	**LAST DAY OF CLASSES**

3W3 (THREE WEEK THIRD) SESSION

Oct.	**17**	**Wed**	**FIRST DAY OF CLASSES**
	17	Wed	Last day to add classes without faculty permission
	22	Mon	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
Nov.	2	Fri	Last day to withdraw from classes without grade penalty
	13	**Tue**	**LAST DAY OF CLASSES**

3W4 (THREE WEEK FOURTH) SESSION

Nov.	**14**	**Wed**	**FIRST DAY OF CLASSES**
	14	Wed	Last day to add classes without faculty permission
	19	Mon	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
Dec.	3	Mon	Last day to withdraw from classes without grade penalty
	13	**Thu**	**LAST DAY OF CLASSES**

Spring 2019

January	1	Tue	College closed – New Year's Day holiday
	2-4	Wed-Fri	Faculty/staff in-service
	7-11	Mon-Fri	Enrollment/advisement
	10-11	Thu-Fri	Student Welcome Week
	14	Mon	Tuition due
	14	**Mon**	**FIRST DAY OF CLASSES**
	20	Sun	Last day to add classes without faculty permission
	30	Wed	Last day to add classes with faculty permission, change from audit to credit, drop with a refund, change from credit to audit
March	1	Fri	Application deadline for spring and summer graduation
	4-5	Mon-Tue	Professional development days - No day or evening classes
	6-8	Wed-Fri	Spring Break - No day or evening classes (Note: May be reduced/eliminated if necessary to make up class time.)
	28	Thu	Last day to withdraw from classes without grade penalty
April	1	Mon	Summer and fall early enrollment begins
	12	Fri	Last day to make up incomplete grades from fall 2018
	19	Fri	College closed
	26	Fri	Faculty/Staff In-Service Day - Graduate assessment at 9:00 am Graduation practice, Goodloe Center, 11:00 am (no day or evening classes)
May	**3**	**Fri**	**LAST DAY OF CLASSES**
	3	Fri	Faculty/staff in-service - Celebration of People
	6-9	Mon-Thu	FINAL EXAMS
	10	Fri	Faculty/staff in-service - Grades due at 4:30 pm
	10	Fri	GRADUATION – Faculty/staff in-service
	13-15	Mon-Wed	Professional development days

8W1 (EIGHT WEEK FIRST) SESSION

Jan.	**14**	**Mon**	**FIRST DAY OF CLASSES**
	16	Wed	Last day to add classes without faculty permission
	21	Mon	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
Feb.	14	Thu	Last day to withdraw from classes without grade penalty
Mar.	**7**	**Thu**	**LAST DAY OF CLASSES**

8W2 (EIGHT WEEK SECOND) SESSION

Mar.	**11**	**Mon**	**FIRST DAY OF CLASSES**
	14	Thu	Last day to add classes without faculty permission
	18	Mon	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
Apr.	11	Thu	Last day to withdraw from classes without grade penalty
May	**2**	**Thu**	**LAST DAY OF CLASSES**

5W1 (FIVE WEEK FIRST) SESSION

Jan.	**14**	**Mon**	**FIRST DAY OF CLASSES**
	15	Tue	Last day to add classes without faculty permission
	18	Fri	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
Feb.	1	Fri	Last day to withdraw from classes without grade penalty
	14	**Thu**	**LAST DAY OF CLASSES**

5W2 (FIVE WEEK SECOND) SESSION

Feb.	**18**	**Mon**	**FIRST DAY OF CLASSES**
	19	Tue	Last day to add classes without faculty permission
	22	Fri	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
Mar.	14	Thu	Last day to withdraw from classes without grade penalty
	28	**Thu**	**LAST DAY OF CLASSES**

5W3 (FIVE WEEK THIRD) SESSION

Apr.	**1**	**Mon**	**FIRST DAY OF CLASSES**
	2	Tue	Last day to add classes without faculty permission
	5	Fri	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
	19	Fri	Last day to withdraw from classes without grade penalty
May	**2**	**Thu**	**LAST DAY OF CLASSES**

3W1 (THREE WEEK FIRST) SESSION

Jan.	**14**	**Mon**	**FIRST DAY OF CLASSES**
	14	Mon	Last day to add classes without faculty permission
	16	Wed	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
	28	Mon	Last day to withdraw from classes without grade penalty
Feb.	**5**	**Tue**	**LAST DAY OF CLASSES**

3W2 (THREE WEEK SECOND) SESSION

Feb.	**6**	**Wed**	**FIRST DAY OF CLASSES**
	6	Wed	Last day to add classes without faculty permission
	8	Fri	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
	19	Tue	Last day to withdraw from classes without grade penalty
	28	**Thu**	**LAST DAY OF CLASSES**

3W3 (THREE WEEK THIRD) SESSION

Mar.	**11**	**Mon**	**FIRST DAY OF CLASSES**
	11	Mon	Last day to add classes without faculty permission
	14	Thu	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
	25	Mon	Last day to withdraw from classes without grade penalty
Apr.	**4**	**Thu**	**LAST DAY OF CLASSES**

3W4 (THREE WEEK FOURTH) SESSION

Apr.	**8**	**Mon**	**FIRST DAY OF CLASSES**
	8	Mon	Last day to add classes without faculty permission
	11	Thu	Last day to add classes with faculty permission, drop with a refund, change from audit to credit, change from credit to audit
	22	Mon	Last day to withdraw from classes without grade penalty
May	**2**	**Thu**	**LAST DAY OF CLASSES**

EXAM SCHEDULE

Fall 2018 Semester

Tue., Dec. 11	If your class meets:	Your exam will be:
Tues/Thur	8:15 am-9:30 am	8:15 am-10:15 pm
Tues/Thur	11:05 am-12:20 pm	11:05 am-1:05 pm
Tues/Thur	2:15 pm-3:30 pm	2:15 pm-4:15 pm
	Tuesday evening exams will be held from 6:00-8:00 pm	

Wed., Dec. 12	If your class meets:	Your exam will be:
Mon/Wed	8:15 am-9:30 am	8:15 am-10:15 pm
Mon/Wed	11:05 am-12:20 pm	11:05 am-1:05 pm
Mon/Wed	2:15 pm-3:30 pm	2:15 pm-4:15 pm
	Wednesday evening exams will be held from 6:00-8:00 pm	

Thu., Dec. 13	If your class meets:	Your exam will be:
Tues/Thur	9:40 am-10:55 am	9:40 am-11:40 am
Tues/Thur	12:50 pm-2:05 pm	12:50 pm-2:50 pm
Tues/Thur	3:40 pm-4:55 pm	3:40 pm-5:40 pm
	Thursday evening exams will be held from 6:00-8:00 pm	

Fri., Dec. 14	If your class meets:	Your exam will be:
Mon/Wed	9:40 am-10:55 am	9:40 am-11:40 am
Mon/Wed	12:50 pm-2:05 pm	12:50 pm-2:50 pm
Mon/Wed	3:40 pm-4:55 pm	3:40 pm-5:40 pm
	Monday evening exams will be held from 6:00-8:00 pm	

Mon., Dec. 17 Exam Make-up Day! Schedule as needed.

Spring 2019 Semester

Thu., May 2	If your class meets:	Your exam will be:
Tues/Thur	8:15 am-9:30 am	8:15 am-10:15 pm
Tues/Thur	11:05 am-12:20 pm	11:05 am-1:05 pm
Tues/Thur	2:15 pm-3:30 pm	2:15 pm-4:15 pm
	Tuesday evening exams will be held from 6:00-8:00 pm	

Fri., May 3	If your class meets:	Your exam will be:
Mon/Wed	8:15 am-9:30 am	8:15 am-10:15 pm
Mon/Wed	11:05 am-12:20 pm	11:05 am-1:05 pm
Mon/Wed	2:15 pm-3:30 pm	2:15 pm-4:15 pm
	Wednesday evening exams will be held from 6:00-8:00 pm	

Mon., May 6	If your class meets:	Your exam will be:
Tues/Thur	9:40 am-10:55 am	9:40 am-11:40 am
Tues/Thur	12:50 pm-2:05 pm	12:50 pm-2:50 pm
Tues/Thur	3:40 pm-4:55 pm	3:40 pm-5:40 pm
	Thursday evening exams will be held from 6:00-8:00 pm	

Tue., May 7	If your class meets:	Your exam will be:
Mon/Wed	9:40 am-10:55 am	9:40 am-11:40 am
Mon/Wed	12:50 pm-2:05 pm	12:50 pm-2:50 pm
Mon/Wed	3:40 pm-4:55 pm	3:40 pm-5:40 pm
	Monday evening exams will be held from 6:00-8:00 pm	

Wed., May 8 Exam Make-up Day! Schedule as needed.

Bookstore Deadlines

Summer 2018:

May	30	Wed	Students may begin charging to their financial aid accounts for summer semester
May	30-31	Wed & Thu	Bookstore extended hours (open 8 a.m. to 6 p.m.)
June	4-7	Mon-Thu	Bookstore extended hours (open 8 a.m. to 6 p.m.)
June	11	Mon	Last day to return textbooks for a refund
June	25-29	Mon-Fri	Bookstore closed for inventory
July	9	Mon	Last day students can charge to their financial aid accounts for summer semester
August	3	Fri	Last day to return rental textbooks

Fall 2018:

August	20	Mon	Students may begin charging to their financial aid accounts for fall semester
August	20-23	Mon-Thu	Bookstore extended hours (open 8 a.m. to 6 p.m.)
August	27-30	Mon-Thu	Bookstore extended hours (open 8 a.m. to 6 p.m.)
September	10	Mon	Last day to return textbooks for a refund and last day student can charge to financial aid accounts
December	10-14	Mon - Fri	Book buy back, 9 a.m. to 4 p.m.
December	14	Fri	Last day to return rental textbooks

Spring 2019:

January	7	Mon	Students may begin charging to their financial aid accounts for spring semester
January	7-10	Mon-Thu	Bookstore extended hours (open 8 a.m. to 6 p.m.)
January	14-17	Mon-Thu	Bookstore extended hours (open 8 a.m. to 6 p.m.)
January	28	Mon	Last day to return textbooks for a refund
February	8	Fri	Last day students can charge to their financial aid accounts for spring semester
April	5	Fri	Cap and gown orders due in Bookstore
May	1-3	Wed - Fri	Book buy back, 9 a.m. to 4 p.m.
	6-7	Mon & Tue	Book buy back, 9 a.m. to 4 p.m.
May	7	Tue	Last day to return rental textbooks

*Dates are subject to change due to schedule or financial aid adjustments.

Who Can Answer My Question?

Issue	Who to Call	Contact
Academic – General Studies	Dean, Arts & Sciences	276.523.7460
Academic – Applied Science & Technology	Dean, Applied Science & Technology	276.523.7465
Academic – Business & Information Technology	Dean, Business & Information Technology	276.523.2400 ext. 313
Academic – Health Sciences	Dean, Health Science	276.523.2400 ext. 456
Adding or dropping a course	Your Advisor	276.523.2400
Advanced placement	Dean, Arts & Sciences	276.523.7460
Blackboard	Instructional Technology	276.523.7488
Career planning	Career Services Center	276.523.2400 ext. 324
Change of address	Enrollment Services/Admissions	276.523.7474
Class schedule conflicts	Your Advisor	276.523.2400
Courses, electives & curriculum changes	Your Advisor	276.523.2400
Evaluation of credits	Enrollment Services/Admissions	276.523.7474
Fees, tuition & refunds	Business Office	276.523.7475
Financial aid	Enrollment Services/Financial Aid	1-844-MECC4ME
Graduation applications	Enrollment Services/Admissions	276.523.7474
ID Cards	Student Services Office	276.523.7472
Lost and found	Student Services Office	276.523.7472
Parking permits and fines	Business Office	276.523.7475

Publicity and publications	Community Relations Office	276.523.7480
Scholarships	Financial Aid	276.523.2400
Intramurals and student activities	Student Services Office	276.523.7472
Student records	Enrollment Services/Admissions	276.523.7474
Testing	Student Services Office	276.523.2400 ext. 488
Tuition Payment Plan	Business Office	276.523.7475
Transcripts	Enrollment Services/Admissions	276.523.7474
Transfer information	Student Services Office	276.523.2400 ext. 324
Tutoring	Learning Center	276.523.2400 ext. 342
Veterans affairs	Enrollment Services/Veteran's Affairs	276.523.2400 ext. 217
Withdrawal from class or college	Your Advisor	276.523.2400
Work-study	Enrollment Services/Financial Aid	276.523.2400 ext. 290

For all other inquiries, please call 276.523.2400 or email info@mecc.edu

Glossary

Administrative Withdrawal: An administrative withdrawal occurs when an instructor or staff member has a student withdrawn from a course because of excessive absences, undue academic difficulty, or a serious non-academic issue.

Apply for Admission: The process of applying for entrance to the college in order to take courses. Admission applications are not required for non-credit programs.

Blackboard: Blackboard is a Web-based learning management system (LMS) designed to support online courses and provide a space to supplement a face-to-face course. Blackboard provides many types of tools and features for enriching the learning experience.

Career Studies Certificate (CSC) Program: A program of study that consists of between 9 and 29 semester credit hours.

Catalog: The Catalog includes information about admission to the College, enrollment, degrees and certificates, and academic policies.

Certificate Program: A program of study less than two years in length that consists of between 30 and 59 semester credit hours or a short-term, non-credit program through the MECC Workforce Development Center.

Class Schedule: The class schedule lists all the courses available for each academic semester including class times, location, course information and instructor information.

Concurrent Enrollment: When a high school or home school student enrolls in college-credit bearing courses at the College.

Co-requisite: Co-requisites are courses that must be taken at the same time. A student is also permitted to complete the co-requisite course prior to the other course. For example, MTH 163 is a co-requisite for EGR 120. A student may take MTH 163 before enrolling in EGR 120, or he/she may take the courses at the same time.

Credit/credit hour: Each semester hour of credit given for a course is based on the "academic hour," which is 50 minutes of formalized, structured instructional time in a particular course weekly for fifteen weeks. Courses may include lecture (instruction, discussion), laboratory (including clinical training, studio, or internship), out-of-class study/activities or a combination thereof depending on the discipline.

Curricular student: A student who has satisfied all college admission requirements and has been placed in a degree or certificate program.

Declaring a Major (Curriculum/program placement): A major represents a degree-seeking student's primary field of study. A student must formally commit to a major, and successfully complete the courses prescribed in order to earn that certificate or degree.

Degree Program: A degree program is two years in length and consists of a minimum of 60 semester credit hours.

Developmental Courses: Developmental courses assist students in developing basic skills necessary to succeed in college transfer courses and career/technical courses.

Drop: Students may drop classes and receive a full tuition refund through the first 15 percent of the semester or term. There are no academic consequences from this action, but there may be financial aid repercussions for this drop if the student no longer meets financial aid qualifications. The course will show on the student's registration history as dropped but will not post on any unofficial or official transcripts and does not count as attempted credit.

Dual Enrollment: Provides high school students the opportunity to take college-credit bearing courses taught by college-approved high school teachers.

Enroll: Officially register as a participant/student in one or more courses.

Faculty Advisor: A faculty advisor provides academic advising and support to students within their discipline by helping them understand options, locate resources and, when necessary, identify alternatives. Once a student declares their major they are assigned a faculty advisor.

FAFSA: Free Application for Federal Student Aid.

FERPA: The Family Educational Rights and Privacy Act.

FERPA protects the privacy of student education records. All educational institutions that receive federal funding must comply with FERPA.

Full-time student: A student enrolled in courses totaling 12 or more credit hours in a semester.

Hybrid Course: Hybrid classes are seated courses that meet for approximately half of the time of a traditional class. The other half of the instructional time is replaced with out-of-class activities, which may include use of technology. Hybrid courses are recognizable in the course schedule by the "R" designation in front of the course number.

MECC Online: A web portal that allows students to access Blackboard, the Student Information System, student e-mail, library services, and the Virginia Education Wizard from one location, using one login.

Non-credit: Short-term professional and personal development courses offered through the Community

College Workforce Alliance. All classes offer Continuing Education Units (CEUs) and Continuing Professional Education (CPE). The number of CEUs awarded depends upon successful course completion and varies according to course length. For each hour of actual instruction, 0.1 CEU is awarded. For CPEs, students simply need to request them from the Center for Workforce Development before class.

Non-curricular student: A student who is not formally placed into one of the College's majors but who is classified according to one of the following student goals or conditions: • updating employment skills for present job • developing skills for new job • career exploration • personal satisfaction and general knowledge • transient student • non-degree transfer student • high school student (with college approval only) • general or curricular requirements pending (with college approval only) • restricted enrollment (with college approval; auditing a course)

Online Course: In this mode of instruction, all coursework and interactions with the instructor and classmates are completed online. Online courses are recognizable in the course schedule by the "W" designation in front of the course number.

Online SSDL Course: The College also offers online courses through Shared Services Distance Learning (SSDL). SSDL courses are offered in partnership with Northern Virginia Community College (NVCC). These courses allow students to earn MECC credit while taking an online course with a NVCC instructor, as well as use the MECC Testing Centers to take proctored assessments. SSDL courses have access to all MECC services, as well as services provided by NVCC. Students enrolled in SSDL courses will receive a letter from NVCC and an invitation to participate in an online orientation, and a MECC liaison provides support during the semester. SSDL courses follow the NVCC academic calendar. Please review course notes for start and end dates. All SSDL courses have a section number that begins with the letters "E."

Part-time student: A student enrolled in courses totaling less than 12 credit hours in a semester.

Pre-requisite: A pre-requisite indicates the knowledge and skills that a student must possess before taking the present course. For example, ENG 111 is a pre-requisite to ENG 112 and must be successfully completed prior to beginning ENG 112.

Seated Course: Traditional, in-person classes that provide a face-to-face learning experience. Seated classes meet at a regularly scheduled time. Seated courses do not have any special designation in the course schedule. Specialization: A specialization is an area of concentration within an approved major, varying from the parent major by 9-15 credit hours.

Student E-mail: After a student has applied for admission to the college, a college email address is assigned to them. Students must use their college e-mail account for correspondence with faculty and staff. It is accessed through MECC Online.

Student Information System (SIS): The Student Information System allows students to complete tasks such as registering for classes, paying tuition/fees, accessing personal information, viewing financial aid, viewing final grades, viewing/printing unofficial transcripts, and so much more.

Syllabus: A syllabus is an outline of course topics and a summary of course policies. It is a contract between instructors and their students, designed to answer students' questions about a course and the instructor's expectations.

Transient Student: A student who is enrolled in another college or university, but takes a course at Mountain Empire Community College.

Videoconference Course: This is a method of holding meetings that allows students who are in different cities, countries, etc., to hear each other and see each other on computer or television screens. Class meetings are scheduled just like traditional on-campus classes, but the instructor is connected to the class by a video network. Additional instruction may be in Blackboard or other sources.

Virginia Placement Test (VPT): The VPT may be used to determine whether a student may benefit from developmental coursework prior to enrolling in college-level classes. Placement tests in English (writing and reading) and mathematics are generally required for all entering students seeking admission to degree and certificate programs, as well as some career studies certificate programs.

Withdrawal: An academic withdrawal from a course occurs when a student removes themselves from a course after the drop period has passed but before the first 60 percent of the semester or term. There may be financial/financial aid repercussions for this withdrawal. The academic consequences from this action include receiving the grade of "W" for the course, which will appear on any unofficial or official transcripts. A grade of "W" will not impact your GPA, and does not count as completed credit toward your degree.

General Information

Mountain Empire Community College (MECC) is a two-year public institution of higher education established as part of a statewide system of community colleges. Mountain Empire Community Colleges serves primarily the residents of Wise, Lee, Scott, and Dickenson Counties and the city of Norton.

MECC operates under policies established by the State Board for Community Colleges and the College Board. It is financed by student tuition and state funds, supplemented by contributions from localities and the college's Foundation.

History of the College

In 1966, the Virginia Assembly enacted historic legislation establishing a statewide system of comprehensive community colleges. This legislation brought most post high school education below the bachelor's level into one system, and broadened the base of higher education in the state to such an extent that Virginia, for the first time in the twentieth century, took a major step toward democratizing higher education. As comprehensive institutions, the community colleges endeavor to serve all segments of society.

In southwest Virginia, a committee comprised of local business, civic, industrial and political leaders was appointed by the local governing bodies of Lee, Scott, Wise, and Dickenson Counties and the City of Norton for the purpose of establishing a comprehensive community college. In April of 1970, the College Board had its first meeting at which Judge William C. Fugate was elected chair. Funds for construction were allocated by the State Board for Community Colleges and construction began in early 1971.

- In August 1971, Dr. George B. Vaughan was named president of Mountain Empire Community College and groundbreaking ceremonies were held in October of that same year.
- The first classes were offered in the fall of 1972. In January 1978, Dr. Victor B. Ficker assumed his responsibilities as the second president of Mountain Empire.
- The third president, Dr. Ruth Mercedes Smith, served from June 1988 to June 1991.
- Dr. Robert H. Sandel served as the fourth president from January 1992 to July 2001.
- Dr. Terrance Suarez served as the fifth president from January 2002 to June 2010.
- Dr. Scott Hamilton became the sixth president in July 2010.
- Dr. Kristen Westover became the seventh president in July 2017.

Mission

Mountain Empire Community College's mission is to provide our region with accessible, quality higher education, workforce training, and community programs to ensure an educated population and globally competitive workforce.

Mountain Empire Community College's mission is fulfilled through the following avenues:

- General Education: General Education, a component of academic programs, includes the following competencies: Communication, Critical Thinking, Cultural and Social Understanding, Information Literacy, Personal Development, Quantitative Reasoning, and Scientific Reasoning.
- Career -Technical Education: The career and technical education programs meet the increasing demand for technicians, professionals, and a skilled workforce.
- Transfer Education: The transfer education program, which includes freshman and sophomore courses in arts and sciences and pre-professional education, allows students to transfer into baccalaureate degree programs at four-year colleges and universities.
- Developmental Studies: Developmental courses are offered to correct deficiencies in basic areas, such as English, reading, and mathematics, and to prepare students who have not had the required course prerequisites for admission to specific programs.
- Dual Enrollment: Dual enrollment courses allow high-achieving students to meet the requirements for high school graduation while simultaneously earning college credit.
- Distance Education: Distance education courses and programs offer accessibility through a number of delivery modes, to include the internet, video, and off-campus locations.
- Student Services: The College provides programs, services, and resources that facilitate college access, enhance student success, develop career readiness, promote student leadership, and provide opportunities for student engagement.
- Workforce Development: Workforce development encompasses credit and non-credit training to meet workforce needs and promote economic development through programs, customized training, and on-going workshops.
- Community Services: College facilities and personnel support the cultural and educational needs of the region through cultural events, workshops, meetings, lectures, conferences, seminars, community projects, and service learning.

Vision

Mountain Empire Community College's vision is to be recognized by our community as the leader in preparing our region's educated workforce.

Mountain Empire Community College will pursue its vision by acquiring the following traits:

- Teaching will be characterized by the use of the best practices for knowledge and skills to be developed, including the involvement of businesses, the use of hands-on interactive mediums, and opportunities for real-life applications of knowledge and skills.
- Instructional delivery will employ non-traditional methods with emphasis on the use of technology. Faculty members will be facilitators of learning, mentors, and role models, exhibiting to students the importance of knowl-

edge, competence, and a thirst for learning.
- The College will be the major provider of workforce training and a leader in community development, partnering with businesses, educational institutions, non-profits, and government to strengthen the competitiveness of the region for attracting and retaining jobs.
- The College will be an exemplary model of service and involvement to our students and the community, promoting economic development, appreciation of culture, and the quality of living in rural, southwest Virginia.

Values

Mountain Empire Community College is committed to these values:

- Community and Cultural Preservation
- Creativity and Innovation
- Diversity, Inclusion and Equity
- Honesty, Integrity and Trust
- Leadership and Service
- Learning
- Student Success
- Teamwork and Communication

Accreditation and Program Approvals

Mountain Empire Community College is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award the associate degree. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of Mountain Empire Community College. Normal inquiries about the institution, such as admission requirements, financial aid, educational programs, etc., should be addressed directly to the institution and not to the Commission's office. Degree programs are approved by the State Council of Higher Education for Virginia, and are also approved for listing in the U.S. Office of Education directories for participation in various federally-sponsored programs of student aid and educational assistance. The College is authorized by the Veterans Administration to certify students to receive veterans' benefits and is approved by the Department of Health and Human Services for students who receive Social Security and Vocational Rehabilitation benefits. The Respiratory Therapy program is accredited by the Commission on Accreditation for Respiratory Care. The Associate Degree Nursing program is approved by the Virginia Board of Nursing, (Perimeter Center, 9960 Mayland Drive, Suite 300, Henrico, VA 23233-1463, (804) 367-4515, website: www.dhp.virginia.gov/nursing) and accredited by the Accreditation Commission for Education in Nursing (3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326, 404-975-5000, website: www.acenursing.org).

Year of Graduation	NCLEX-RN Pass Rate*	VATNP Program Completion	Graduate Job Placement
2013 (N=161)	85.1%	75%	97%
2014 (N=150)	91.4%	75%	100%
2015 (N=128)	93%	73%	100%
2016 (N=132)	90.2%	71%	100%
2017 (N=130)	89.7%	71%	Data available July 2018
*NCLEX National Statistics from www.NCSBN.org			

The Practical Nursing and Nursing Assistant programs are approved by the Virginia State Board of Nursing. The Emergency Medical Services Technology program is accredited by the Commission on Accreditation of Allied Health Education Programs. The Phlebotomy program is approved by the National Phlebotomy Association. The Computer Aided Drafting & Design Technology, Technical Studies- Welding, Computer Manufacturing Technology - Electromechanical Technology, and Computer Manufacturing Technology -Industrial Electronics are accredited by the Association of Technology, Management, and Applied Engineering (ATMAE)

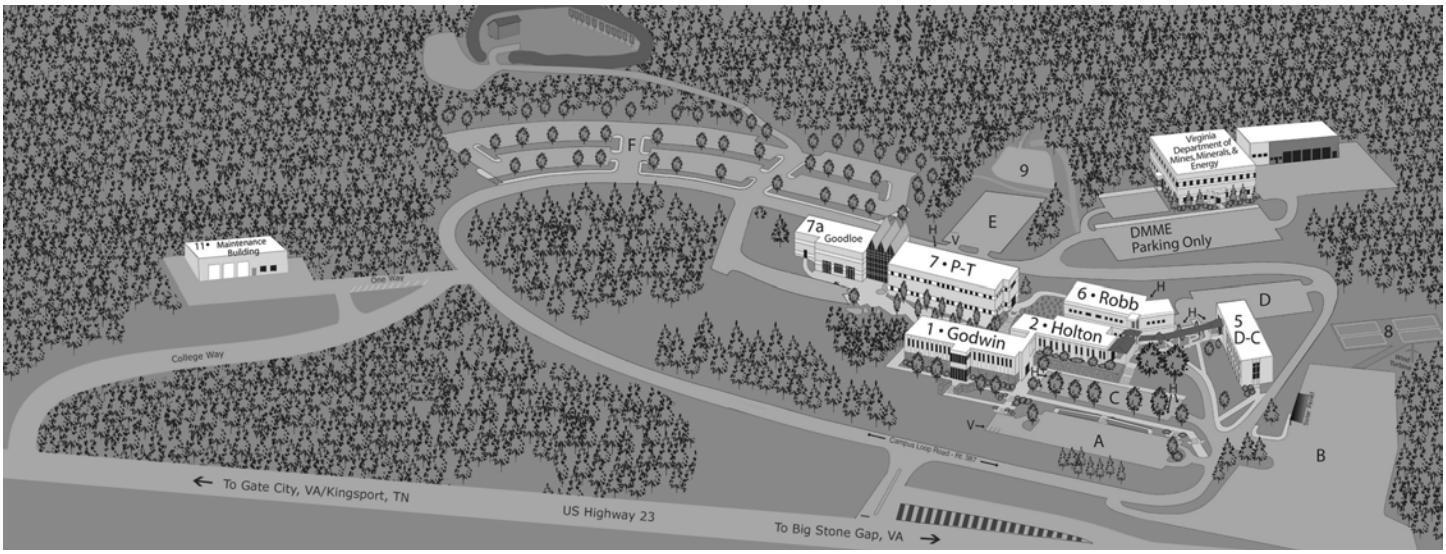
Mountain Empire Community College Foundation

The MECC Foundation, Inc. is a non-profit organization that supports the mission of Mountain Empire Community College.. Foundation projects include scholarships, faculty and staff development and recognition programs, cultural programs and events, campus improvements, educational programs, and other projects. The Foundation awards scholarships to qualified persons for the purpose of attending Mountain Empire Community College. These awards are based on criteria such as financial need and scholastic promise, and are available to persons who are enrolled or intend to enroll in specific programs. Scholarship recipients are selected by the MECC Office of Financial Aid. For more information, visit www.meccfoundation.org.

Virginia Community College System

Mountain Empire Community College is one of 23 two-year colleges that make up the Virginia Community College System (VCCS). The VCCS was established in 1966 with a mission that complements the missions of the secondary schools and the senior colleges and universities in the Commonwealth of Virginia. The VCCS mission states: "We give everyone the opportunity to learn and develop the right skills so lives and communities are strengthened." For more information, visit www.vccs.edu.

College Map



1. Godwin Hall
2. Holton Hall
3. Dalton-Cantrell Hall
4. Robb Hall
5. Phillips-Taylor Hall
6. Goodloe Center
7. Firing Range
8. Tennis Courts
9. Environmental Pond
10. Maintenance Building

Student Parking
A, B, D, E, & F – Student Parking
C – Faculty/Staff Parking
H – Handicapped Parking
V – Visitor Parking

Hours of Operation
MECC campus offices are open Monday through Friday, 8 a.m. to 4:30 p.m. Offices may experience schedule changes during peak periods and summer.

Student Services Hours
Monday through Thursday, 8 a.m. to 6 p.m.
Friday 8 a.m. to 4:30 p.m.

Wampler Library Hours
Fall and Spring Semesters:
Monday - Thursday: 8 a.m.- 8:30 p.m.
Friday: 8 a.m.- 4:30 p.m.
Saturday: 10 a.m.- 2 p.m.
Summer Semester:
Monday – Thursday: 8 a.m. – 7:30 p.m.
Friday: 8 a.m. – 4:30 p.m.
Saturday: 10 a.m. – 2 p.m.

Inclement Weather
When it is necessary to change the College schedule due to inclement weather or other unforeseen circumstances, the announcement will be made on the College's website at www.mecc.edu, via text message, email, and radio and television stations. The following radio and television stations will announce the schedule change:

- WCYB-TV (Channel 5)
- WJHL-TV (Channel 11)
- WQUT-FM 101.5
- WAXM-FM 93.5
- WDIC-FM 92.1
- WJNV-FM 99.1
- WXBQ-FM 96.9

Students may register at www.mecc.edu/textalerts to receive announcements of schedule changes by text message and email.

Understanding Announcements:
Snow Schedule:
Classes begin at 10 a.m. Employees report at 9:30 a.m.

College Closed:
Day and Evening classes and all services are canceled.

Day and/or Evening Classes are canceled:
College is open for all other services.

Schedule of Classes when operating on a Snow Schedule:

Normal Schedule	Snow Schedule
8:15 a.m. - 9:30 a.m.	10:00 a.m. - 11:00 a.m.
9:40 a.m. - 10:55 a.m.	11:05 a.m. - 12:05 p.m.
11:05 a.m. - 12:20 p.m.	12:10 p.m. - 1:10 p.m.
12:20 p.m. - 12:50 p.m.	1:10 p.m. - 1:40 p.m.
12:50 p.m. - 2:05 p.m.	1:45 p.m. - 2:45 p.m.
2:15 p.m. - 3:30 p.m.	2:50 p.m. - 3:50 p.m.
3:40 p.m. - 4:55 p.m.	3:55 p.m. - 4:55 p.m.
5:00 p.m.	Classes meet as normal

Step 1: Apply for Admission

To apply to attend MECC, you must complete the Virginia Community College System (VCCS) online application, located at www.mecc.edu/apply. After completing and submitting your application, you will receive a student ID number and username on your confirmation page. Print this page or write down this information for your records. For non-credit class enrollment, visit the Workforce Solutions web page at www.mecc.edu/workforce.

Admission Requirements

Individuals are eligible for admission to the community college if they are high school graduates or the equivalent, or if they are eighteen years of age or older and able to benefit academically from study at the community college, as demonstrated by assessment in reading, writing, and mathematics. Minimum scores are noted in the chart below:

	VPT	Compass	Asset
Reading	ENF 1	62	35
Writing	ENF 1	32	35
Math	MTE 1	25	33

Exceptions to this policy may be made by the college president only for documented reasons. Students who do not meet the minimum score requirements are referred to the Dean of Student Services.

MECC reserves the right to evaluate and document special cases and to refuse or revoke admission if the college determines that the applicant or student poses a threat, is a potential danger, is significantly disruptive to the college community, or if such refusal or revocation is considered to be in the best interest of the college. MECC also reserves the right to refuse admission for applicants that have been expelled or suspended from, or determined to be a threat, potential danger or significantly disruptive, by another college. Students whose admission is revoked after enrollment must be given due process.

Individuals may be admitted to MECC as curricular or non-curricular students.

For all curricular students, the following items are required:

- A completed official application for admission with social security number requested.
- Unless otherwise specified by the College, official transcripts from all high schools, colleges, and universities attended. Graduates who complete secondary school in a home school setting must provide a graduation date and may be required to provide documentation of coursework. The VCCS Student Information System academic records will be sufficient for colleges within the Virginia Community College System.
- Additional information as stated by the college for admission to specific programs or curricula.

For all non-curricular students, a completed official application for admission is required with social security number requested.

It is the policy of the VCCS to maintain and promote equal employment and educational opportunities without regard to race, color, sex or age (except where sex or age is a bona fide occupational qualification), religion, handicap, national origin, or other non-merit factors.

Special Admission Procedures

Dual Enrollment Student Admissions

The major purpose of community colleges is to serve students who have graduated from high school or are beyond the compulsory age limit of the public school and have left public school. However, a qualified high school student may enroll at a community college subject to the following conditions:

Dual Enrollment Partnerships

Dual enrollment partnerships are governed by an annually renewable contractual agreement between the school or district and the community college to allow academically qualified high school juniors and seniors to enroll in college courses that are applicable to degree, diploma, certificate, or career studies certificate programs offered at the college. Students from school divisions with whom the college has a current dual enrollment contractual agreement may enroll in college classes at the community college for dual enrollment credit. Courses taken for dual enrollment credit shall be transcripted on both the student's college and high school transcripts.

High School Based Dual Enrollment Programs and Courses

Colleges and school divisions may develop contractual agreements to offer dual enrollment program pathways, academies, and courses at the high school. Such offerings may be taught by approved high school teachers who meet Virginia Community College System faculty credential requirements and are qualified by the college to teach course(s) in the program of study. College faculty and administrators are responsible for identifying high school dual enrollment offerings; selecting and qualifying high school faculty to teach college courses; professional development of dual enrollment faculty; and oversight and evaluation of program standards, including assessment of student learning outcomes, program learning outcomes and instructional effectiveness.

Early College, Dual Enrollment Programs and Academies

Colleges and school divisions may develop contractual agreements to offer dual enrollment program pathways and academies on the college campus. Such courses are taught by full-time or adjunct community college faculty.

Independent Dual Enrollment

Independent dual enrollment allows individual high school students to enroll in courses at the community college. A qualified high school junior or senior may be admitted to any college-level credit-bearing course, with permission of the high school principal or designee and the parent. Participation in independent dual enrollment does not require a contractual agreement between the college and the school division. However, a high school student must meet dual enrollment admissions standards. Courses taken as independent dual enrollment shall be transcripted on the student's college transcript.

Although high school and home school students are not normally qualified for general admission, colleges may offer admission to those students who meet additional criteria. Dual enrollment is restricted to high school juniors and seniors and home school students studying at the high school junior or senior levels. Home school students must also provide a copy of a home school agreement approved by the school district or a letter from the local school board or a copy of the letter filed by the parent or legal guardian declaring home school. Documentation of parental permission is required for all dual enrollment students.

Because admitting freshmen and sophomores is considered exceptional, the college ready status of each prospective freshman and sophomore student will be treated on a case-by-case basis. Formal approval by the college president is required for admitting freshmen or sophomores.

All students admitted under this section must demonstrate readiness for college by meeting the criteria below.

Placement of Dual Enrollment Students

Students enrolling in a dual enrollment course must meet all course pre-requisites. MECC does not enroll public or private high school students or homeschooled students in developmental courses.

Dual Enrollment Admission Criteria for Transfer Course

	Virginia Placement Test (VPT)	Compass	Asset	PSAT	SAT	ACT	SOL
English/ Writing	ENG 111	76	43	N/A	N/A	18	N/A
Reading	ENG 111	81	42	N/A	N/A	18	N/A
Writing/Reading	ENG 111	N/A	N/A	390	480	N/A	N/A
Mathematics	MTE 1	25	33	500	530	22	Algebra I - Pass

Dual Enrollment Admission Criteria for CTE Courses

	Virginia Placement Test (VPT)	Compass	Asset	PSAT	SAT	ACT	SOL
English/ Writing	ENF 1	32	35	N/A	N/A	18	N/A
Reading	ENF 1	62	35	N/A	N/A	18	N/A
Writing/Reading	ENF 1	N/A	N/A	390	480	N/A	N/A
Mathematics	MTE 1	25	33	500	530	22	Algebra I - Pass

Transfer Students

Normally, transfer students who are eligible for reentrance at the last college of attendance are also eligible for admission to Mountain Empire Community College.

Transfer students who are ineligible to return to a particular curriculum in a previous college generally may not be allowed to enroll in the same curriculum in the community college until one semester elapses or until an approved preparatory program at the College is completed. Upon appeal from an ineligible student, the Student Affairs Committee of the College will decide on each case and can impose special conditions for the admittance of transfer students. If a transcript is received after class enrollment has begun, which indicates that the student is ineligible to return to the previous college, the student may be withdrawn from classes and offered the opportunity to appeal to the Student Affairs Committee.

It is the role of the community college to help each student succeed in a program from which he/she can benefit. Early application and submission of all transcripts will facilitate this effort. The document required for acceptance of transfer credit from other institutions is an official transcript of all postsecondary credits previously earned.

Each student transferring from another college should consult Enrollment Services/Registrar at MECC for an assessment of credits. Generally, no credit will be given for subjects with a grade lower than "C." A transfer student may be advised to repeat courses if it is clearly advantageous to their curriculum advancement. The College will provide transfer students an evaluation of credits that will transfer from other institutions prior to enrollment when possible, but at least no later than the end of the first academic term of enrollment. When the course contains similar or like content and credit, the course will transfer as the equivalent of this institution's course. When the content is unlike any course offered at MECC, elec-

tive credit may be granted. Credit from non-regionally accredited colleges and universities is evaluated based upon recommendations in Transfer Credit Practices of Designated Educational Institutions published by the American Association of Collegiate Registrars and Admissions Officers. A student transferring with a BA/BS degree will receive credit for all nontechnical general education requirements in their curriculum.

The academic division dean in which the student is enrolled will determine how the evaluated transfer credit may be applied toward the student's program of study.

Senior Citizens – Citizens 60 Years of Age or Older

Senior citizens are encouraged to take advantage of free tuition provided for by the Senior Citizens Higher Education Act of 1974, As Amended 1976, 1977, 1982, 1988, 1999, 2003 and 2015.

Subject to SCHEV regulations and any legislative revisions, the Act gives senior citizens certain rights.

a. "Senior citizen" shall mean any person who, before the beginning of any semester in which such person claims entitlement to senior citizen benefits, (1) has reached sixty years of age, and (2) has had legal domicile in Virginia for one year.
b. A senior citizen shall be entitled:
    1. To register for and enroll in courses as a full-time or part-time student for academic credit if such senior citizen had a taxable individual income not exceeding $23,850 for Virginia income tax purposes for the year preceding the year in which enrollment is sought;
    2. To register for and audit courses offered for academic credit regardless of income level; and
    3. To register for and enroll in courses not offered for academic credit regardless of income level.
c. Such senior citizen shall pay no tuition or fees for courses offered for academic credit or for courses not offered for academic credit, except fees established for the purpose of paying for course materials, such as laboratory fees, subject to determination by the institution of its ability to offer the course or courses for which the senior citizen registers. The Council of Higher Education shall establish procedures to ensure that tuition-paying students are accommodated in courses before senior citizens participating in this program are enrolled. However, the state institutions of higher education may make individual exceptions to these procedures when the senior citizen has completed seventy-five percent of the requirements for a degree.

For more information, visit the Office of Enrollment Services or www.mecc.edu/senior-citizens.

International Applicants for Admission

Mountain Empire Community College is authorized under federal law to enroll international students. The College welcomes applications from international students who meet the qualifications set forth in these guidelines. All stated requirements are subject to change based upon federal regulations or a determination by the College that a policy change is in the best interests of the student and/or the College community.

International applicants will be admitted only if they fulfill all general and special requirements for admission. International students are considered out-of-state residents for purposes of determining tuition rates and admission to programs with limited enrollment. Students who acquired a student visa through acceptance by another school or college will not be considered until they have secured a written release from the original institution. International students who are exclusively taking classes through distance learning without entry into the United States will be evaluated on an individual basis. All documentation must be received by June 1 for fall admission or October 1 for spring admission.

Financial Responsibility of International Students

No financial aid is available for international students. The College will not certify applications for an international student to obtain a work permit until they have successfully completed 30 semester hours of coursework at the College with a 3.0 GPA, or resided in the U.S. for at least twelve consecutive months, whichever is the longest period of time.

All international applicants must submit an International Student Data Form provided by the College, that they have personal or family financial resources sufficient to pay college and living expenses prior to being issued a SEVIS-I20. The statement must include the amount of income the student will receive while attending college, the source of income, and the manner in which living expenses will be met. In addition, applicants must submit documentation evidence (notarized bank statement in US dollars) of financial support in the amount indicated on the International Student Data form.

All international students holding F-1 visas must purchase health and accident insurance. If the applicant is under eighteen, the parent or legal guardian must submit the notarized statement of financial support. All international students must have a local sponsor who will assume financial responsibility for the student.

English Proficiency of International Students

International students must document proficiency in the English language by submitting a TOEFL (Test of English as a Foreign Language) score. Official copies of the TOEFL scores must be submitted to Enrollment Services/Admission. The TOEFL test is required of all applicants. A TOEFL score of at least 550 on the paper-based TOEFL test and 234 on the computer-based TOEFL test is required, although achieving that score is no guarantee of admission. The applicant is responsible for making early arrangements for taking the test and should address inquiries to TOEFL, Educational Testing Service, Princeton, New Jersey 08540, USA.

The Bulletin of Information, obtainable without charge, contains a description of the test and rules regarding application, fees, reports on the conduct of the test, lists of examination centers, examination dates, and an application blank. On the

application for the test, the student should specify that the scores be sent to Enrollment Services/ Admission at MECC. The official results of the TOEFL must be received at MECC by the application deadline.

Applicants who are in the United States and who have not taken the TOEFL or achieved the minimum cut score, may petition the College to evaluate them for admission during a visit to the campus. Transfer applicants who have completed two semesters or terms of a non-ESL English composition course with above-average grades at an American college or university are not required to submit TOEFL scores.

Academic Transcripts of International Students
Non-English transcripts and documents must be submitted in their original form, accompanied by a certified English translation. Unofficial documents and documents without accompanying English translations are not acceptable.

International transfer students must submit a syllabus of university study. This description of each course or subject studied must be submitted in English or accompanied by a certified English translation of the syllabus. Applications without this information cannot be considered. It is recommended that transfer students seeking admission from international educational systems have a professional evaluation service review their transcripts and other educational credentials. Students currently enrolled in a U.S. system must still have their international transcripts evaluated.

International Applicant Contact
For additional information about the process for international applicants please contact the Enrollment Services Office at 276.523.2400.

Out-of-State Students
Students who do not reside in the state of Virginia should contact the Office of Enrollment Services for information regarding admission as an out-of-state student.

Sex Offender and Crimes Against Minors Admission Policy

Section 23-2:2:1 of the Code of Virginia requires that the VCCS send enrollment information to the Virginia State Police concerning applicants to institutions of higher education. This information is transmitted electronically and compared against the Virginia Criminal Information Network and National Crime Information Center Convicted Sex Offender and Crimes Against Minors Registry.

Step 2: Apply for Financial Aid

MECC encourages all eligible degree and certificate seeking students to apply for financial aid at fafsa.ed.gov. Financial aid may come in the form of grants, scholarships, loans and work-study positions. MECC's school code to include on the FAFSA form is 009629.

Deadlines to Apply for Financial Aid

Although you can file the online FAFSA anytime, it is best to complete the FAFSA prior to May 1 of the year that you plan to attend MECC. Please review MECC's financial aid webpage at www.mecc.edu/paying-for-college for deadlines and more details about financial aid. You can also research available scholarships at www.mecc.edu/scholarships.

FINANCIAL AID

All Student Financial Aid Programs are administered by the Department of Enrollment Services and Financial Aid and include grants, scholarships, and employment. Necessary forms and information are available from Enrollment Services/Financial Aid in Suite 157 of Godwin Hall. Application for most aid programs is possible by completing the Free Application for Federal Student Aid at www.fafsa.gov and the MECC Foundation Scholarship Application at www.mecc.edu/scholarships.

The philosophy of the College is that, "No student should be denied the opportunity for a postsecondary education due solely to a lack of financial resources." To be eligible for financial aid the student must be enrolled in an academic plan leading toward a certificate, diploma, or degree. Course selection should follow a planned program of study.

Eligibility Requirements for Federal, State and VCCS Programs

Eligibility for federal, state, and VCCS programs is based on financial need and several other factors. The Free Application for Federal Student Aid (FAFSA) must be filed at www.fafsa.gov. Many financial aid programs are awarded on a first-come, first-serve, basis so it is important to apply early. The financial aid administrator at the College will determine eligibility. Basic eligibility requirements require that students:

- Demonstrate financial need
- Have a valid high school diploma or a General Education Development (GED) certificate or complete a high school education in a home school setting that is treated as such under state law (Note: Ability-to-Benefit (ATB) alternatives may qualify students without a valid high school diploma or its equivalent. Alternatives include passing an ability-to-benefit test approved by the U.S. Department of Education, meeting other standards the state establishes that the Department approves, or satisfactorily completing six credit hours or the equivalent course work toward a degree or certificate. For more information, contact Financial Aid at 276.523.2400.
- Be enrolled or accepted for enrollment as a regular student working toward a degree or certificate in an eligible program
- Be a U.S. citizen or eligible noncitizen
- Have a valid Social Security Number
- Register with the Selective Service (if male and if required)
- Maintain satisfactory academic progress
- Certify that they are not in default on a federal student loan and do not owe money on a federal student grant
- Certify that they will use financial aid only for educational purposes
- Only receive aid for courses required to complete program

Financial Aid for Home School Graduates

Home school graduates of a secondary school curriculum may receive federal financial aid.

Enrollment Requirements

To receive financial aid a student must be enrolled in a program leading to a certificate or degree. Most aid awards are adjusted based on the number of credits. Students registered for 12 or more credits generally receive 100% of aid awarded; 9-11 credits yield 75%; 6-8 credits yield 50%. Students registered for less than 6 credits may also be considered for PELL and PTAP (for in-state students).

Aid Programs Available

MECC does not participate in the Federal Family Education Loan Programs. However, the College does participate in the following grant, work, and scholarship programs.

Federal Programs

Federal Pell Grant: Federal Pell Grants are awarded to eligible undergraduate students who have not earned a bachelor's or a professional degree. Eligibility is primarily based on the Expected Family Contribution (EFC) from the Student Aid Report (SAR), but is also affected by enrollment status. The EFC must be 5328 or less.

The maximum award for the 2018-2019 academic year is $5,920, with a minimum of $606. A minimum of 12 credit hours each semester is required to receive full eligibility, with pro-rated awards going to students with less than 12 credit hours. Eligible students will be awarded once the Free Application for Federal Student Aid (FAFSA) and any required documentation have been received.

FSEOG (Federal Educational Supplemental Opportunity Grant): FSEOG is for undergraduate Federal Pell Grant recipients with exceptional financial need (i.e., students with the lowest EFCs). FSEOG awards generally are for $400. Eligible students will be awarded once the FAFSA and any required documentation have been received on a first-come, first-served basis until funds have been exhausted.

Federal Work Study: Federal Work-Study (FWS) provides part-time jobs for undergraduate students with financial need, allowing them to earn money to help pay education expenses. The program encourages community service work

and work related to the recipient's course of study. Students are paid by the hour usually twice per month. Wages for the program must equal at least the current federal minimum wage but might be higher, depending on the type of work and the skills required. The amount earned cannot exceed the total FWS award. When assigning work hours, consideration will be given to the student's award amount, class schedule, and academic progress. Eligible students who have already been awarded other aid and wish to be considered for FWS are advised to contact the College.

State Programs

Priority for state programs is given to students who do not already possess a bachelor's or professional degree and have met the College's priority date for applying for financial aid. Eligible students will be awarded once the FAFSA and any required documentation have been received on a first-come, first-served basis until funds have been exhausted.

COMA (Commonwealth Grant): Students receiving COMA must be domiciled in Virginia, show financial need by means of needs analysis and be enrolled on at least a half-time basis (at least six credits). Funding is provided solely by the Commonwealth of Virginia. Individual awards vary dependent upon need and funding level. Awards Range from $900 to $2,000 and can be used for tuition, fees, and books.

VGAP (Virginia Guaranteed Assistance Program): Students receiving VGAP must meet requirements similar to COMA recipients. However, students must have achieved a 2.5 GPA in high school, have exceptional financial need and maintain full-time enrollment as a dependent student. Awards vary from $1,000 to $2,100 for tuition, fees and books. Renewal students must maintain a 2.0 G.P.A. and continuous full-time enrollment (summer terms are excluded).

Part-Time Tuition Assistance Program (PTAP): This VCCS-funded grant provides tuition assistance only (no fees) to students in a degree or certificate program who enroll for at least 1 but less than 8 credits. Students must show need.

MECC Programs

Presidential Honor Scholarships: Awarded by the President and Local Advisory Board of MECC to enrolled students who are valedictorians and salutatorians of public or private high schools in MECC's service region. Public high schools must be accredited by the State Department of Education and private high schools must be accredited by an accreditation association approved by the Virginia Council for Private Education. The student must enroll during the fall semester following high school graduation to receive this scholarship. Awards are for full tuition and fees, and are renewable for the second year based on the student's GPA.

Mary Marshall Nursing Scholarship: Established by the General Assembly for Virginia residents who show financial need. The deadline for applications from new nursing students is June 21. Completed applications must be returned to the Financial Aid Office by June 15. Awards vary. Application is available online at http://www.vdh.virginia.gov/OMHHE/primarycare/incentives/nursing/index.htm.

Restricted Scholarships

There are also restricted scholarships provided by industries and organizations. Students should apply directly to each organization for consideration. Enrollment Services/Financial Aid encourages students to apply early, particularly while still in high school.

MECC Foundation, Inc.

The MECC Foundation, Inc. has been established to assist the College in providing student aid. The Foundation is a charitable, nonprofit corporation which provides an appropriate means for individuals, organizations, business and industry to contribute to the College. To learn more about the MECC Foundation, visit www.meccfoundation.org.

VCCS Programs

VCCS Grant: The VCCS Grant provides assistance to Virginia residents at Virginia's Community Colleges who demonstrate financial need. Award amounts cannot exceed tuition, fees, and books per academic year. This grant will not be awarded as part of the initial aid package. It may be awarded during the repackaging process that takes place after the end of the add/drop period where aid is based on actual enrollment.

Great Expectations Program: The Great Expectations Program provides tuition and fees at any Virginia community college for high school graduates or general education development (GED) completers in foster care, in the custody of a social services agency, or considered a special needs adoption. More information is available at www.mecc.edu/great-expectations/.

Veterans Information

Enrollment Services/Veterans Affairs provides services to veterans and dependents enrolled at the College. Assistance is primarily provided with receipt of veteran's educational benefits. Enrollment Services/Veterans Affairs is located in Godwin Hall, Room G161. Enrollment Services/Veterans Affairs is not a part of the Veterans Administration Regional Office.

Application Procedure

The veteran may apply for educational benefits on-line at www.gibill.va.gov or by completing VA Form 22-1990, at Enrollment Services/Veterans Affairs. Copies of discharge papers (DD Form 214, Member 4) should accompany the application. (If you do not have your DD214, Enrollment Services/Veterans Affairs will assist you in obtaining a copy or any other information you may need from your military records).

The spouse or dependent of a veteran may apply for educational benefits online at www.gibill.va.gov or by completing VA Form 22-5490, at Enrollment Services/Veterans Affairs.

If you are transferring to MECC from another place of training, or you have not been enrolled at MECC for a least one year, a Request for Change of Program or Place of Training will be required.

To ensure smooth processing of VA claims, it is important to apply early. Applicants should receive notification from the Department of Veterans Affairs in approximately 30 to 60 days after an application is submitted. A copy of the Certificate of Eligibility should be submitted to Enrollment Services/Veterans Affairs.

Enrollment Certification

VA recipients must be enrolled in an approved program of study. In order to receive full-time monthly stipends/BAH, the VA recipient must be enrolled full-time. Post 9/11 G.I. Bill recipients must be enrolled in at least 51% of a full course load in order to receive a monthly housing allowance. The College will certify enrollment as full-time at 12 credit hours and above; three-quarter time at nine to eleven credit hours; half-time at six to eight credit hours; less than six hours for cost of tuition and fees only. Certifications listed above are based on continuous enrollment for the entire 15-week semester. Please contact Enrollment Services/Veterans Affairs for certification information for short or special sessions.

Upon completion of enrollment, submit the MECC Certification Request for VA Educational Benefits form to Enrollment Services/Veterans Affairs. It is extremely important to enroll early and submit paperwork prior to the first day of class. VA recipients will receive a Certification email each semester indicating the rate of pursuit that has been certified.

VA recipients should notify Enrollment Services/Veterans Affairs immediately of any changes in enrollment that occur after benefits have been certified to the Department of Veterans Affairs.

Military Survivors and Dependents Education Program

The Virginia Military Survivors and Dependents Education Program (VMSDEP) provides education benefits to spouses and children of military service members killed, missing in action, taken prisoner, or who became at least 90% disabled as a result of military service in an armed conflict. More information, eligibility requirements, and instructions for applying are available at http://www.dvs.virginia.gov/education-employment/virginia-military-survivors-and-dependents-education-program/.

Step 3: Determine Course Placement & Meet with an Advisor

Course Placement

In determining students' readiness for college-level English and math courses, MECC uses the following means and measures:

- Any student who has earned an associate degree or higher or who has earned a C or better in college-level courses in math and/or English at a regionally accredited institution will be exempt from placement testing provided they meet the prerequisites for the respective courses in their chosen program of study.
- Any student who has successfully completed developmental courses at a VCCS institution will be exempt from placement testing in those areas.
- Any student who has successfully completed developmental courses at a non-VCCS institution will have their coursework evaluated for placement.
- A student may submit a high school/home school transcript or an approved test score for placement evaluation. Placement will be based on the tables below. Seniors who have not yet graduated may submit a transcript as of the completion of the first semester of the senior year to determine readiness for placement into college-level courses for the purpose of early admission.
- Any student who is not placed by the above criteria will take the Virginia Placement Test, or ESL-specific test, as appropriate. Students have the option to take the Virginia Placement Test in order to improve their placement standing after other measures are considered. Such placement test scores will not be used to place a student in a lower English or math course than indicated by other criteria, unless the student desires a lower placement.

Math Placement

Math placement will be determined using one of the following measures.

Math Placement Measures#	HSGPA or Score Range	Placement
HSGPA and Algebra II and One Algebra Intensive Course* *Algebra Intensive Courses above Algebra II: Trigonometry, Math Analysis, Pre-Calculus, Calculus, Algebra III.	3.0 or higher 2.7-2.9	MTE 1-9 Satisfied MTE 1-9 Co-Requisite Eligible
HSGPA and Algebra II	3.0 or higher 2.7-2.9	MTE 1-5 Satisfied MTE 1-5 Co-Requisite Eligible
HSGPA and Algebra I	3.0 or higher 2.7-2.9	MTE 1-3 Satisfied MTE 1-3 Co-Requisite Eligible
SAT – Math	530 or above 510-520 range	MTE 1-9 Satisfied MTE 1-5 Satisfied
ACT – Subject Area Test Math	22 or above 19-21 range	MTE 1-9 Satisfied MTE 1-5 Satisfied
GED – Math	165 or above 155-164 range	MTE 1-5 Satisfied MTE 1-3 Satisfied

= Students may complete the VPT – Calculus for placement into Pre-Calculus II, Calculus, and 200-level Statistics. Placement directly into Pre-Calculus II, Calculus, and 200-level Statistics based on HSGPA and highest level courses taken will be at the discretion of each college.

English Placement

English placement will be determined using one of the following measures.

English Placement Measures	HSGPA or Score Range	Placement
HSGPA	3.0 or higher 2.7-2.9	ENG 111 ENF3/ENG 111
SAT-ERW (Evidence-Based Reading and Writing)	480 or above 460-470 range	ENG 111 ENF3/ENG 111
ACT-Subject Area Tests English and Reading	18 or above 15-17 range	ENG 111 ENF3/ENG 111
GED-English	165 or above	ENG 111

High school GPA (HSGPA) is valid for five (5) years after the date of high school graduation. SAT, ACT and GED Test scores are valid for five (5) years after the date of the test. Virginia Placement Test-English scores are valid for five (5) years after the date of the test. Previously taken developmental courses will be valid for five (5) years after term taken.

Students who take the Virginia Placement Test - English and who do not enroll in developmental English are allowed to take one (1) retest within twelve (12) months. Students who attempt a developmental English course will be ineligible for a retest. Exceptions to this retest policy may be made on a case-by-case basis in accordance with established college procedures.

Transcripts

Students applying for admission should submit their high school or college transcript information to Enrollment Services Office, located in Godwin Hall, prior to registering for courses.

Meet with an Advisor

When a student declares a program of study at Mountain Empire Community College, he or she will be assigned a faculty advisor to assist in choosing the appropriate classes during the student's pursuit of a degree or certificate. The faculty advisor will become the student's main point of contact for academic issues that impact educational progress. Because faculty schedules vary throughout the year, scheduling an appointment to meet with faculty advisors is recommended. However, if a program of study has not been chosen, or if the faculty advisor is not available, academic advising is also available through the Office of Student Services, or other faculty within the student's area of interest. To schedule an appointment with your advisor, call 276.523.7472.

Step 4: Register for Classes

Students can register for classes online through MECC Online, located at www.mecc.edu. This system will ask you to enter your username and password which you received when you completed the online application to the College. Once you have logged in to MECC Online, follow the VCCS SIS: Student Information System/Student Center/Enroll link to register.

Normal Academic Load

The normal academic load for a student is 15-17 credits. The minimum full-time load is 12 credits and the normal maximum full-time load is 18 credits excluding College Success Skills (SDV 100). Students who wish to carry an academic load of more than 18 credits must have a minimum G.P.A. of 3.0 and the approval of Enrollment Services/Registrar, designee of the Vice-President of Academic and Student Services. Students placed on academic warning or academic probation may be required to take less than the normal course load.

Adding a Course

Normally, a student may not enter a new class after the first two weeks of classes in a standard session. Any request for registration in a new class after the published add period must be approved by Enrollment Services/Registrar. The add period for classes in non-standard sessions ends on that day which represents completion of fifteen percent of the class days.

Withdrawing from Class

To withdraw from a class, a student must complete a Class Schedule form, which can be obtained from Enrollment Services/Registrar. If a student withdraws from a class before the last day to withdraw and receives a refund (this date is published in the Class Schedule), the student is removed from the class roll and no grade is awarded. After this date, but prior to the last day to withdraw without grade penalty (also published in the Class Schedule), a student who withdraws or is withdrawn from a course will be assigned a grade of "W."

A student who withdraws after the official withdrawal date will receive a grade of "F" unless he/she withdraws with extenuating circumstances which prevented the student from completing the class and from withdrawing on or before the official withdrawal date. The Request for Withdrawal Due to Extenuating Circumstances form, available from Enrollment Services/Registrar, must be completed by the student or faculty member. The form must be submitted to Enrollment Services/ Registrar prior to the last class meeting for final consideration and approval. The student may appeal a denial within ten business days of notification by written appeal to the Student Affairs Committee.

The student who pre-registers in a class for which tuition is paid, but fails to attend the class, is responsible for completing the withdrawal process to prevent being assigned a grade of "F."

The responsibility for providing documentation of mitigating circumstances rests with the student. Students who wish to withdraw from a class should initiate the withdrawal procedure with a counselor. A short interview may also be required. A student normally will not be allowed to withdraw from a class after the last official class meeting prior to exams. Such a withdrawal will be effective on the date the notice is received. No requests to withdraw from class will be accepted by telephone.

Administrative Withdrawal

Students may be withdrawn from classes by the instructor for failure to attend classes during the first 60% of the instructional period.

Repeating a Course

A student will normally be limited to two enrollments in a credit course that is not designated as repeatable for credit or is not a General Usage course. Should the student request to enroll in the same course beyond the second time, the need must be documented and approved by Enrollment Services/ Registrar or the Division Dean. The Division Dean's approval is required for enrollment beyond the third time. This limitation does not apply to courses designated as repeatable for credit or General Usage courses. (General Usage courses: 90-190-290; 93-193-293; 95-195-295; 96-196-296; 97-197-297; 98-198-298; 99-199-299.)

Although all grades earned are reflected on students' transcripts, only the last grade earned (A, B, C, D or F) for a repeated course is counted in the computation of the cumulative GPA and for satisfying graduation requirements.

Auditing a Course

Students desiring to attend a course without taking the examination or receiving credit for the course may do so by registering to audit through the usual registration process and paying the regular tuition. Permission of Enrollment Services/ Registrar is required to audit a course.

Audited courses carry no credit and do not count as part of the students' course load. Students desiring to change status in a course from audit to credit or from credit to audit must do so within the add/drop period for the course.

Students who desire to earn credit for a previously audited course must re-enroll in the course for credit and pay normal tuition to earn a grade other than "X." Advanced standing credit should not be awarded for a previously audited course.

Step 5: Pay for College

Tuition

The tuition for all credit courses is set by the Virginia State Board of Community Colleges and is subject to change. Tuition and fees are listed at the following website: www.mecc.edu/paying-for-college.

A Virginia domicile is eligible for in-state tuition rates and is one who has been domiciled in, and is and has been a bona fide legal resident of Virginia for a period of at least one year prior to the commencement of the term or semester of entitlement.

Under certain conditions, out-of-state residents who are employed or whose parents are employed within the Commonwealth of Virginia may be eligible for in-state tuition rates. Students should consult Enrollment Services/Registrar for further details.

Tuition and fees are due and payable on the scheduled enrollment days. Personal checks are acceptable in the amount of the tuition due. Tuition may be paid via MasterCard or Visa or online through the student center in PeopleSoft SIS using QuikPAY. The QuikPAY service allows payments to be made by credit/debit card, checking account or savings account.

Payment of tuition and fees also enables the student to use the library, learning laboratory, bookstore, parking lot, student lounge, and other facilities of the College. There are no special laboratory or library fees, but students are expected to pay charges for any College property which they damage or lose.

Appeals Process for Applicants Denied In-State Tuition

The initial assessment of eligibility for in-state tuition is made by Enrollment Services/ Admission. Students who wish to appeal their domicile/in-state classification should contact the Dean of Enrollment Services.

Tuition Payment Plan

To assist in meeting educational expenses, MECC offers the Tuition Management System (TMS) Payment Plan to help budget tuition costs. There are no interest or finance charges assessed and no credit check. Students may budget tuition and fees in the following manner:

- Automatic Bank Payment: This is a bank draft from a checking account or savings account, on the 20th day of each month.
- Credit Card Option: If you elect to use this option, the monthly payment, along with a convenience fee, are automatically charged to the designated credit card. The convenience fee is in addition to the non-refundable Tuition Management System (TMS) enrollment fee. Payments will be charged on the 20th day of each month until the balance is paid in full.

Tuition Payment Plan Enrollment Fee

There is a small enrollment fee for using the TMS payment plan. The amount of the fee depends on the time in which you enroll in the plan. The enrollment fee varies from $35 to $45. This is the total cost; no interest is applied. The down payment, along with the enrollment fee is deducted from the designated bank account or charged to the designated credit card within one to two business days after registering for the payment plan. Additional scheduled payments are always on the 20th of the month. If bank drafts fail for insufficient funds on any of the payments, you will be assessed a $25 service fee by TMS and additional service fees assessed by your bank. TMS will attempt another draft on the 5th of the following month. Students enrolled in the payment plan must be sure the funds are available for the bank drafts against your account.

Registering: Register for the TMS Payment Plan online at www.mecc.edu/paying-for-college. Students need their Student ID, social security number, bank name and telephone number, check/savings account and routing numbers or credit card information.

Terms and Conditions: A number of terms and conditions apply to the agreement with TMS. Students should thoroughly review all terms and conditions before submitting the agreement. Failure to comply with these terms and conditions may result in cancellation of classes at MECC. For example: If the full amount of your down payment does not clear the bank, the contract with TMS will be immediately terminated and the payment amount satisfied by the contract with MECC will be voided on the student account, leaving an unpaid tuition balance. It is very important to let the Business Office know when you register for the TMS Payment Plan. The Business Office is not informed of payment plan registration until the next business day. If the last day to pay tuition is the same day as enrollment in the payment plan, students must request a DO NOT DROP be placed on their account to insure classes will not be dropped for non-payment. The last day to pay tuition may not necessarily be the last day you may register for the payment plan. It is the student's responsibility to see that tuition is paid on time or to inform the Business Office that you have completed an application with TMS. The number of months you have to finish paying for your tuition depends on how early you apply for the payment plan. Check with the Business Office for details on each semester deadlines.

Students must contact the Business Office if they drop a class (a class is cancelled) or add a class, to have the payment plan adjusted accordingly. In addition, the student may log in to their TMS Payment Plan account and request an adjustment to their balance resulting from changes in their class schedule or contact a TMS representative for assistance. No adjustments are made to any plan without authorization from the student. Questions concerning the TMS Payment Plan should be addressed to the Business Office at 276.523.7475.

Tuition and Fees Refunds

Students shall be eligible for a refund for those credit hours dropped during the same add/drop period within which the credit hours were added. The refund will be at the applicable per credit hour rate, but no refund will exceed the student's tuition and fees charges. A student will receive a full refund for any course dropped during the first two weeks of classes in a standard session (or 15% of the calendar days in a non-standard session). Refer also to the Title IV Return of Funds Policy in the MECC Student Handbook.

A student who believes that individual circumstances warrant an exception to this refund policy may appeal in writing to the Vice President of Academic and Student Services.

Refunds, Credits, Reinstatement as a Result of Military Service

Tuition and Required Fees

Pursuant to 23-9.6:2 of the Code of Virginia and corresponding SCHEV Guidelines, Mountain Empire Community College provides for the tuition relief, refund, and reinstatement of students whose service in the uniformed services has required their sudden withdrawal or prolonged absence from their enrollment. Service in the uniformed services is defined as service (whether voluntary or involuntary) on active duty in the Armed Forces, including such service by a member of the National Guard or Reserve, for a period of more than 30 days under call or order to active duty of more than 30 days.

The College provides for the following:

- Should a student be ordered to active duty (for reservists) or be mobilized (active military) as described in the Code of Virginia, Section 23-9.6:2, and the State Council's Virginia Tuition Relief, Refund, and Reinstatement Guidelines, and he/she requests to be withdrawn from the College after the last day to withdraw and receive a refund, the student may elect either to be deleted from the registration file and be awarded a full refund or to be administratively withdrawn with no refund and assigned a grade of "W."
- The College will provide, at the option of the student, for such refunds to be retained and to be applicable to tuition and fees charged in the semester or term in which the student returns to study.
- The College will process refunds for textbooks according to established refund policies of the College Bookstore.

Academic Credits and Grades

Students who are called to active duty or are mobilized, meaning serving in the uniformed services, as described in Virginia Tuition Relief, Refund, and Reinstatement Guidelines should have the opportunity to receive an incomplete grade ("I") until released from active duty (for reservists) or mobilization (for active military personnel). All course requirements shall be completed within one year from the date of release from active duty or mobilization.

Students may be given the option of taking their examinations prior to regularly scheduled times as an exception to VCCS policy 5.6.1 in accordance with the Virginia Tuition Relief, Refund, and Reinstatement Guidelines.

Reinstatement following Active Duty or Mobilization

Students who are called to active duty or are mobilized will be assured a reasonable opportunity to be reinstated in the same programs of study without having to reapply for admission. Reinstatement will be granted if students return to the College after a cumulative absence of not more than five years so long as the student provides notice of intent to return to the institution not later than three years after the completion of the period of service.

Suspension of Students for Non-Payment

A student's continued attendance at the College is dependent upon proper settlement of all debts owed the institution. Should the student fail to satisfy all due and payable amounts for tuition and fees, College loans, College fines, or other debts owed the College, the student may be suspended. If suspended, no student will be allowed to register in any succeeding semester until all current debts owed to the College have been satisfied.

Books and Materials

Students are expected to obtain their own books, supplies, and consumable materials needed in their studies. The estimated cost of these items will average $750 per semester for a full-time student. Students may also rent their textbooks for the semester at a lower cost. The purchase/rental cost varies according to the number of credit hours taken. Students are urged to check exact book titles and authors required in each course before purchasing books. The College Bookstore has very specific guidelines about returning books for a refund. Students are encouraged to familiarize themselves with these guidelines before making any purchases.

Important Information You Need to Know

Admission Categories

Individuals may be admitted to the College as curricular or non-curricular students. Additional information may be required by the College for admission to a specific program or curriculum. If a student in good academic standing has not been enrolled within the last three (3) years, he or she will be required to complete a new application for admission.

Curricular Student

A student shall be classified as a curricular student if the following three conditions are satisfied: 1.) the student holds a high school diploma, a GED or its equivalent, or is otherwise determined qualified for admission; 2.) the required documents for general admission to a curricular program are received by the Enrollment Services Office; and 3.) the student has been admitted to one of the College's curricula including international students requiring issuance of an I-20. If you have been admitted to the College as a curricular student, you are required to meet with one of the College advisors to discuss educational interests, to determine curricular needs and to plan enrollment in a specific program or curriculum at the College. Additional information may be required by the College for admission to a specific program or curriculum.

Curricular students must submit a completed official application for admission with social security number requested. The online admission application is available at the College's web site www.mecc.edu/apply. Transcripts from all high schools, colleges and universities attended are requested unless the record is five or more years old, or the applicant has completed 20 semester credits at a regionally accredited college or university, or the high school transcript is determined to be of no value for college and/or curricular admission.

Prior coursework may be evaluated for currency, technology application, or approach to discipline. The respective Dean over the degree in question will be responsible for the evaluation.

Graduates who complete secondary school in a home school setting must provide a graduation date and may be required to provide documentation of coursework.

The VCCS Student Information System academic records will be sufficient for courses transferred from colleges within the Virginia Community College System.

Students will not be allowed to register for some math classes unless a high/home school transcript is on file indicating completion of certain algebra and/or geometry classes.

G.E.D. transcripts may be obtained at https://www.gedtestingservice.com/testers/gedrequest-a-transcript. Official transcripts of all work completed at regionally accredited colleges or universities are required unless waived by the Director. Faxed transcripts will be accepted subject to verification. Applicants to Nursing, Practical Nursing, Paramedic, or Respiratory Therapy programs are required to submit high/home school, GED, and college transcripts prior to admission consideration.

Transcripts received from other institutions are retained by the College for three years after the student's last date of enrollment. Before enrolling for courses to meet the requirements of a degree or certificate program, all curricular students must complete the Virginia Placement Test. The placement test consists of English (writing and reading) and mathematics. Some programs do not require all three tests. Consult the Testing Coordinator for further information. Students who have submitted SAT or ACT scores may be exempt from the English, and/or math placement tests.

Non-Curricular Student

Students who are not formally admitted to one of the regular curricula but who are classified according to the following student goals or conditions are considered non-curricular students (International students requiring issuance of an I-20 or students receiving Federal or State aid are not eligible for these categories):

- Upgrading employment skills for present job
- Developing skills for new job
- Career exploration
- Personal satisfaction and general knowledge
- Transient student (student who maintains primary enrollment with another postsecondary institution and elects to enroll in the VCCS)
- High school student dual enrollment or dual credit
- Auditing a course
  Students desiring to attend a course without taking the examination or receiving credit for the course may do so by registering to audit through the registration process and paying the normal tuition. Permission of Enrollment Services/Registrar is required to audit a course. Audited courses carry no credit and do not count as part of the student's course load. Students desiring to change status in a course from audit to credit or from credit to audit must do so within the add/drop period for the course. Students who desire to earn credit for a previously audited course must re-enroll in the course for credit and pay normal tuition to earn a grade other than "X". Advanced standing credit should not be awarded for a previously audited course.

Academic Standing

Students are considered to be "in good academic standing" if they maintain a semester minimum GPA of 2.00, are eligible to reenroll at the College, and are not on academic suspension or dismissal status.

President's List

Students who have at least 12 credits and a GPA of 3.8 or higher during the semester with no I, R, U, or F grades.

Honors List
Students who have at least 12 credits and a GPA of 3.5 to 3.79 during the semester with no I, R, U, or F grades.

Merit List
Students who have at least 12 credits and a GPA of 3.2 to 3.49 during the semester with no I, U, or F grades, and part-time students who have between 6 and 11 credits and a GPA of 3.2 or higher during the semester with no I, U, or F grades.

Satisfactory Progress
Students pursuing any credit programs are cautioned that, although an average GPA between 1.50 and 1.99 may not result in formal academic probation, a minimum of 2.00 in their curriculum is a prerequisite to the receipt of an associate degree, diploma, or certificate.

Academic Warning
Students who fail to attain a minimum GPA of 2.00 for any semester shall be placed on academic warning. Students on academic warning are encouraged to consult with their advisor/counselor and take advantage of academic support services provided by the College.

Academic Probation
Students who fail to maintain a cumulative GPA of 1.50 shall be on academic probation until such time as their cumulative average is 1.75 or better. The statement "Academic Probation" shall be placed on their permanent records. Students on probation are ineligible for appointive or elective office in student organizations unless special permission is granted by the Vice President of Academic & Student Services. Students may be required to carry less than a normal course load the following semester and are required to consult with their advisor. Students shall be placed on probation only after they have attempted twelve (12) semester credit hours.

Academic Suspension
Students on academic probation who fail to attain a semester GPA of 1.50 shall be placed on suspension only after they have attempted 24 semester credits. Academic suspension shall be for one semester. The statement "Academic Suspension" will be placed on the student's permanent record. Students who have been placed on academic suspension and wish to appeal may submit a Request for Reinstatement of Enrollment form to the Dean of Enrollment Services for reconsideration of his/her case. The Request for Reinstatement of Enrollment form is available at the Enrollment Services office. The appeal must be submitted at least five days prior to the first day of classes for that semester. Suspended students may be reinstated at the conclusion of the suspension period. Suspended students wishing to be reinstated after the suspension period must complete the Request for Reinstatement of Enrollment form available from Enrollment Services. Students who have been reinstated from academic suspension must achieve a 2.00 GPA for the semester of their reinstatement and must earn at least a 1.75 GPA in each subsequent semester of attendance. The statement "Subject to Dismissal" shall be placed on the student's permanent records. Students who have been reinstated from academic suspension will remain subject to dismissal until their cumulative GPA is raised to a minimum of 1.75. Reinstated students may be required to carry less than a normal course load the following semester and are required to consult with their advisor.

Academic Dismissal
Students who do not attain at least a 2.00 GPA for the semester of reinstatement following academic suspension shall be academically dismissed. Students who achieve a 2.00 GPA for the semester of their reinstatement following academic suspension must earn at least a 1.75 GPA in each subsequent semester of enrollment. Failure to attain a 1.75 GPA in each subsequent semester until the cumulative GPA reaches 1.75 shall result in academic dismissal. Academic dismissal normally is permanent. In exceptional circumstances students may appeal the academic dismissal. A student wishing to appeal a dismissal from the college must make a written request at least five days prior to the first day of classes for that semester to the Dean of Enrollment Services. The statement "Academic Dismissal" shall be placed on the student's permanent record. Students who have been reinstated after academic dismissal will remain subject to dismissal until their cumulative GPA is raised to a minimum of 1.75. Reinstated students may be required to carry less than a normal course load the following semester and are required to consult with their advisor.

Admission to Programs/Courses
In addition to the general admission requirements, specific requirements are normally prescribed for each program of the College. The specific requirements are listed in the Programs of Study section of this catalog. A person applying to enter one of the associate degree (Associate of Arts and Sciences or Associate of Applied Science) programs must be a high school graduate or the equivalent, complete an approved developmental studies program or otherwise be considered eligible by the College. Admission to a specific course is possible when students meet the prerequisite requirements for the course as stated in the College's catalog.

Developmental Studies
The purpose of the Developmental Studies program is to assist students in improving their basic academic skills and to help them enhance their self-confidence in preparation for future academic college courses. The developmental courses are identified with a single-digit prefix (1, 2, 3, 4, 5, etc.). Since the content includes pre-college foundational skills, the courses do not yield college credit. Students are placed into developmental studies courses after an analysis of their scores on placement tests in English, reading, and mathematics, high school transcripts, and other information available concerning their achievement level. Students who are placed in developmental English or mathematics courses may enroll in curriculum courses appropriate to their program of study at the College.

Each developmental studies course has been developed around specific discipline objectives which have been identified as required for entry into regular curriculum courses.

Tests and other diagnostic techniques are administered to determine when the student has met the established course objectives. The length of time a student takes to complete the developmental courses depends primarily upon the student's entering ability and the student's strength of motivation to succeed. Many students can master these skills during the first 15-week semester; others may need to take a year or more of developmental coursework. In all cases the primary goal of the developmental course is to offer students an opportunity to master the basic academic skills necessary for success in regular college courses.

Advanced Standing and Waiver of Course Requirements

Advanced standing is the administrative placement of a student that awards credit for subject matter competency based on previous academic study or acquired through nontraditional means. This may include, but is not limited to, college credit and advancement based upon the administration and evaluation of locally-developed examinations; individual college participation in nationally recognized standardization exams; experiential learning; and training provided by non-collegiate institutions, such as armed forces service schools. Students having reason to believe that previous educational studies, training programs, or work experience may entitle them to an adjustment in the required courses in a particular curriculum, should contact Enrollment Services to determine procedures before registering for classes. A student who is currently enrolled in a class and wishes to apply for advanced standing must complete the process and drop the class within the add period.

Applying for Advanced Standing or Waiver of Course Requirements

To apply for advanced standing credit or waiver of course requirements, the student must have completed or be enrolled for at least six (6) credits in a program of study at the College. The student must apply by filing an application for advanced standing or waiver through a faculty advisor or a division dean.

Waiver of Course Requirements

Credits waived may require election of additional credit courses to compensate for the credits waived. The physical education requirements for the degree and certificate programs may be waived for veterans, and the College may grant up to 3 credits of physical education/health credits for basic military training to satisfy the physical/health credit requirement of the veterans' curricula. Veteran students may consult Enrollment Services/Veterans Affairs for assistance with this waiver.

Extra-Institutional Credit Limits

No more than 25% of the course credits required to graduate in a program may be obtained through extra-institutional credit. Extra-institutional credit includes credit based upon examination, equated occupational experience, CLEP, AP, or armed forces educational experience. Credits waived or awarded by advanced standing will not be included in the computation of the student's cumulative grade point average. Consequently, the student's GPA will be based upon courses actually completed at the College.

Credit by Examination is one means of achieving Advanced Standing through satisfactorily demonstrating subject-matter competency by an examination administered by the College.

Credit by Previous Completion is a means of achieving Advanced Standing through an administrative determination by the College that equivalent course coverage has been satisfactorily completed at an accredited postsecondary institution.

Credit by Equated Occupational Experience is a means of achieving Advanced Standing through an administrative determination by the College that the occupational experience of an individual is at least equivalent to the course(s) to be exempted.

The College Level Examination Program (CLEP) was established by the Educational Testing Service to enable individuals who have acquired their education in non-traditional ways to demonstrate their academic achievement. This testing program is designed for those who have gained their education outside the classroom through such means as correspondence study, television courses, independent readings, on-the-job training, and work experience. Students wishing to receive credit through CLEP testing should consult with a faculty advisor concerning applicability of CLEP credit to their curriculum. The College will grant credit to those who provide an official score report with an acceptable score on any portion of the general or subject examinations as indicated below. The scores and credit hours that appear in this table are the credit-granting scores and semester hours recommended by the American Council on Education (ACE). The scores listed below are equivalent to a grade of C in the corresponding course. MECC does not administer CLEP testing. Note: Students planning a transfer to another college or university are responsible for determining if that institution will accept CLEP credit.

General Examinations	CLEP Score	CR.	Course Equivalent
Business			
Information Systems & Computer Applications	50	3	ITE 119
Introductory Business Law	50	3	BUS 241
Principles of Management	50	3	BUS 200
Principles of Marketing	50	3	MKT 100
Composition and Literature			
American Literature	50	3	ENG 241
Analyzing and Interpreting Literature	50	3	ENG 125
College Composition	50	6	ENG 111 & 112
English Literature	50	3	ENG 243
World Languages			
French Language (Level I)	50	6	FRE 101 & 102
French Language (Level 2)	59	9	FRE 101, 102 & 201
German Language (Level 1)	50	6	GER 101 & 102
German Language (Level 2)	60	9	GER 101, 102, & 201
Spanish Language (Level 1)	50	6	SPA 101 & 102
Spanish Language (Level 2)	63	9	SPA 101, 102, & 201
Level 1 – Equivalent to the first two semesters (or six semester hours) of college level foreign language coursework. Level 2 – Equivalent to the first three semesters (or nine semester hours) of college level foreign language coursework.			
History and Social Sciences			
American Government	50	3	PLS 135
History of the United States I: Early Colonization to 1877	50	3	HIS 121
History of the United States II: 1865 to Present	50	3	HIS 122
Human Growth & Development	50	3	PSY 230
Introductory Psychology	50	3	PSY 200
Introductory Sociology	50	3	SOC 200
Principles of Macroeconomics	50	3	ECO 201
Principles of Microeconomics	50	3	ECO 202
Western Civilization I: Ancient Near East to 1648	50	3	HIS 101
Western Civilization II: 1648 to Present	50	3	HIS 102
Science and Mathematics			
Biology	50	6	*BIO 101 & 102
Calculus	50	4	MTH 263
Chemistry	50	6	*CHM 111 & 112
College Algebra	50	3	MTH 161
College Mathematics	50	3	MTH 154
Pre-Calculus	50	3	MTH 162
The scores and credit hours that appear in this table are the credit-granting scores and semester hours recommended by the American Council on Education (ACE). The scores listed above are equivalent to the grade of a C in the corresponding course. Note: Students planning a transfer to another college or university are responsible for determining if that institution will accept CLEP credit. *No credit is awarded for laboratory component. Effective June, 2018			

Changing Program of Study

Students considering a change in their program of study should schedule an appointment with their advisor. Students must complete an Information Change form and submit the form to the Office of Admissions.

Quarter to Semester Conversion

The following conversion guidelines will be applied when transferring courses completed under a quarter system to determine if students meet curricular requirements.

- A single quarter course requirement is equivalent to a single semester requirement but receiving 2/3 as much credit. (For example, ECON 160 for 3 quarter credits is equivalent to ECO 120 for 2 semester credits.)
- If only one course in a three-sequence quarter course has been taken, both semester courses must be taken.
- If the first two courses in a three-sequence quarter course have been taken, the last half of the semester course sequence must be taken.
- If the first and the third quarter courses have been taken in a three-sequence quarter course, the last half of the semester course sequence must be taken.
- If the second and the third quarter courses have been taken in a three-sequence quarter course, the first half of the semester course sequence must be taken.

Grade Point Average

The grade point average (GPA) is determined by dividing the total number of grade points earned in courses by the total number of credits attempted.

Semester Grade Point Average

Semester GPA is determined by dividing the total number of grade points earned in courses attempted for the semester by the total number of credits attempted.

Cumulative Grade Point Average

Cumulative GPA, which includes all courses attempted, is computed each semester and is maintained on a continuing basis as a record of the student's academic standing. When students repeat a course, only the last grade earned is counted in the computation of the cumulative GPA and for satisfying curricular requirements, unless the course is designated repeatable for credit in the Master Course File or is a general usage course. In instances of courses designated as repeatable for credit or general usage courses, all grades/credits are counted in the computation of the cumulative grade point average. Grades of "S", "P", "U", "W," "X," and "I" shall not count as first or subsequent attempts when calculating cumulative grade point average. Both the initial attempt and the repeat must be completed at Mountain Empire Community College. General usage courses (in the 90, 95, 96, 97, 98, and 99 series such as 90, 190, 290, etc.) shall not be counted as repeated courses. The repeated courses must be identical in course department and numbers to the first attempt in order to replace the original grade in the cumulative grade point average calculation.

Curriculum Grade Point Average

A curriculum GPA, which includes only those courses applicable to the student's curriculum, is computed in order to ensure that the student satisfies the graduation requirement for that curriculum. When students repeat a course, only the last grade earned is counted in the computation of the curriculum GPA. Both the initial attempt and the repeat must be completed at Mountain Empire Community College. General usage courses (in the 90, 95, 96, 97, 98, and 99 series such as 90, 190, 290, etc.) shall not be counted as repeated courses. The repeated courses must be identical in course department and numbers to the first attempt.

Academic Renewal Policy

Students who return to the College after a separation of five (5) years, or more, may petition for academic renewal. The request must be in writing and submitted to Enrollment Services/Admission.

If a student is determined to be eligible for academic renewal, D and F grades earned prior to re-enrollment will be deleted from the cumulative and curriculum grade point average (GPA), subject to the following conditions:

- Prior to petitioning for academic renewal the student must demonstrate a renewed academic interest and effort by earning at least a 2.5 G.P.A. in the first twelve (12) semester hours completed after re-enrollment.
- All grades received at the College will be a part of the student's official transcript.
- Students will receive degree credit only for courses in which grades of C or better were earned prior to academic renewal, providing that such courses meet current curriculum requirements.
- Total hours for graduation will be based on all course work taken at the College after readmission, as well as former course work for which a grade of C or better was earned, and credits transferred from other colleges or universities.
- The academic renewal policy may be used only once and cannot be revoked once approved.

Grading

The grades of "A, B, C, D, P and S" are passing grades. Grades of "F and U" are failing grades. "R and I" are interim grades. Grades of "W and X" are final grades carrying no credit.

The quality of performance in any academic course is reported by a letter grade, the assignment of which is the responsibility of the instructor. These grades denote the character of study and are assigned quality points as follows:

A – Excellent, 4 grade points per credit
B – Good, 3 grade points per credit
C – Average, 2 grade points per credit
D – Poor, 1 grade point per credit
F – Failure, 0 grade points per credit
I – Incomplete, No grade point credit

I – Incomplete, No Grade Point Credit
The "I" grade is to be used only for verifiable unavoidable reasons that a student is unable to complete a course within the normal course time. To be eligible to receive an "I" grade, the student must (1) have satisfactorily completed more than 60% of the course requirements and (2) must request that faculty member to assign the "I" grade and indicate why it is warranted. The faculty member has the discretion to decide whether the "I" grade will be awarded. Since the "incomplete" extends enrollment in the course, requirements for satisfactory completion shall be established through consultation between the faculty member and the student. In assigning the "I" grade, the faculty member must complete documentation that (1) states the reason for assigning the grade; (2) specifies the work to be completed and indicates its percentage in relation to the total work of the course; (3) specifies the date by which the work must be completed; and (4) identifies the default (B, C, D, F, P, R, or U) based upon course work already completed. Completion dates may not be set beyond the subsequent semester (to include summer term) without written approval of the chief academic officer of the campus. The student will be provided a copy of the documentation. The College will establish procedures to ensure that all "I" grades that have not been changed by the faculty member through the normal grade change processes are subsequently changed to the default grade assigned by the faculty member. An "I" grade will be changed to a "W" only under documented mitigating circumstances which must be approved by the Vice President of Academic and Student Services.

P — Pass, No grade point credit
The "P" grade applies only to non-developmental studies courses. Pass grades are not included within GPA calculations. Permission of the division dean is required for utilizing the Pass/Fail option. A maximum of seven (7) semester credit hours from courses for which the "P" grade has been awarded may be applied toward completion of a degree, certificate, or diploma.

R—Re-enroll, No grade point credit
The "R" grade may be used as a grade option, in developmental and ESL courses only, to indicate satisfactory progress toward meeting course objectives. In order to complete course objectives, students receiving an "R" grade must re-enroll in the course and pay the specified tuition.

S—Satisfactory, No grade point credit
The grade of "S" is used only for satisfactory completion of a developmental studies course (numbered 01-99).

U—Unsatisfactory, No grade point credit
The grade of "U" applies only to developmental studies courses.

W—Withdrawal, No grade point credit.
A grade of "W" is awarded to students who withdraw or are withdrawn from a course after the add/drop period but prior to the completion of 60% of the session. After that time, the student shall receive a grade of "F" except under mitigating circumstances which must be documented by the student and approved by the Registrar; a copy of the documentation must be placed in the student's academic file. Extenuating circumstance withdrawal requests must be received by the Registrar by the last class day for the course and prior to exams.

X—Audit
Students desiring to attend a course without taking the examination or receiving credit for the course may do so by registering to audit through the usual registration process and paying the normal tuition. Permission of the division dean or another appropriate academic administrator is required to audit a course. Audited courses carry no credit and do not count as a part of the student's course load. Students desiring to change status in a course from audit to credit or from credit to audit must do so within the add/drop period for the course.

Students who desire to earn credit for a previously audited course must re-enroll in the course for credit and pay normal tuition to earn a grade other than "X." Advanced standing credit should not be awarded for a previously audited course.

Developmental Studies

A grade of "S" (Satisfactory) may be assigned for satisfactory completion of a developmental studies course (courses numbered 1-9). "S" grades are not included in grade point average calculations. Students not making satisfactory progress in a developmental studies course shall be graded "U" (Unsatisfactory). The "I" and "W" grades may be utilized.

Grade Report

Final grades are posted to MECC Online at the end of exams each semester. Final grades become a part of the students' academic record. A student may view grades for any term by logging in to MECC Online.

Transcripts

To request that an official transcript of academic record be sent to other institutions or business firms, the student should secure the Request for Official Transcript of Grades

form at Enrollment Services or via MECC Online. Requests for Official Transcript of Grades should be submitted at least 5 business days before the transcript is required. Official transcripts are generally processed within three business days of receipt, and mailed to the address provided. During peak times such as beginning and end of term, processing time will likely be extended. Due to the magnitude of transcript requests received, the Enrollment Services Office does not notify students when transcript requests have been processed. Mountain Empire Community College does not impose a fee for transcripts. Requests for transcripts via phone are not accepted.

Requests for unofficial student grade reports will be honored at any time during regular office hours. Unofficial transcripts will be faxed directly to offices of other educational institutions, employers, and the military. Incomplete transcripts will not be released. Sufficient time must be allowed for the posting of grades and computing of averages at the end of each semester.

The College observes Public Law 93-380 (the Family Education Rights and Privacy Act of 1974) in providing for the privacy of official student records and the rights of students to review these records. Students may review their official records by making a request to the Office of Enrollment Services. The College will not release any personally identifiable information other than directory information about any student without the student's written permission, except to certain school and governmental officials as provided by the law. Requests by individuals and agencies for release of student information must be presented in writing. The student's permission for the College to release any information must also be in writing. Students may grant permission by completing the Permission to Release Education Record Information form, located in the Office of Enrollment Services, Godwin Hall.

Grade Changes

Occasionally an error in grade recording may occur. Students should review grades carefully and report any errors to Enrollment Services/Registrar immediately. Challenges to grade records must be made within one year of the alleged error.

Grade Appeals

A student having factual evidence that his/her grade, as reported, is in error and who wishes to appeal said grade, should refer to Grade Appeal Policy listed in the MECC Student Handbook.

Fees & Fines

Fees are assessed to provide services to students which are not provided with tuition revenues. These fees include a General Auxiliary Fee, a Technology Fee, a Student Activity Fee, and a Capital Fee for out-of-state and contract students.

Library Fines

In order to encourage students and community library users to return materials promptly, fines are charged on overdue materials. Library fines are charged at the following rates per item:

- Circulating, Juvenile, Oversize collections items, print newspaper and magazine issues, and distance education DVDs and videos -- $0.10 per day
- Two-Hour Reserve items -- $0.25 per hour
- Overnight and One-Week Reserve items -- $0.25 per day
- The maximum fine charged per item is $5.
- Lost materials are billed at the purchase price of the materials plus a processing fee of $5 per item for book jacket covers, spine labels, barcodes, date due pockets and cards, and cataloging service fees.

As a reminder, students and community residents will receive three overdue notices when library materials have not been returned. The first two notices will be sent to students' and community members' email accounts. When the third and final notice is mailed, students will be blocked, which means they will not be able to receive a financial aid refund, obtain an official college transcript, or charge items in the bookstore until the library materials have been returned and fines owed on them have been paid. Students and community residents who have unpaid library fines will not be allowed to check out additional items from the library until the fines have been paid unless special permission has been granted by the staff for them to do so.

As required by the Commonwealth of Virginia, unpaid debts for overdue library materials will be submitted to the Virginia Department of Taxation under the Set-Off Debt Collection Program, with the debts deducted from the individual's state income tax refund or lottery winnings. Also, the state requires that unpaid debts be referred to a private collection agency. The debt collection agency adds a collection fee equal to 33% to the debt. In addition, the debt collection agency reports collection activities to credit reporting agencies which will impact the debtor's consumer credit report.

To avoid having overdue materials and fines, call 276.523.7468 to renew library materials.

Parking Fines

Parking in unauthorized spaces may result in the following:

- $3.00 for each ticket received for the following violations:
    - Improperly parked
    - Parked in no-parking zone
    - No MECC parking permit
    - Parked in Faculty lot
    - Parked on road
    - Parked in Small Business Only
    - Parked in Employee of the Year space
    - Parked in State Vehicle Only space
    - $10.00 for each ticket received for parking in visitor's space
    - $25.00 for each ticket received for parking in handicapped space

Vehicles parked in a fire zone will be towed away at owner's expense.

Residence Requirements

The Virginia Community College System is guided by the Code of Virginia and the regulations of the State Council for Higher Education in determining domicile. For tuition assessment purposes, in-state rates will be charged to a student who has been domiciled in, and is and has been an actual bona fide legal resident of Virginia for a period of at least one year immediately prior to the commencement of the term of enrollment. Domicile decisions may not be changed after the term begins.

All applicants for in-state tuition rates will be required to submit a residence affidavit to determine state residency eligibility for tuition purposes. The burden of presenting adequate evidence of residency rests with the applicant. Residents of the Tennessee counties of Hancock, Hawkins, Sullivan and the City of Kingsport, and of the Kentucky counties of Harlan, Letcher, and Pike are eligible to pay in-state contract tuition rates if they are eligible to pay in-state rates while attending a state supported college or university in their respective states of residence.

When enrollment must be limited for any program or course, first priority will be given to all qualified applicants who are domiciled residents of Lee, Wise, Scott, and Dickenson Counties and the City of Norton, and to Virginia domiciled residents not having access to a given program at their local community college, provided such students apply for admission to the program prior to registration or by a deadline established by the College. A domiciled resident is one who has been a permanent resident in the locality or state for the twelve months before the program application deadline. In addition, residents of localities with which the college has clinical-site affiliation may receive equal consideration for admission.

Mountain Empire Community College has established the following schedule for considering applications to limited enrollment programs: Before April 1, applications will be considered for only those domiciliary residents of the political subdivisions supporting the College; after April 1, all Virginia domiciliary residents will be considered for admission, and after May 1, out-of-state and international students will be considered for admission. Otherwise, applications are considered in the order in which they are received. Nursing/Respiratory Therapy/Practical Nursing applicants must be local domiciliary residents as of the program application deadline to receive priority consideration. Domiciliary residence normally requires continuous physical presence for a period of at least 12 months with intent to remain permanently.

Student Email, Blackboard and Student Information System Access

MECC Online

To access your student email, Blackboard, and the Student Information System, visit MECC Online. MECC Online is located at the top right corner of the MECC homepage at www.mecc.edu.

Student Email

To access your MECC Email, log in to MECC Online with your username and password, and select the "Gmail" link.

Blackboard

Blackboard is an online course management system used by the College. All MECC classes are required to have a Blackboard component. Students must access Blackboard by logging into MECC Online. Students can locate tutorials on how to navigate Blackboard on the Blackboard site. Credit classes will be listed in Blackboard either on the first day of the class or within 48 hours after registering.

SIS (Student Information System)

The Student Information System allows students to complete tasks such as registering for classes, paying tuition/fees, accessing personal information, viewing financial aid, viewing final grades, viewing/printing transcripts and more. To access SIS, students must login to MECC Online.

General Student Information

Student Photo ID

All MECC students must register for a student ID. You can obtain your student ID at the MECC Bookstore in Holton Hall.

Buying or Renting your Books

The MECC Bookstore is located on campus in Holton Hall. Hours and contact information are posted on the Bookstore's Web site. To buy or rent books, visit the MECC Bookstore or the Bookstore's website at www.mecc.edu/bookstore. Click the link for books, and then click the dropdown for textbooks and course materials. Enter the specific course information and find the link to the ISBN number for the text. You can use your financial aid funds to pay for textbooks and required supplies only during certain dates each semester.

Parking Decals

All MECC students must register for a parking permit. Register for your parking permit on the first floor of Godwin Hall in the Business Office.

New Student Seminar

All new students are required to attend the New Student Seminar, a comprehensive two-day SDV 100 course which is scheduled prior to the first day of class. Completion of the New Student Seminar provides an opportunity for new students to begin classes more prepared for their college experience and allows them the opportunity to make connections with their fellow students and college personnel. For more information, visit www.mecc.edu/newstudent.

Wampler Library

MECC's Wampler Library is located on the second floor of Robb Hall. Visit the library to access the material and research you need for courses. Library resources are available online at www.mecc.edu/library.

Email/Text Alerts
For your safety and convenience, MECC strongly recommends students enroll in the College's emergency alert system. The alert system will notify you quickly with an email and/or text about MECC closings due to inclement weather or about emergency situations. To register for text alerts, visit www.mecc.edu/textalerts.

Student Handbook
The MECC Student Handbook contains information about your, college operations and college policies. The Student Handbook contains additional information and MECC's Code of Conduct. To access the MECC Student Handbook, visit www.mecc.edu/handbook.

Social Media
Important announcements regarding events, schedule changes, and activities are shared on MECC's social media sites. Join us on Facebook at facebook.com/mountainempirecollege, on Twitter @MECCVa, and on Instagram @MECCedu.

Get Help When You Need It

Advising and Testing
The Office of Student Services provides advising and testing services. For more information on testing, visit www.mecc.edu/testing. The Office of Student Services is located in Holton Hall or call 276.523.2400 ext. 472.

Tutoring and Academic Assistance
MECC's Learning Center provides academic support services to students who meet eligibility requirements. Services include: tutoring, mentoring, transfer assistance, career counseling, personal counseling, academic skills development (study skills, test-taking skills, etc.) and informative seminars. For more information, visit www.mecc.edu/tutoring.

Disability Services
MECC provides services to students with documented disabilities. For more information, visit the Office of Student Services in Holton Hall or call 276.523.2400 ext. 343 or www.mecc.edu/disabilityservices.

Veterans Assistance
MECC programs are approved for enrollment of qualified veterans, survivors, dependents and certain reservists. For more information on services available to veterans and their families, call 276.523.7474 or visit www.mecc.edu/veterans.

Transfer Assistance
MECC provides assistance to students planning to transfer to a four-year college. Visit the Office of Student Services in Holton Hall, call 276.523.2400 ext. 324, or visit www.mecc.edu/transfer.

Career Assistance
MECC offers student career counseling to help students determine their career goals and/or college major. Assistance includes computerized career assessments, career planning, employment preparation, resume development, interview and business etiquette, job search strategies, and more. To schedule an appointment, visit Career Services located in the Office of Student Services in Holton Hall, call 276.523.7472, or visit www.mecc.edu/career-services.

Technology Assistance
Students who need assistance with Blackboard may contact skennedy@mecc.edu or call 276.523.7488 from 8 a.m. to 4:30 p.m. Monday-Friday. Students who need Student Information System (SIS), Student Email, Log-in, Password or Username Assistance should contact the Technology Help Desk at helpdesk@mecc.edu.

Graduation

To be eligible for graduation with an associate degree, diploma, certificate, or career studies certificate from a Virginia community college, the student must:

- Fulfill all of the course and credit---hour requirements of the curriculum with at least 25% of the credits acquired at the college awarding the award;
- Be certified for graduation by the Academic Divisions and Enrollment Services/ Registrar;
- Earn a grade point average of at least a 2.0 in all studies attempted which are applicable toward graduation in their curricula;
- Meet any other competency requirements established by the College; and
- Resolve all financial obligations to the College and returned all library and College materials.

Assessment of Student Achievement

Students may be required to participate in one or more assessment activities designed to measure general education achievement and/ or achievement in selected major areas prior to graduation for the purpose of evaluation of academic programs. Results obtained in this context will remain confidential and will not be used to identify individual students. The College also reserves the right to exchange student information with area high schools and senior institutions for the sole purpose of improvement of the College.

Second Degree or Certificate

When awarding an additional degree, diploma, certificate or career studies certificate, the College may grant credit for all previously completed applicable courses which are requirements of the additional degree, diploma, certificate or career studies certificate. However, the awards must differ from one another by at least 25% of the credits.

Graduation with Honors

Students who have fulfilled the requirements of degree, diploma, or certificate programs (with the exception of career studies certificates), are eligible for graduation honors.

Appropriate honors are awarded based upon the student's cumulative grade point average recorded one semester prior to graduation (fall semester GPA for spring graduates and spring semester GPA for summer graduates) as follows:

Cum Laude (Honors), 3.2 GPA
Magna Cum Laude (High Honors), 3.5 GPA
Summa Cum Laude (Highest Honors), 3.8 GPA

Commencement

Mountain Empire Community College will host an annual commencement ceremony at the end of the spring semester.

Workforce Solutions

Mountain Empire Community College's Center for Workforce Development provides state-of-the art workforce training and services to individuals, businesses, industries, and government agencies. As an active member of the community, the Workforce Solutions collaborates with regional employers on an ongoing basis to maintain a competitive workforce in today's global economy.

To support the goals of business and industry, the Center provides customized job training offered at MECC or the client's site, as well as open enrollment courses for professional and personal development. Credit, non-credit, and distance education courses promote life-long learning and economic development in the Southwest Virginia Region.

The Virginia Small Business Development Center (SBDC) located at Mountain Empire Community College offers free business consulting, affordable training courses, personal referrals to local resources, guidance, insights, and connections to help businesses succeed.

Many community and continuing education programs are provided in response to the needs and interests of individuals or organizations within the service region. The Center cooperates with public agencies, civic groups, community organizations, business and industry, and other educational institutions to provide educational services for a greater number of people. Individuals in need of Continuing Education Units or CEUs will find a wide of variety of options available through the Center. Basic types of programming are offered: customized training, job skill assessments, continuing education/lifelong learning, quick-start training, seminars, and a variety of on-going training institutes.

Customized Training

Workforce Solutions designs timely, customized training programs to address the ever-changing opportunities and challenges faced by employers. Based on results of Training Needs Assessments, we design and implement Custom Training Programs to update and improve the skills of your workforce, increase employee engagement, improve company performance and help you achieve organizational goals. Our training can be brought to your work site or you can bring your employees to our training facilities.

Customized training focuses on skills that improve:

- organizational productivity (team building, management and leadership, coaching, or lean manufacturing);
- individual productivity (time management, managing stress, communication, or customer service);
- computer skills (Microsoft Office suite, technical certifications, or customized applications); and
- job specific skills (CPR, OSHA, Miner Training/Retraining, and many others).

Benefits of Customized Training

- Convenient class locations with on-site training available
- A comprehensive training plan, based on a training needs assessment, will address the skills and knowledge your employees need to help achieve your organizational goals
- Programs tailored to meet your company's specific needs
- Training positively impacts employee performance and profitability
- A well-trained workforce provides a competitive advantage

Job Skills Assessment Tools

WorkKeys® is a job skills assessment system that helps employers select, hire, train, develop, and retain a high-performance workforce. WorkKeys® connects work skills, training, and testing for employers and:

- is the basis for the National Career Readiness Certificate.
- WorkKeys® Foundational and Personal Skills assessments provide reliable, relevant information about workplace skill levels:
    - Foundational Skills assessments measure cognitive abilities such as applied mathematics, graphic literacy, and workplace documents.
    - Personal Skills assessment are designed to predict job behavior and measure the full potential of individuals.

Continuing Education/Lifelong Learning

- Lifelong Learning opportunities (art, crafts, and music classes, summer camps and enrichment programs)
- Continuing Education programs (project management certification classes, teacher recertification, etc.)

On-going Training and Institutes

Contact Workforce Solutions for scheduling of the following classes:

@Home Prep

Online Training that is fast, easy, and affordable. Complete our self-paced online training to obtain or renew your license/certificate. Available 24/7. Start and stop as you need. Tablet and smartphone compatible. Instant certificate upon completion for most courses.

Advanced Cardiovascular Life Support - Classroom

ACLS is designed for healthcare professionals who either direct or participate in the management of cardiopulmonary arrest and other cardiovascular emergencies. This includes personnel in emergency response, emergency medicine, intensive care and critical care units.

Basic Contractor Licensing

MECC offers an eight-hour course designed to cover the regulations and practices that govern the contracting industry. Students will thoroughly review the required elements of preparing a contract in accordance with regulation, explore methods in selecting customers and jobs based on license classification and experience, explore the various business structures to meet their particular need, and discuss tips that will help them to avoid regulatory and business programs. The course is designed to guide a contractor in making choices that will ensure compliance with regulation and maintain

the license through business success. Although the intent of this course is not designed for examination preparation, the subject matter covered and the materials will certainly be useful for those who will take the license text.

Cardiopulmonary Resuscitation (CPR)
MECC offers the American Heart Association Basic Life Support for Healthcare Provider certification course, covering adult, child, and infant CPR for both one person and two person scenarios. The use of the AED and bag valve masks, along with assistance in choking response is covered. This course is certified by the American Heart Association.

CDL
Graduates of this four-week training program will have the knowledge and skills to become Class "A" CDL licensed drivers qualified to drive long distances, regionally or locally. Requires DMV Learners Permit Test, State Road Test, and DOT physical.

Concealed Weapons Permit
Discusses and explores safe firearms handling, laws, and procedures to acquire a concealed weapons permit.

CPR Instructor
Individuals who wish to become CPR Instructors can complete the American Heart Association certification course at MECC. The course is designed to credential persons to teach Heartsaver CPR, Heartsaver AED, Heartsaver First Aid, and BLS for Healthcare Provider CPR courses. This course is certified by the American Heart Association.

Driver Improvement Clinic
Mountain Empire Community Colleges offers a Virginia Department of Motor Vehicles approved Driver Improvement Clinic.

First Aid
MECC offers the American Heart Association Heartsaver First Aid certification course, covering the basic principles of first aid, care and treatment of medical emergencies, care and treatment of injuries, and care and treatment of environmental emergencies. This course is certified by the American Heart Association.

Mine Training Courses
MECC offers a wide variety of certification courses and programs designed to meet the needs of the mining industry. Customized classes are also available to meet individual and company requests.

- Annual Refresher Surface - VA & KY
- Annual Refresher Underground - VA & KY
- New Miner Training - Underground and Surface
- General Coal Miner - Underground and Surface
- Electrical Retraining - VA, KY, & WV
- Diesel Retraining
- Surface and Underground Mine Foreman
- VA DMME Advanced First Aid
- First Responder - Certification & Recertification
- EMT - Certification & Recertification
- CPR - Cardiopulmonary Resuscitation
- First Aid Certification & Recertification
- DMME Reciprocity Advanced First-Aid
- Kentucky MET Recertification
- CDL Training

Occupational Safety and Health Administration (OSHA) Training
MECC offers a number of OSHA courses covering a variety of topics, including standards and hazard violations, overview of OSHA Act & 29 CFR, fire protection, personal protective equipment, material handling, electrical safety standards, hazard communications and more. These courses can be reserved by employers seeking to train a large number of employees or offered on an individual basis.

Pediatric Advanced Life Support (PALS)
The PALS Course is for healthcare providers who respond to emergencies in infants and children. These include personnel in emergency response, emergency medicine, intensive care and critical care units such as physicians, nurses, paramedics and others who need a PALS course completion card for job or other requirements.

Pharmacy Technician
Mountain Empire Community College offers Pharmacy Technician Continuing Education Courses. The courses are designed to enable technicians to identify and describe significant federal legislation affecting pharmacy practice; identify and describe significant federal and state governing bodies affecting pharmacy; specify the duties that may legally be performed by pharmacy technicians; provide an overview of the types of prescription medication errors; and list strategies to reduce or eliminate prescription medication errors in pharmacy practice. The course provides 5.0 hour (0.5 CEU) of continuing education credit.

Power Lineman
Prepares students with the basic skills necessary to enter the electrical field as a Lineman. These skills include: overall safety considerations, power pole climbing skills, knowledge of the basic tools and materials involved with electrical crafts, general construction standards, basic rigging principles, and basic electrical theory that is specific to this trade. Classes introduce students to job related information and hands-on training. A component of the course includes preparation for the Construction and Skilled Trades (CAST) exam.

Security & Firearm Training
Security Officer Training is offered for individuals seeking their bi-annual recertification with the Department of Criminal Justice Services. Courses are also offered in firearms recertification, an annual requirement of the Department of Criminal Justice Services for any Private Investigator or Security Officer who carries a firearms endorsement card for a handgun or shotgun. Pre-registration for these courses is required.

Tradesman Continuing Education Unit (CEU) Courses
Tradesman CEU courses in Electrical, Plumbing, HVAC and Gas Fitters are offered on campus and online.

Academic Programs & Requirements

Mountain Empire Community College offers two-year associate degrees, one-year certificates, and short career studies certificates. The requirements for these awards for completion of curricula are determined by the College faculty and are intended to meet the requirements specified by the Commonwealth of Virginia, the Southern Association of Colleges and Schools Commission on Colleges, and certain specialized accrediting agencies.

Programs of Study

Associate of Arts & Sciences

The Associate of Arts and Sciences Degree (AA&S) is awarded to students majoring in business administration, education, general studies, science, or software engineering who plan to transfer to a four-year college or university. Visit www.mecc.edu/programs for detailed program information.

- Business Administration
- Pre-Teacher Education
- General Studies
- General Studies-Software Engineering
- Science
- Science - Engineering

Associate of Applied Science

The Associate of Applied Science Degree (AAS) is awarded to students majoring in one of the occupational-technical degree curricula who plan to obtain full-time employment upon graduation. Associate of Applied Science degrees (AAS) are not intended for transfer. Visit www.mecc.edu/programs for detailed program information.

- Administrative Support Technology
- Administrative Support Technology – Medical Office Specialist
- Computer Networking Technology
- Computer Software Specialist
- Computer-Aided Drafting and Design Technology
- Computer-Aided Drafting and Design Technology – Mapping Specialization
- Computerized Manufacturing Technology
- Computerized Manufacturing Technology - Electromechanical Technology Specialization
- Computerized Manufacturing Technology – Industrial Electronics Specialization
- Correctional Services
- Emergency Medical Services Technology
- Energy Technology
- Energy Technology – Electrical Specialization
- Environmental Science
- Environmental Science – Water/Wastewater Specialization
- Forest Science
- Health Information Management
- Management
- Nursing Track One Two Year Plan
- Nursing Track Two Part-Time Evening Weekend
- Nursing Track Three LPN to RN Bridge Program
- Nursing Track Four Part-Time LPN to RN Bridge Program
- Paralegal Studies
- Police Science
- Respiratory Therapy
- Welding

State and Regional Cooperative Degree Programs

- Medical Laboratory Technology (WCC)
- Occupational Therapy Assistant (SWCC)
- Physical Therapy Assistant (WCC)
- Radiography Technology (SWCC)

Certificates

MECC's Certificates are awarded for the completion of various curricula of study less than two years in length, totaling between 30 and 59 credits. At least 15 percent of the credits must be in general education. Most certificates prepare the student for a specific job or aspect of a job. Some certificates are part of an associate degree program, in which case the credit earned in the certificate may be used toward the degree. These curricula typically are not designed for transfer to a four-year college or university. However, in some limited cases, career courses may transfer, and there may be articulation arrangements with four-year colleges as part of a special program.

- Administration of Justice – Corrections Option
- Administration of Justice – Law Enforcement Option
- Air Conditioning and Refrigeration
- Clerical Assistant
- General Education
- Industrial Maintenance
- Legal Office Assisting
- Medical Office Coding and Procedures
- Nursing – Practical Nursing
- Welding

Career Studies Certificates

Career Studies Certificates are awarded for a specific group of career-related courses totaling between 9 and 29 credits. Career Studies Certificates are not intended for transfer. Career studies programs are designed for enhancement of job/life skills, retraining for career changes, and/or investigating new career possibilities. Credit earned in most career studies certificates may be used to meet the requirements in certificate and degree programs that require similar courses.

- 3D Design
- Air Conditioning & Refrigeration
- Building Construction – Electrical Emphasis
- Chemical Process Operator
- Child Development
- Child Development - Infant & Toddler Option
- Child Development - Pre-School Option
- Clinical Research Coordinator
- Computer Software Specialist - Mobile App Development
- Construction
- Corrections Management and Supervision
- Electricity
- Emergency Medical Technician
- Emergency Medical Technician - Advanced
- Emergency Medical Technician - Paramedic
- Energy Technology - Electrical Emphasis
- Energy Technology - HVAC Emphasis
- Geographical Information Systems
- Health Sciences
- Help Desk Support
- Information Technology Readiness
- Law Enforcement Management and Supervision
- Machinery Maintenance
- Medical Records Technician
- Medical Receptionist and Transcriptionist
- Nursing Assistant (With Enhanced Skills)
- Old Time Music
- Pharmacy Technician
- Phlebotomy
- Real Estate
- Small Business Management
- Software Development I
- Software Development II
- Sports Medicine Assistant
- Wastewater Plant Operator
- Water Plant Operator
- Welding Operator

State and Regional Cooperative Career Studies Certificate Programs

- Computed Tomography (SWCC)
- Mammography (SWCC)

Understanding Program Options & Curriculum Requirements

Degrees & Certificates

Mountain Empire Community College offers two-year associate degrees, one-year certificates, and career studies certificates. The requirements for these awards for completion of curricula are determined by the College faculty and are intended to meet the requirements specified by the Commonwealth of Virginia, the Southern Association of Colleges and Schools Commission on Colleges, and certain specialized accrediting agencies.

Terminology

Unless otherwise noted, the term program refers to an associate degree with its own curriculum code and all related specializations, certificates, and career studies certificates. The Virginia Community College System defines a major as a grouping of 100- and 200-level courses that define a discipline or interdisciplinary specialty. A degree program is a broadly structured curriculum leading to the award of an associate degree and is listed on a student's diploma. A specialization is an area of concentration within an approved major that varies from the parent major by 9–15 credits. A certificate is awarded for the completion of an approved non-degree curriculum consisting of 30–59 semester credit hours, usually in a career area; a minimum of 15 percent of a certificate's credit hour requirement will be in general education including one three-credit-hour English class. A career studies certificate is awarded for the completion of an approved non-degree curriculum of 9–29 semester credit hours in length.

Associate of Arts & Sciences Degree (AA&S)
The AA&S degree is designed for those who plan to transfer to a four-year college or university.

Associate of Applied Science Degree (AAS)
The AAS degree is for students primarily interested in acquiring technical skills that lead directly to employment after graduation. Associate of Applied Science degrees are not intended for transfer.

Certificate (C)
Certificates are awarded for career-technical programs, usually two semesters in length. Certificates are not intended for transfer.

Career Studies Certificate (CSC)
Career Studies programs are designed for enhancement of job/life skills, retraining for career changes, and/or investigating new career possibilities. Career Studies certificates are not intended for transfer.

State and Regional Cooperative Programs
In the Virginia Community College System, certain highly-specialized curricula, though designed to serve all Virginia residents, are offered only in selected locations. These curricula generally reflect geographic, demographic, or economic considerations which preclude extensive statewide offerings, and therefore, usually are approved for not more than three community colleges to meet state or regional requirements. As changing circumstances warrant and additional state and regional needs are determined, specialized curricula may be located in other community college regions.

Virginia Dual Enrollment Plan between Public Schools and Community Colleges
Dual enrollment allows qualified high school students to enroll in college coursework while still in high school. Courses are taught by full or part-time faculty who meet VCCS credentialing requirements and credit for dual enrollment courses is generally accepted at all Virginia private and public colleges. It's important that students and their parents understand that the amount of work necessary to succeed in dual enrollment courses is greater than in high school courses. In addition, dual enrollment courses become part of permanent college transcripts so it's essential that students do well in these courses to realize all the benefits of dual enrollment which include:

- A quality, affordable education close to home
- Enriched course opportunities for outstanding high school students both in academic coursework and in career and technical education
- Students enter college with credits applicable to their degree program
- Students gain understanding of the rigor of college work as well as college faculty expectations
- Access to college resources, facilities and services such as advising and career counseling

Interested students must first take the College placement exam. They must also meet the following criteria:

- High school juniors or seniors attending a public or private school (exceptional freshman and sophomores may be eligible with approval from both high school principal and college president)
- Meet or exceed college placement requirements
- Receive a recommendation from a high school official
- Parental consent provided prior to student enrollment

Home-schooled students are also eligible for the program. These students are urged to contact MECC to discuss the options available to them.

Dual enrollment courses may be used to satisfy degree requirements of an Associate of Arts and Science degree with MECC or transfer in most cases directly to a four-year college or university. Credit for Career Technical Education courses is available that may be used to begin a certificate or Associate of Applied Science degree with MECC.

General Education Core Competencies

General education is that portion of the collegiate experience that addresses the knowledge, skills, attitudes, and values characteristic of educated persons. It is unbounded by disciplines and honors the connections among bodies of knowledge. VCCS degree graduates will demonstrate competency in the following general education areas: communication, critical thinking, cultural and social understanding, information literacy, personal development, quantitative reasoning, and scientific reasoning.

The associate degree programs within the Virginia Community College System support a collegiate experience that focuses on the above definition and meets the General Education requirements of the Southern Association of Schools Commission on Colleges. The general education outcomes shall be included in the catalog of each college.

VCCS/MECC General Education Goals and Student Learning Outcomes

VCCS degree graduates will demonstrate competency in the following general education areas:

1. **Communication:** A competent communicator can interact with others using all forms of communication, resulting in understanding and being understood. Degree graduates will demonstrate the ability to:
   - understand and interpret complex materials;
   - assimilate, organize, develop, and present an idea formally and informally;
   - use standard English;
   - use appropriate verbal and non-verbal responses in interpersonal relations and group discussions;
   - use listening skills;
   - recognize the role of culture in communication.

2. **Critical Thinking:** A competent critical thinker evaluates evidence carefully and applies reasoning to decide what to believe and how to act. Degree graduates will demonstrate the ability to:
   - discriminate among degrees of credibility, accuracy, and reliability of inferences drawn from given data;
   - recognize parallels, assumptions, or presuppositions in any given source of information;
   - evaluate the strengths and relevance of arguments on a particular question or issue;
   - weigh evidence and decide if generalizations or conclusions based on the given data are warranted;
   - determine whether certain conclusions or consequences are supported by the information provided,
   - use problem solving skills.

3. **Cultural and Social Understanding:** A culturally and socially competent person possesses an awareness, understanding, and appreciation of the interconnectedness of the social and cultural dimensions within and across local, regional, state, national, and global communities. Degree graduates will demonstrate the ability to:
   - assess the impact that social institutions have on individuals and culture-past, present, and future;
   - describe their own as well as others' personal ethical systems and values within social institutions;
   - recognize the impact that arts and humanities have upon individuals and cultures;
   - recognize the role of language in social and cultural contexts;
   - recognize the interdependence of distinctive world-wide social, economic, geo-political, and cultural systems.

4. **Information Literacy:** A person who is competent in information literacy recognizes when information is needed and has the ability to locate, evaluate, and use it effectively. (adapted from the American Library Association definition) Degree graduates will demonstrate the ability to:
   - determine the nature and extent of the information needed;
   - access needed information effectively and efficiently;
   - evaluate information and its sources critically and incorporate selected information into his or her knowledge base;
   - use information effectively, individually or as a member of a group, to accomplish a specific purpose;
   - understand many of the economic, legal, and social issues surrounding the use of information and access and use information ethically and legally.

5. **Personal Development:** An individual engaged in personal development strives for physical well-being and/or emotional well-being. Degree graduates will demonstrate the ability to:
   - develop and/or refine personal wellness goals;

- develop and/or enhance the knowledge, skills, and understanding to make informed academic, social, personal, career, and interpersonal decisions.

6. **Quantitative Reasoning:** A person who is competent in quantitative reasoning possesses the skills and knowledge necessary to apply the use of logic, numbers, and mathematics to deal effectively with common problems and issues. A person who is quantitatively literate can use numerical, geometric, and measurement data and concepts, mathematical skills, and principles of mathematical reasoning to draw logical conclusions and to make well-reasoned decisions. Degree graduates will demonstrate the ability to:
   - use logical and mathematical reasoning within the context of various disciplines;
   - interpret and use mathematical formulas;
   - interpret mathematical models such as graphs, tables and schematics and draw inferences from them;
   - use graphical, symbolic, and numerical methods to analyze, organize, and interpret data;
   - estimate and consider answers to mathematical problems in order to determine reasonableness;
   - represent mathematical information numerically, symbolically, and visually, using graphs and charts.

7. **Scientific Reasoning:** A person who is competent in scientific reasoning adheres to a self-correcting system of inquiry (the scientific method) and relies on empirical evidence to describe, understand, predict, and control natural phenomena. Degree graduates will demonstrate the ability to:
   - generate an empirically evidenced and logical argument;
   - distinguish a scientific argument from a non-scientific argument;
   - reason by deduction, induction and analogy;
   - distinguish between causal and correlational relationships;
   - recognize methods of inquiry that lead to scientific knowledge.

Table 5-1
Minimum Requirements for
Associate Degrees in the VCCS

	Minimum Number of Semester Hour Credits					
General Education:	(1) AA	(2) AS	(3) AA&S	(4) AFA	(5) AAA / AAS	
Communication	6	6	6	6	3-6	
Humanities / Fine Arts	6	6	6	3-9(b)	3-6	
Foreign Language (Intermediate Level)	6	0	0	0	0	
Social / Behavioral Sciences	9	9(a)	9	3-9	3-6	
Natural Sciences /	7-8	7-8	7-8	4	0	} 3-6
Mathematics	3-6	3-6	3-6	3	0	
Total for General Education =	37-41	31-35	31-35	19-28	15	
As specified above, degree programs must contain a minimum of 15 semester hours of general education as defined by SACSCOC.						
Other Requirements for Associate Degrees:						
Personal Development						
Personal development is defined as general education per VCCS policy (5.0.2.2) but cannot be used to meet the general education requirements of SACSCOC in degree programs.	1-2	1-2	1-2	1-2	1-2	
Major field courses and electives (columns 1-4) Career/technical courses (column 5)	14-22	20-28	20-28	34-43	43-53	
	____	____	____	____	____	
Total for Degree =	60-63	60-63	60-63	60-63	60-69	

Notes:
(a) Only 6 semester hours of social/behavioral sciences are required for engineering majors who plan to transfer to a baccalaureate degree engineering program that requires 6 or fewer hours in this category, provided that the college/university publishes such requirements in its transfer guide.
(b) One course in humanities/fine arts for the Fine Arts major must be a literature course.

Table 5-2
Minimum Requirements for
Diplomas, Certificates, and Career Studies Certificates

	Diploma	Certificate	Career Studies Certificate
Definition	A two-year curriculum with an emphasis in a career/technical area	A curriculum that consists of a minimum of 30 semester credit hours	A program of study of not less than 9 nor more than 29 semester credit hours
Course Requirements	May include any appropriate courses numbered 10-299	May include any appropriate courses numbered 10-299	May include any appropriate courses numbered 10-299
General Education Requirements	A minimum of fifteen percent (15%) of credit hour requirements shall be in general education, including 1 three-credit English course.	A minimum of fifteen percent (15%) of credit hour requirements shall be in general education, including 1 three-credit English course.	There are no general education requirements.
Graduation Requirements	See page 5-8 • 25% of courses must be taken at home institution. • 2.0 GPA • Graduation honors eligible	See page 5-8 • 25% of courses must be taken at home institution. • 2.0 GPA • Graduation honors eligible	See page 5-8 • 25% of courses must be taken at home institution. • 2.0 GPA • Graduation honors eligible
Approval	State Board for Community Colleges	Chancellor	Local College Board

License Requirements

The Department of Professional and Occupational Regulation (DPOR) licenses, certifies, registers, and disciplines those professions, occupations, businesses, and individuals that the Virginia General Assembly has determined must be regulated in order to protect the health, welfare, and safety of the public. The majority of professions and occupations regulated by DPOR require applicants to successfully pass minimum competency exams before they are licensed at the entry level. Licensing, certification and registration play a major role in protecting the public. MECC offers courses to prepare for certification in the following professions and occupations:

- Contractor
- LP Gas Fitter
- Real Estate Appraiser
- Real Estate Sales and Broker
- Tradesman (electrician, plumber, HVAC)
- Waterworks/Wastewater Works Facility Operator
- Waste Management Facility Operator

For more information and a complete listing on these professions and occupations, please visit the DPOR web site at www.state.va.us/dpor or call 804.367.8500 and ask for the board regulating the profession or occupation of interest to you.

College Transfer Electives

This listing represents the courses offered in the transfer degree programs of MECC. Students and advisors may use this listing to select options for transfer electives, humanities electives and social science electives. Several courses are included because they are applicable to a specific articulation agreement. Inclusion in this comprehensive list is not a guarantee that the course will be offered in a given semester nor acceptance of transferability at another college/university. Selection of courses should be made based on planning for a desired career path or for the college/university degree program to which you intend to transfer.

College Transfer Course	CT	H	SS	Prerequisite
ACC 211- Principles of Accounting I	X			ENF 3 placement
ACC 212 - Principles of Accounting II	X			ACC 211
ADJ 100 - Survey of Criminal Justice	X			ENF 2 placement
ARA 101 - Beginning Arabic I				
ARA 102 - Beginning Arabic II	X			
ART 100 - Art Appreciation	X	X		ENF 3 placement
ART 101 - History & Appreciation of Art I				
ART 102 - History & Appreciation of Art II	X	X		ENF 3 placement
ART 121 - Drawing I	X			ENF 2 placement
ART 122 - Drawing II	X			ART 121
ART 125 - Intro to Painting	X			ENF 2 placement
ART 131 - Fundamentals of Design I				
ART 132 - Fundamentals of Design II	X			ENF 2 placement
ART 180 - Intro to Computer Graphics	X			ENF 3 placement
ART 283 - Computer Graphics I	X			ENF 3 placement
ASL 101 - American Sign Language I	X			ENF 3 placement
ASL 102 - American Sign Language II	X			ASL 101
BIO 101 - General Biology I	X			ENF 3 placement, MTE 1-3
BIO 102 - General Biology II	X			BIO 101
BIO 141 - Human Anatomy & Physiology I	X			ENF 3 placement
BIO 142 - Human Anatomy & Physiology II	X			BIO 141
BIO 205 - General Microbiology	X			ENF 3 placement, BIO 102, CHM 112
BIO 231 - Human Anatomy & Physiology I	X			ENF 3 placement, BIO 102, CHM 112
BIO 232 - Human Anatomy & Physiology II	X			BIO 231
BUS 200 - Principles of Management	X			ENF 3 placement
BUS 241 - Business Law I	X			ENF 2 placement
BUS 242 - Business Law II	X			BUS 241
CHI 101 - Beginning Chinese I	X			
CHI 102 - Beginning Chinese II	X			CHI 101
CHM 101 - General Chemistry I	X			ENF 3 placement, MTE 1-3
CHM 102 - General Chemistry II	X			CHM 101
CHM 111 - College Chemistry I	X			ENF 3 placement, MTE 1-3
CHM 112 - College Chemistry II	X			CHM 111
CHM 241 - Organic Chemistry I	X			ENF 3 placement, CHM 112, Co-req CHM 243 or 245 Lab I
CHM 242 - Organic Chemistry II	X			ENF 3 placement, CHM 112, Co-req CHM 244 or 246 Lab II
CHM 243 - Organic Chemistry Lab I	X			ENF 3 placement, Concurrently with CHM 241
CHM 244 - Organic Chemistry Lab II	X			ENF 3 placement, Concurrently with CHM 242
CHM 245 - Organic Chemistry Lab I	X			ENF 3 placement, Concurrently with CHM 241
CHM 246 - Organic Chemistry Lab II	X			ENF 3 placement, Concurrently with CHM 242
CST 100 - Principles of Public Speaking	X			ENF 3 placement
CST 105 - Oral Communication	X			ENF 3 placement
CST 110 - Intro to Communication	X			ENF 3 placement
CST 130 - Intro to Theatre	X			ENF 3 placement
CST 141 - Theatre Appreciation	X	X		
ECO 120 - Survey of Economics	X			ENF 3 placement
ECO 201 - Principles of Economics I Macroeconomics	X		X	ENF 3 placement
ECO 202 - Principles of Economics II Microeconomics	X		X	ENF 3 placement
EDU 200 - Intro to Teaching as a Profession	X			ENG 111 placement
EGR 120 - Intro to Engineering	X			
EGR 140 - Engineering Mechanics - Statics	X			
EGR 245 - Engineering Mechanics - Dynamics	X			
EGR 246 - Mechanics of Materials	X			
ENG 111 - College Composition I	X			ENF 3 placement (co-enrolled with ENG 111)
ENG 112 - College Composition II	X			ENG 111
ENG 121 - Intro to Journalism I				

ENG 122 - Intro to Journalism II	X			ENG 111
ENG 211 - Creative Writing I				
ENG 212 - Creative Writing II	X	X		ENG 112
ENG 241 - Survey of American Literature I				
ENG 242 - Survey of American Literature II	X	X		ENG 112
ENG 243 - Survey of English Literature I				
ENG 244 - Survey of English Literature II	X	X		ENG 112
ENG 251 - Survey of World Literature I				
ENG 252 - Survey of World Literature II	X	X		ENG 112
ENG 253 - Survey of African-American I				
ENG 254 - Survey of African-American II	X	X		ENG 112
ENG 256 - Literature of Science Fiction	X	X		ENG 112
ENG 278 - Appalachian Literature	X	X		ENG 112
ENG 281 - American Folklore I				
ENG 282 - American Folklore II	X	X		ENG 112
FRE 101 - Beginning French I				
FRE 102 - Beginning French II	X			ENG 111 placement
GEO 210 - Intro to Cultural Geography	X		X	ENF 3 placement
GER 101 - Beginning German I				
GER 102 - Beginning German II	X			
GOL 105 - Physical Geology	X			ENF 3 placement
GOL 111 - Oceanography I				
GOL 112 - Oceanography II	X			ENF 3 placement
HIS 101 - History of Western Civilization I				
HIS 102 - History of Western Civilization II	X		X	ENF 3 placement
HIS 111 - History of World Civilization I				
HIS 112 - History of World Civilization II	X		X	ENF 3 placement
HIS 121 - U.S. History I				
HIS 122 - U.S. History II	X		X	ENF 3 placement
HIS 127 - Women in American History	X		X	
HIS 225 - Topics in European History	X		X	ENF 3 placement
HIS 262 - U.S. History in Film	X		X	ENF 3 placement
HIS 267 - The Second World War	X		X	ENF 3 placement
HIS 269 - Civil War and Reconstruction	X		X	ENF 3 placement
HIS 276 - U.S. History Since World War II	X		X	ENF 3 placement
HIS 281 - History of Virginia	X		X	
HLT 105 - CPR	X			
HLT 110 - Concepts of Personal & Community Health	X			ENF 3 placement
HUM 100 - Survey of the Humanities	X	X		ENF 3 placement
HUM 111 - Great Books I				
HUM 112 - Great Books II	X	X		ENF 3 placement
HUM 153 - Intro to Appalachian Studies	X	X		ENF 3 placement
HUM 201 - Survey of Western Culture I	X	X		ENF 3 placement
HUM 202 - Survey of Western Culture II	X	X		ENF 3 placement
HUM 212 - Survey of American Culture	X	X		ENF 3 placement
HUM 218 - Survey of Horror	X	X		ENF 3 placement
HUM 260 - Survey of 20th Century Culture	X	X		ENF 3 placement
ITE 119 - Information Literacy	X			
ITP 120 - Java Programing I	X			ITP 100, ENF 2 placement
ITP 132 - C++ Programming I	X			ITP 100, ENF 2 placement
ITP 232 - C++ Programming II	X			ITP 132
JPN 101 - Beginning Japanese I				
JPN 102 - Beginning Japanese II	X			
MTH 151 - Math for the Liberal Arts I				
MTH 152 - Math for the Liberal Arts II	X			ENF 3 placement, MTE 1-5
MTH 157 - Elementary Statistics	X			ENF 3 placement, MTE 1-5
MTH 163 - Precalculus I	X			ENF 3 placement, MTE 1-9 & HS Alg II, Geo with 'C' or better
MTH 164 - Precalculus II	X			MTH 163
MTH 173 - Calculus with Analytic Geometry I	X			MTH 173 placement & HS Alg II, Geo, Trig
MTH 174 - Calculus with Analytic Geometry II	X			MTH 173
MTH 177 - Intro Linear Algebra	X			Co-req MTH 175
MTH 271 - Applied Calculus I	X			MTH 163
MTH 273 - Calculus I	X			ENG 111 placement, MTH 164 (or MTE 1-9 & 'C' or better in HS Trig)
MTH 274 - Calculus II	X			MTH 273

MTH 275 - Multi-Variable Calculus/Linear Algebra	X			MTH 174 or equivalent (274)
MTH 277 - Vector Calculus	X			MTH 174 or equivalent (274)
MTH 279 - Ordinary Differential Equations	X			MTH 174 or equivalent (274)
MTH 285 - Linear Algebra	X			MTH 174 or equivalent (274)
MTH 286 - Discrete Mathematics	X			MTH 174 or equivalent (274)
MTH 287 - Mathematical Structures	X			MTH 166 or equivalent
MTH 291 - Differential Equations	X			MTH 174 or equivalent (274)
MTH 292 - Topics in Differential Equations	X			MTH 291 or equivalent
MUS 121 - Music Appreciation I				
MUS 122 - Music Appreciation II	X	X		ENF 3 placement
NAS 125 - Meteorology	X			ENF 3 placement
NAS 131 - Astronomy I				
NAS 132 - Astronomy II	X			ENF 3 placement
PHI 211 - History of Western Philosophy I				
PHI 212 - History of Western Philosophy II	X	X		ENG 111 placement
PHT 101 - Photography I	X			ENF 2 placement
PHT 102 - Photography II	X			PHT 101
PHY 201 - General College Physics I	X			MTH 164 or equivalent
PHY 202 - General College Physics II	X			PHY 201
PHY 231 - General University Physics I	X			MTH 173
PHY 232 - General University Physics II	X			MTH 174, PSY 231
PHY 241 - University Physics I	X			ENG 111 placement & MTH 173, 175, 273
PHY 242 - University Physics II	X			ENG 111 placement & MTH 174, 274 & PHY 241
PLS 135 - American National Politics	X			ENF 3 placement
PLS 211 - U.S. Government I				
PLS 212 - U.S. Government II	X		X	ENF 3 placement
PSY 200 - Principles of Psychology	X		X	ENF 3 placement
PSY 215 - Abnormal Psychology	X		X	PSY 200
PSY 230 - Developmental Psychology	X		X	ENF 3 placement
PSY 231 - Life Span Human Development I				
PSY 232 - Life Span Human Development II	X		X	ENF 3 placement
PSY 235 - Child Psychology	X		X	ENF 3 placement
REL 100 - Intro to the Study of Religion	X	X		ENF 3 placement
REL 200 - Survey of the Old Testament	X	X		ENF 3 placement
REL 210 - Survey of the New Testament	X	X		ENF 3 placement
REL 231 - Religions of the World I				
REL 232 - Religions of the World II	X	X		ENF 3 placement
REL 233 - Intro to Islam	X	X		
REL 240 - Religions in America	X	X		ENF 3 placement
RUS 101 - Beginning Russian I				
RUS 102 - Beginning Russian II	X			
SDV 100 - College Success Skills	X			ENF 1 placement
SDV 108 - College Survival Skills	X			
SOC 200 - Principles of Sociology	X		X	ENF 3 placement
SOC 215 - Sociology of the Family	X		X	ENF 3 placement
SOC 268 - Social Problems	X		X	ENF 3 placement
SPA 101 - Beginning Spanish I				
SPA 102 - Beginning Spanish II	X			ENG 111 placement
SPA 201 - Intermediate Spanish I				
SPA 202 - Intermediate Spanish II	X			SPA 102 or equivalent

Note about Governor's School: Some of the Governor's School courses are transfer electives and others are technical electives. Please consult with an advisor for specific details.

How to Use Curriculum Guides for Academic Planning

Curriculum guides are provided for each program of study offered by the College. The guides are listed in alphabetical order by degree classification (Associate of Arts & Sciences, Associate of Applied Science, Certificate, and Career Studies Certificate). The guides are intended to help academic advisors assist students in the planning of courses for their academic programs. Courses will be offered as presented in the curriculum guides (by semester), except where enrollments in a class section are too small to warrant the offering as planned. It is the College's intention to provide the maximum flexibility in the scheduling of courses to accommodate the scheduling needs of our students. Students and advisors should refer to the online Student Information System prior to each semester for the most up-to-date information on course offerings.

TRANSFER PATHWAYS

The Associate in Arts and Sciences Degree programs are designed for students planning to transfer to a four-year college or university. The following program guides outline a sequence in which the various courses may be taken. Students may select their own courses and sequences, but should adhere to the requirements for graduation.

TRANSFER
- Business Administration
- General Education Certificate
- General Studies
- General Studies – Software Engineering Specialization
- Pre-Teacher Education
- Science
- Science-Engineering Specialization

CAREER PATHWAYS

Career Pathway programs are designed for students majoring in an occupational-technical field who plan to obtain full-time employment upon graduation. Programs of study are developed with the assistance of advisory committees representing business and industry and current market requirements. Students may earn a career certificate, certificate, or degree. These programs are not intended for transfer.

ALLIED HEALTH
- Administrative Support Technology – Medical Office Specialist
- Clinical Research Coordinator
- Funeral Services Assistant
- Health Information Management
- Medical Office Coding and Procedures
- Medical Receptionist & Transcriptionist
- Medical Records Technician
- Pharmacy Technician
- Sports Medicine Assistant

ARTS & MUSIC
- Old Time Music

BUSINESS
- Administrative Support Technology
- Clerical Assistant
- Help Desk Support
- Legal Office Assisting
- Management
- Paralegal Studies
- Real Estate
- Small Business Management

CONSTRUCTION
- Air Conditioning and Refrigeration
- Building Construction – Electrical
- Construction
- Electricity
- Energy Technology
  - o Electrical Specialization
  - o HVAC Specialization
- Welding

EDUCATION
- Early Child Development
- Child Development – Infant & Toddler Option

ENGINEERING
- 3-D Design
- Computer-Aided Drafting and Design Mapping Specialization
- Computer-Aided Drafting and Design Technology
- Geographic Information Systems

ENVIRONMENTAL
- Environmental Science
- Environmental Science Water/Wastewater Specialization
- Forest Science
- Geographic Information Systems
- Wastewater Plant Operator
- Water Plant Operator

HEALTH SCIENCES (Clinical)
- Computed Tomography (SWCC)
- Emergency Medical Services Technology
- Emergency Medical Technician Basic
- Emergency Medical Technician Paramedic
- Emergency Medical Technician Advanced
- Health Sciences
- Mammography (SWCC)
- Medical Laboratory Technology (WCC)
- Nursing Assistant (CNA)
- Occupational Therapy Assistant (SWCC)
- Phlebotomy
- Physical Therapy Assistant (WCC)
- Practical Nursing
- Radiography Technology (SWCC)
- Registered Nursing (RN)
  - o Track 1: Two-Year Plan
  - o Track 2: LPN to RN Bridge Program
  - o Track 3: Part-Time Evening Weekend
  - o Track 4: Part-Time LPN to RN Bridge Program
- Respiratory Therapy

MANUFACTURING
- 3-D Design
- Computer-Aided Drafting and Design Technology
- Chemical Process Operator
- Computerized Manufacturing Technology
  - o Electromechanical Technology Specialization
  - o Industrial Electronics Specialization
- Industrial Maintenance
- Machinery Maintenance
- Welding

PUBLIC SAFETY
- Administration of Justice
  - o Corrections Option
  - o Law Enforcement Option
- Correctional Services
- Corrections Management and Supervision
- Law Enforcement Management and Supervision
- Police Science

TECHNOLOGY
- Computer Networking Technology
- Computer Software Specialist
  - o Mobile Application Development
- Cybersecurity
- Help Desk Support
- Information Technology Readiness
- Software Development I & II
- aUAS

Associate of Arts & Sciences Degree College/University Transfer

BUSINESS ADMINISTRATION MAJOR (216)

Purpose

The Associate of Arts & Sciences degree programs are designed for students who plan to transfer to a four-year college or university to complete a baccalaureate degree program. The courses in this program are specifically selected for ease of transfer to most four-year colleges and universities. Following the prescribed coursework in this program will result in graduation with the Associate of Arts & Science degree (AA&S). Students should consult with their advisors to ensure that they select general electives that best prepare them for the specific requirements of their intended transfer college or university programs of study.This degree plan is closely aligned to local universities and colleges. Please see your advisor for specific guidelines.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Written Communication: Students will demonstrate clear and effective writing skills in a variety of contexts.
2. Scientific Reasoning: Students will demonstrate understanding of scientific concepts, theories, and basic scientific reasoning.
3. Critical Thinking: Students will exhibit identified critical thinking skills to pose questions, process information, and make decisions.
4. Quantitative Reasoning: Students will compute, analyze, and communicate quantitative data using mathematical and logical methods to solve problems (e.g., tables, graphs, formulas, or other relevant formats).
5. Information Literacy: Students will effectively gather, organize, apply, and evaluate information with an understanding of its origin and the technologies used.
6. Economic Literacy: Students will apply basic economic concepts to current issues.

Program Requirements

Entry into the program requires the satisfactory completion of four (4) units of high school English, two (2) units of high school algebra, one (1) unit of geometry, one (1) unit of laboratory science, and one (1) unit of social science or their equivalent. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses. Students are encouraged to check the mathematics requirements of the four-year college or university to which you plan to transfer to determine the appropriate courses to be taken at MECC, as well as to determine the transferability of electives. Students planning to transfer should schedule an appointment with MECC's Transfer Services Counselor at 276.523.2400 ext. 324.

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BUSINESS ADMINISTRATION MAJOR
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ENG 111	College Composition I	3	VPT Placement of ENF 3 or ENG 111, ENF 1 or ENF 2
HIS 101	History of Western Civilization I		
or HIS 121	or U.S. History I	3	ENF 1 or ENF 2
MTH 161	Pre-Calculus I	3	MTE 1-9
Science	Biology, Chemistry, or Physics [4]	4	BIO and CHM: MTE 1, 2, 3 or test credit; ENF 1 or ENF 2; PHY: MTH 164
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
ITE 119	Information Literacy [3]	3	
ENG 112	College Composition II	3	ENG 111
HIS 102	History of Western Civilization II		
or HIS 122	or U.S. History II	3	ENF 1 or ENF 2
MTH 261	Applied Calculus		
or MTH 162	or Pre-Calculus II	3	MTH 161, (163) with a C or better
Science	Biology, Chemistry, or Physics [4]	4	BIO 101, CHM 111, PHY 201
SECOND YEAR FALL			
HLT/PED	Health/Physical Education	1	
ACC 211	Principles of Accounting I	3	
ECO 201	Principles of Economics I [1]	3	ENF 1 or ENF 2
ENG	Literature (241, 243, or 251) [2]	3	ENG 112
CST 100	Principles of Public Speaking		
or CST 105	or Oral Communication	3	ENF 1 or ENF 2
	College Transfer Elective	3	
SECOND YEAR SPRING			
ACC 212	Principles of Accounting II	3	ACC 211
ECO 202	Principles of Economics II [1]	3	ENF 1 or ENF 2
ENG	Literature (242, 244, or 252) [2]	3	ENG 112
	College Transfer Electives	6	
TOTAL PROGRAM CREDITS		**61**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

[1] In addition to the economics requirements for the community colleges, students are advised to complete a Political Science and Psychology course, or a full year of a sophomore social science if required by the four-year college or university to which you plan to transfer.

[2] At least one semester of World Literature (ENG 251-252) is recommended.

[3] All students pursuing an Associate of Arts and Sciences degree must demonstrate information literacy by completing ITE 119, by satisfying the terms of an articulation agreement, or by establishing competency on an approved assessment test.

[4] Students should consult with their academic advisor to select courses required by their desired degree at their transfer institution.

Associate of Arts & Sciences Degree College/University Transfer

GENERAL EDUCATION CERTIFICATE (695)

Purpose

The Associate of Arts & Sciences General Education certificate is designed as an intermediate step on the student's progress toward a two or four year degree. This certificate is awarded as recognition of completion of a core of specified requirements in the associate degree program. The associate degree is the gateway for transfer to a senior institution through one of the many articulation and guaranteed admission agreements currently available to MECC students. Students should consult with their advisors to ensure that they select general electives that best prepare them for the specific requirements of their intended transfer college or university programs of study..

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Written Communication: Students will demonstrate clear and effective writing skills in a variety of contexts.
2. Scientific Reasoning: Students will demonstrate understanding of scientific concepts, theories, and basic scientific reasoning.
3. Critical Thinking: Students will exhibit identified critical thinking skills to pose questions, process information, and make decisions.
4. Quantitative Reasoning: Students will compute, analyze, and communicate quantitative data using mathematical and logical methods to solve problems (e.g., tables, graphs, formulas, or other relevant formats).
5. Cultural and Social Understanding: Students will demonstrate an awareness of arts and humanities upon individuals and culture as well as the impact that social institutions have on individuals and culture-past, present, and future.

Program Requirements

Students should have English and Mathematics placement tests skills assessed. Developmental classes in these areas may be required. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses. Students are encouraged to check the mathematics requirements of the four-year college or university to which you plan to transfer to determine the appropriate courses to be taken at MECC, as well as to determine the transferability of electives. Students planning to transfer should schedule an appointment with MECC's Transfer Services Counselor at 276.523.2400 ext. 324.

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GENERAL EDUCATION CERTIFICATE
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ENG 111	College Composition I	3	ENF 1, ENF 2, VPT Placement of ENF 3 or ENG 111
BIO 101	General Biology I [1]	4	ENF 1 or ENF 2
	Social Science Elective	3	See approved list
MTH 154	Quantitative Reasoning		
or MTH 161	or Pre-Calculus I	3	MTE 1-5 or MTE 1-9
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
ENG 112	College Composition II	3	ENG 111
MTH 245	Statistics I		
or MTH 162	or Pre-Calculus II	3	For 245: MTH 154(151) or 161(163) with a C or better; For 162: MTH 161 (163) with a C or better
BIO 102	General Biology II [1]	4	Varies
	Humanities Elective [2]	3	See approved list
	Social Science Elective	3	See approved list
TOTAL PROGRAM CREDITS		**30**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

[1] *Students may substitute CHM 111/112 or PHY 201/202.*

[2] See approved list of humanities courses.

Associate of Arts & Sciences Degree College/University Transfer

GENERAL STUDIES MAJOR (697)

Purpose

The Associate of Arts & Sciences degree programs are designed for students who plan to transfer to a four-year college or university to complete a baccalaureate degree program. The courses in this program are specifically selected for ease of transfer to most four-year colleges and universities. Following the prescribed coursework in this program will result in graduation with the Associate of Arts & Science degree (AA&S). Students should consult with their advisors to ensure that they select general electives that best prepare them for the specific requirements of their intended transfer college or university programs of study.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Written Communication: Students will demonstrate clear and effective writing skills in a variety of contexts.
2. Scientific Reasoning: Students will demonstrate understanding of scientific concepts, theories, and basic scientific reasoning.
3. Critical Thinking: Students will exhibit identified critical thinking skills to pose questions, process information, and make decisions.
4. Quantitative Reasoning: Students will compute, analyze, and communicate quantitative data using mathematical and logical methods to solve problems (e.g., tables, graphs, formulas, or other relevant formats).
5. Information Literacy: Students will effectively gather, organize, apply, and evaluate information with an understanding of its origin and the technologies used.
6. Cultural and Social Understanding: Students will demonstrate an awareness of arts and humanities upon individuals and culture as well as the impact that social institutions have on individuals and culture-past, present, and future.
7. Students will demonstrate soft skills such as: strong work ethic/integrity, organization, time management, and consistent attendance.

Program Requirements

Entry into the program requires the satisfactory completion of four (4) units of high school English, two (2) units of high school algebra, one (1) unit of geometry, one (1) unit of laboratory science, and one (1) unit of social science or their equivalent. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses. Students are encouraged to check the mathematics requirements of the four-year college or university to which you plan to transfer to determine the appropriate courses to be taken at MECC, as well as to determine the transferability of electives. Students planning to transfer should schedule an appointment with MECC's Transfer Services Counselor at 276.523.2400 ext. 324.

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GENERAL STUDIES MAJOR
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ENG 111	College Composition I	3	ENF 1 or ENF 2, VPT Placement of ENF 3 or ENG 111
HIS 101	History of Western Civilization I		
or HIS 121	or U.S. History I	3	ENF 1 or ENF 2
MTH 154	Mathematics for the Liberal Arts I		
or MTH 161	or Pre-Calculus I [3]	3	MTE 1-5, or MTE 1-9
Science	Biology, Chemistry, or Physics [4]	4	Varies
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
ITE 119	Information Literacy [2]	3	
ENG 112	College Composition II	3	ENG 111
HIS 102	History of Western Civilization II		
or HIS 122	or U.S. History II	3	ENF 1 or ENF 2
MTH 245	Statistics I		
or MTH 162	or Pre-Calculus II [3]	3	For 245: MTh 154(151) or MTH 161(163) with a C or better. For 162: MTH 161 with a C or better
Science	Biology, Chemistry, or Physics [4]	4	Varies
SECOND YEAR FALL			
	Social Science Elective [1]	3	See approved list
	Humanities Elective [4]	3	See approved list
CST 100	Principles of Public Speaking		
or CST 105	or Oral Communication	3	ENF 1 or ENF 2
	College Transfer Electives	6	See approved list
SECOND YEAR SPRING			
HLT/PED	Health/Physical Education	1	
	Social Science Elective [1]	3	See approved list
	Humanities Elective [4]	3	See approved list
	College Transfer Electives	9	See approved list
TOTAL PROGRAM CREDITS		**61**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

[1] Students should consult the social science requirements of the institution to which they are transferring. Social sciences include: Economics, Political Science, Psychology, Geography, and Sociology.

[2] All students pursuing an Associate of Arts and Sciences degree must demonstrate information literacy by completing ITE 119, by satisfying the terms of an articulation agreement, or by establishing competency on an approved assessment test.

[3] Students may select MTH 261 if appropriate to their transfer institution. See advisor to select appropriate math sequence.

[4] Students should consult with their academic advisor to select courses required by their desired degree at their transfer institution.

Associate of Arts & Sciences Degree College/University Transfer

GENERAL STUDIES - SOFTWARE ENGINEERING SPECIALIZATION (697-09)

Purpose

The Associate of Arts & Sciences degree programs are designed for students who plan to transfer to a four-year college or university to complete a baccalaureate degree program. The courses in this program are specifically selected for ease of transfer to most four-year colleges and universities. Following the prescribed coursework in this program will result in graduation with the Associate of Arts & Science degree (AA&S). Students should consult with their advisors to ensure that they select general electives that best prepare them for the specific requirements of their intended transfer college or university programs of study. This degree plan is closely aligned to local universities and colleges. Please see your advisor for specific guidelines.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Written Communication: Students will demonstrate clear and effective writing skills in a variety of contexts.
2. Scientific Reasoning: Students will demonstrate understanding of scientific concepts, theories, and basic scientific reasoning.
3. Critical Thinking: Students will exhibit identified critical thinking skills to pose questions, process information, and make decisions.
4. Quantitative Reasoning: Students will compute, analyze, and communicate quantitative data using mathematical and logical methods to solve problems (e.g., tables, graphs, formulas, or other relevant formats).
5. Information Literacy: Students will effectively gather, organize, apply, and evaluate information with an understanding of its origin and the technologies used.
6. Software Coding: Students will use predefined specifications to analyze, design and create software programs which comply with specific requirements.

Program Requirements

Entry into the program requires the satisfactory completion of four (4) units of high school English, two (2) units of high school algebra, one (1) unit of geometry, one (1) unit of laboratory science, and one (1) unit of social science or their equivalent. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses. Students are encouraged to check the mathematics requirements of the four-year college or university to which you plan to transfer to determine the appropriate courses to be taken at MECC, as well as to determine the transferability of electives. Students planning to transfer should schedule an appointment with MECC's Transfer Services Counselor at 276.523.2400 ext. 324.

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GENERAL STUDIES - SOFTWARE ENGINEERING SPECIALIZATION
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ENG 111	College Composition I	3	ENF 1 or ENF 2 or VPT Placement
HIS 101	History of Western Civilization I	3	ENF 2
MTH 161	Pre-Calculus I	3	MTE 1-9
ITE 119	Information Literacy [1]	3	
	Approved Social Science	3	ENF 2
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
ENG 112	College Composition II	3	ENG 111
HIS 102	History of Western Civilization II	3	ENF 2
MTH 245	Statistics I	3	MTH 161(163)
MTH 162	Pre-Calculus II	3	MTH 161(163)
	Approved Social Science	3	ENF 2
HLT/PED	Health/Physical Education	1	
SECOND YEAR FALL			
ENG	English Survey	3	ENG 112
PHY 201	General College Physics I	4	MTH 161(163)
ENG 115	Technical Writing	3	
ITP 132	C++ Programming I	3	MTH 161 (164)
MTH 263	Calculus I	4	MTH 161 (163) and MTH 162 (164)
SECOND YEAR SPRING			
HUM	Humanities Elective	3	ENF 2
MTH 264	Calculus II	4	MTH 263 (273)
ITP 232	C++ Programming II	3	ITP 132
PHY 202	University Physics II	4	PHY 201
TOTAL PROGRAM CREDITS		**63**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

[1]All students pursuing an Associate of Arts and Sciences must demonstrate information literacy by completing ITE 119, by satisfying the terms of an articulation agreement, or by establishing competency on an assessment test.

Associate of Arts & Sciences Degree College/University Transfer

PRE-TEACHER EDUCATION (624)

PK-8, PK-6, Middle School Special Education

Purpose

The Associate of Arts & Sciences degree programs are designed for students who plan to transfer to a four-year college or university to complete a baccalaureate degree program. The courses in this program are specifically selected for ease of transfer to most four-year colleges and universities. Following the prescribed coursework in this program will result in graduation with the Associate of Arts & Science degree (AA&S). Students should consult with their advisors to ensure that they select general electives that best prepare them for the specific requirements of their intended transfer college or university programs of study. This degree plan is closely aligned to local universities and colleges. Please see your advisor for specific guidelines.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Written Communication: Students will demonstrate clear and effective writing skills in a variety of contexts.
2. Scientific Reasoning: Students will demonstrate understanding of scientific concepts, theories, and basic scientific reasoning.
3. Critical Thinking: Students will exhibit identified critical thinking skills to pose questions, process information, and make decisions.
4. Quantitative Reasoning: Students will compute, analyze, and communicate quantitative data using mathematical and logical methods to solve problems (e.g., tables, graphs, formulas, or other relevant formats).
5. Information Literacy: Students will effectively gather, organize, apply, and evaluate information with an understanding of its origin and the technologies used.
6. Pre-Teacher Career Competency: Students will demonstrate knowledge of teacher licensure examinations, steps to certifications, and teacher preparation and induction programs.

Program Requirements

Entry into the program requires the satisfactory completion of four (4) units of high school English, two (2) units of high school algebra, one (1) unit of geometry, one (1) unit of laboratory science, and one (1) unit of social science or their equivalent. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses. Students are encouraged to check the mathematics requirements of the four-year college or university to which you plan to transfer to determine the appropriate courses to be taken at MECC, as well as to determine the transferability of electives. Students planning to transfer should schedule an appointment with MECC's Transfer Services Counselor at 276.523.2400 ext. 324.

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PRE-TEACHER EDUCATION
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ENG 111	College Composition I	3	VPT Placement of ENF 3/ENG 111 or ENF 1 or 2
HIS 101	History of Western Civilization I	3	VPT Placement of ENF 3/ENG 111 or ENF 1 or 2
MTH 154	Quantitative Reasoning	3	MTE 1-5
HLT/PED	Health/Physical Education	1	
ITE 119	Information Literacy [2]	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
ENG 112	College Composition II	3	ENG 111
HIS 102	History of Western Civilization II	3	VPT Placement of ENG 111 OR ENF 1, 2, or 3
MTH 245	Statistics I	3	MTH 154(151) or MTH 161(163) with a C or better
PLS 135 or PLS 211	American National Politics or US Government I	3	VPT Placement of ENF 3/ENG 111 or ENF 1 or 2
EDU 200	Introduction to Teaching	3	VPT Placement of ENF 3/ENG 111 or ENF 1 or 2
SECOND YEAR FALL			
	Humanities Elective [1]	3	
HIS 121	United States History	3	VPT Placement of ENF 3/ENG 111 or ENF 1 or 2
ECO 201 or ECO 202	Principles of Economics I or Principles of Economics II [1]	3	VPT Placement of ENF 3/ENG 111 or ENF 1 or 2
BIO 101	General Biology I[1]	4	VPT Placement of ENF 3/ENG 111 or ENF 1 or 2
GEO 210	Introduction to Cultural Geography	3	VPT Placement of ENF 3/ENG 111 or ENF 1 or 2
SECOND YEAR SPRING			
HUM	Elective [1]	3	
BIO 102 or CHM 101	General Biology II or General Chemistry I[1]	4	BIO 102: BIO 101; VPT Placement of ENF 3/ENG 111 or ENF 1 or 2; CHM 101: MTE 1-3, ENF 1 or 2
	College Transfer Elective [1]	3	
ENG	English Survey [1]	3	ENG 112
CST 100	Principles of Public Speaking	3	CST 100: VPT Placement of ENF 3/ENG 111 or ENF 1 or 2
TOTAL PROGRAM CREDITS		**61**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

[1] Select according to requirements of transfer institution. Contact your advisor to determine appropriate course selections. Consult the MECC website for up-to-date guidelines on Teacher Education and for information related to the teaching profession.

[2] All students pursuing an Associate of Arts and Sciences degree must demonstrate information literacy by completing ITE 119, by satisfying the terms of an articulation agreement, or by establishing competency on an approved assessment test.

Associate of Arts & Sciences Degree College/University Transfer

SCIENCE MAJOR (881)

Purpose

The Associate of Arts & Sciences degree programs are designed for students who plan to transfer to a four-year college or university to complete a baccalaureate degree program. The courses in this program are specifically selected for ease of transfer to most four-year colleges and universities. Following the prescribed coursework in this program will result in graduation with the Associate of Arts & Science degree (AA&S). Students should consult with their advisors to ensure that they select general electives that best prepare them for the specific requirements of their intended transfer college or university programs of study. This degree plan is closely aligned to local universities and colleges. Please see your advisor for specific guidelines.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Written Communication: Students will demonstrate clear and effective writing skills in a variety of contexts.
2. Scientific Reasoning: Students will demonstrate understanding of scientific concepts, theories, and basic scientific reasoning.
3. Critical Thinking: Students will exhibit identified critical thinking skills to pose questions, process information, and make decisions.
4. Quantitative Reasoning: Students will compute, analyze, and communicate quantitative data using mathematical and logical methods to solve problems (e.g., tables, graphs, formulas, or other relevant formats).
5. Information Literacy: Students will effectively gather, organize, apply, and evaluate information with an understanding of its origin and the technologies used.
6. Scientific Literacy: Students will demonstrate an understanding of the four pillars of modern biology (The Cell Theory, The Theory of Evolution and Natural Selection, Gene Theory, Homeostasis).

Program Requirements

Entry into the program requires the satisfactory completion of four (4) units of high school English, two (2) units of high school algebra, one (1) unit of geometry, one (1) unit of laboratory science, and one (1) unit of social science or their equivalent. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses. Students are encouraged to check the mathematics requirements of the four-year college or university to which you plan to transfer to determine the appropriate courses to be taken at MECC, as well as to determine the transferability of electives. Students planning to transfer should schedule an appointment with MECC's Transfer Services Counselor at 276.523.2400 ext. 324.

FOR FURTHER INFORMATION, CONTACT:

Dr. Carol Burkart
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276-523-2400 ext. 289

Dr. Harriette Arrington, Dean
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SCIENCE MAJOR
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ENG 111	College Composition I	3	ENF 1 or 2 or VPT placement of ENF 3 or ENG 111
HIS 101	History of Western Civilization I		
or HIS 121	or U.S. History I	3	ENF 1 or 2
MTH 161	Pre-Calculus I or higher MTH	3	MTE 1-9
Science	Biology, Chemistry, or Physics [4]	4	Varies
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
ITE 119	Information Literacy [3]	3	
ENG 112	College Composition II	3	ENG 111
HIS 102	History of Western Civilization II		
or HIS 122	or U.S. History II	3	ENF 1 or 2
Science	Biology, Chemistry, or Physics [4]	4	Varies
MTH 162	Pre-Calculus II or higher MTH	3	MTH 161 (163) with a C or better)
SECOND YEAR FALL			
CST 100	Principles of Public Speaking		
or CST 105	or Oral Communication	3	ENF 1 or 2
ENG	Literature (241, 243, or 251) [1]	3	ENG 112
Science	Biology, Chemistry, or Physics [4]	4	Varies
MTH 263	Calculus I or higher MTH	4	MTH 161(163) and 162(164) with a C or better
	College Transfer Elective	3	See approved list
SECOND YEAR SPRING			
HLT/PED	Health/Physical Education	1	
ENG	Literature (242, 244, or 252) [1]	3	ENG 112
Science	Biology, Chemistry, or Physics [4]	4	Varies
MTH 264	Calculus II or approved MTH	4	MTH 263(273) with a C or better
	Social Science Elective [2]	3	See approved list
TOTAL PROGRAM CREDITS		**62**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

[1] At least one semester of World Literature (ENG 251-252) is recommended.

[2] Students should consult the social science requirements of the institution to which they are transferring. Social sciences include: Economics, Political Science, Psychology, Geography, and Sociology.

[3] All students pursuing an Associate of Arts & Sciences degree must demonstrate information literacy by completing ITE 119, by satisfying the terms of an articulation agreement, or by establishing competency on an approved assessment test.

[4] Students should consult with their academic advisor to select courses required by their desired degree at their transfer institution.

Associate of Arts & Sciences Degree College/University Transfer

SCIENCE MAJOR - ENGINEERING SPECIALIZATION (881-01)

Purpose

The Associate of Arts & Sciences degree programs are designed for students who plan to transfer to a four-year college or university to complete a baccalaureate degree program. The courses in this program are specifically selected for ease of transfer to most four-year colleges and universities. Following the prescribed coursework in this program will result in graduation with the Associate of Arts & Science degree (AA&S). Students should consult with their advisors to ensure that they select general electives that best prepare them for the specific requirements of their intended transfer college or university programs of study.

This degree plan is closely aligned to local universities and colleges and meets the Guaranteed Admission Agreement between Virginia Tech and the Virginia Community College System found at the following link: http://www.admiss.vt.edu/form-pdf/engineeringarticulationagreement.pdf. Please see your advisor for specific guidelines.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Written Communication: Students will demonstrate clear and effective writing skills in a variety of contexts.
2. Scientific Reasoning: Students will demonstrate understanding of scientific concepts, theories, and basic scientific reasoning.
3. Critical Thinking: Students will exhibit identified critical thinking skills to pose questions, process information, and make decisions.
4. Quantitative Reasoning: Students will compute, analyze, and communicate quantitative data using mathematical and logical methods to solve problems (e.g., tables, graphs, formulas, or other relevant formats).
5. Information Literacy: Students will effectively gather, organize, apply, and evaluate information with an understanding of its origin and the technologies used.
6. Engineering Literacy: Students will apply fundamental engineering concepts to solve open-ended problems through a design process.

Program Requirements

Entry into the program requires the satisfactory completion of four (4) units of high school English, two (2) units of high school algebra, one (1) unit of geometry, one (1) unit of laboratory science, and one (1) unit of social science or their equivalent. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses. Students are encouraged to check the mathematics requirements of the four-year college or university to which they plan to transfer to determine the appropriate courses to be taken at MECC, as well as to determine the transferability of electives. Students planning to transfer should schedule an appointment with MECC's Transfer Services Counselor at 276.523.2400 ext. 324.

FOR FURTHER INFORMATION, CONTACT:

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SCIENCE MAJOR - ENGINEERING SPECIALIZATION
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ENG 111	College Composition I	3	ENF 1 or 2 or VPT placement of ENF 3 or ENG 111
HIS 101	History of Western Civilization I		
or HIS 121	or U.S. History I		
	(or approved social science elective[2])	3	VPT placement of ENF 3 or ENG 111
	Approved Social Science Elective [2]	3	Vary per VCCS school
CHM 111	College Chemistry I	4	VPT Placement of ENF 3 or ENG 111; MTE 1-3
MTH 263	Calculus I	4	MTH 161(163) and 162(164) with a C or better
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
ENG 112	College Composition II	3	ENG 111
HIS 102	History of Western Civilization II or		
or HIS 122	U.S. History II		
	(or approved social science elective[2])	3	VPT placement of ENF 3 or ENG 111
EGR 140	Engineering Mechanics – Statics		
	(or approved engineering elective)	3	Vary per VCCS school
MTH 264	Calculus II	4	Calculus I
EGR 120	Introduction to Engineering		
	(or approved engineering elective)	1	Vary per VCCS school
SECOND YEAR FALL			
ENG	Literature (241, 243, or 251) [1]		
	(or approved humanities elective)	3	ENG 111
PHY 241	University Physics I	4	Calculus I
MTH 265	Calculus III	4	MTH 264 with a C or better
EGR 245	Engineering Mechanics - Dynamics		
	(or approved engineering elective)	3	Vary per VCCS school
ITP 132	C++ Programming I [3]	3	ITP 100 (optional); ENF 2 level
HLT/PED	Health/Physical Education	1	
SECOND YEAR SPRING			
ENG	Literature (242, 244, or 252)		
	(or approved humanities elective)	3	ENG 112
MTH 266	Linear Algebra	3	MTH 263(273) with a B or better or 264(274) with a C or better
MTH 267	Differential Equations	3	MTH 264(274) with a C or better
PHY 242	University Physics II	4	PHY 241; Calculus II corequisite
EGR 246	Mechanics of Materials		
	(or approved engineering elective)	3	Vary per VCCS school
TOTAL PROGRAM CREDITS		**66**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

[1] At least one semester of World Literature (ENG 251-252) is recommended.

[2] Students should consult the social science requirements of the institution to which they are transferring. Social sciences include: Economics, Political Science, Psychology, Geography, and Sociology.

[3] All students pursuing an Associate of Arts & Sciences degree must demonstrate information literacy by completing ITE 119, by satisfying the terms of an articulation agreement, or by establishing competency on an approved assessment test.

Associate of Applied Science Degree

ADMINISTRATIVE SUPPORT TECHNOLOGY- MEDICAL OFFICE SPECIALIST (298-02)

Purpose

The Medical Office Specialist program is designed to prepare individuals for administrative support positions in medical offices. Individuals currently employed in medical office positions will also benefit from the program. The program includes courses that provide the knowledge and skills necessary for effective job performance in entry-level medical office administrative support positions.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Written Communications: Students will apply effective writing and formatting techniques to the composition of e-mail messages, interoffice memos, routine letters, goodwill messages, persuasive messages, negative messages, informal reports, proposals, and formal reports.
2. Scientific Reasoning: Students will demonstrate proficiency in recording, analyzing, and reporting data using computerized tools and methods.
3. Critical Thinking: Students will be able to select, analyze, interpret and evaluate a range of source materials.
4. Quantitative Reasoning: Students will be able to explain information presented in graphs, diagrams, and tables.
5. Information Literacy: Students will be able to recognize when information is needed and have the ability to locate, evaluate, and effectively use the needed information.

Employment Opportunities

Medical Office Specialists generally work in hospitals, clinics, and private practice offices, assisting with billing and maintaining patient accounts, and performing general office and routine administrative duties. These professionals exhibit expertise in professional conduct, telephone etiquette, computer applications, filing and records management, patient scheduling, and medical office management.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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ADMINISTRATIVE SUPPORT TECHNOLOGY - MEDICAL OFFICE SPECIALIST PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
AST 101	Keyboarding I	2	
AST 102	Keyboarding II	2	AST 101
AST 107	Editing/Proofreading Skills	3	
ENG 111	College Composition I	3	
HIM 111	Medical Terminology I	3	
HIM 130	Healthcare Information Systems	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
AST 141	Word Processing I	3	AST 101
AST 238	Word Processing Advanced Operations	3	
	ELIGIBLE FOR MICROSOFT OFFICE SPECIALIST WORD CORE & MASTER CERTIFICATIONS UPON COMPLETION OF AST 141 AND AST 238		
HIM 112	Medical Terminology II	3	
AST 137	Records Management	3	
HIM 230	Information Systems & Technology in Healthcare	3	
MTH 132	Business Math	3	
SECOND YEAR FALL			
ACC 115	Applied Accounting	3	
AST 205	Business Communications	3	
AST 243	Office Administration I	3	AST 141
BUS 241	Business Law I	3	
PSY 120	Human Relations	3	
SDV 106	Preparation for Employment	3	
SECOND YEAR SPRING			
AST 108	Telephone Techniques	1	
AST 244	Office Administration II	3	AST 243
AST 271	Medical Office Procedures	3	AST 102
AST 290	Coordinated Internship	3	
	ELIGIBLE FOR CAREER READINESS CERTIFICATIONS WHILE ENROLLED IN AST 290		
	Humanities Elective	3	
	Humanities or Social Science Elective	3	
TOTAL PROGRAM CREDITS		**69**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Career Studies Certificate

CLINICAL RESEARCH COORDINATOR (221-152-08)

Purpose

The Clinical Research Coordinator Certificate is designed to provide entry-level specialization in clinical classification vocabularies for healthcare professionals working under the direction of a Clinical Principal Investigator for Clinical Trials. The Clinical Research Coordinator supports, facilitates and coordinates the daily clinical trial activities and plays a critical role in the conduct of the clinical study. The curriculum provides statistical calculation concepts for data collection, an examination of clinical systems and sources of data collection within a healthcare organization, health information privacy and security compliance and a review of ICD 10 disease classification vocabularies. This program is designed for healthcare professionals working in population health, insurance, compliance auditing, healthcare finance and institutional support for clinical studies. This program is designed as a specialization for the health professional with a bachelors degree in public health or healthcare management.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Apply Diagnosis and Procedure codes according to current professional classification systems guidelines.
2. Identify complete health record according to organizational policies, external regulations and professional standards.
3. Analyze and interpret data and data sources for patient care (management, billing, reports, registries and other databases)
4. Analyze managed care and accountable care strategies and their impact to the delivery of care.

Employment Opportunities

Employers are increasingly looking for clinical trials staff with a developed set of core competencies such as data classification, health informatics and healthcare statistics.

CLINICAL RESEARCH COORDINATOR PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR			
HIM 130	Healthcare Info. Systems	3	
HIM 150	Health Records Management	3	
HIM 215	Health Data Classification	5	
HIM 220	Health Statistics	2	
HIM 253	Health Records Coding	4	
TOTAL PROGRAM CREDITS		**17**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

This career studies certificate is designed for students who have existing training and/or experience in a healthcare field and/or medical coding. Students should consult with an advisor for details.

FOR FURTHER INFORMATION, CONTACT:

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Career Studies Certificate

FUNERAL SERVICES ASSISTANT (221-155-02)

Purpose

Provide students with the general education core curriculum required for admission to John Tyler Community College in the degree program for Funeral Services, which leads to licensure in Virginia as a licensed funeral director. Prepare students for acceptance into a funeral service apprenticeship.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Earn the educational credits required for consideration for admission to the AAS degree program in Funeral Services at John Tyler Community College.
2. Identify social, religious, and cultural norms and mores of grieving individuals and families.
3. Utilize accounting and business practices to be utilized in funeral home and crematory facilities.
4. Attain a basic understanding of the sciences of microbiology, anatomy and physiology, and chemistry needed to perform embalming procedures.
5. Utilize computer programs commonly used in business communications.

Employment Opportunities

Opportunities for students who complete this program include employment at morgues or funeral homes. If approved this employment may be a part of the required 3,000 hour apprenticeship that is required for licensure in Virginia as a funeral director.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

Additional Information

Students may seek admission to the funeral services A.A.S. degree program at JTCC during the semester they will complete all courses in the Funeral Services Assistant curriculum. A student must earn a grade of "C" or better in all courses in this curriculum and have a 2.5 or better cumulative grade point average to seek admission to the funeral services A.A.S. degree program.

FOR FURTHER INFORMATION, CONTACT:

Sarah Clarkston, Health Sciences Advisor
sclarkston@mecc.edu
276.523.2400 ex. 665

Kim Dorton, Dean of Health Sciences
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jstephens@jtcc.edu
804.706.5066

FUNERAL SERVICES ASSISTANT
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST SEMESTER			
SDV 100	College Success Skills I	1	
ACC 211	Principles of Accounting I	3	
BUS 241	Business Law I	3	
ENG 111	College Composition I	3	
FNS 121	Anatomy for Funeral Services I	3	
SECOND SEMESTER			
CHM 110	General Chemistry	3	
REL 231	Religions of the World	3	
PSY 116	Psychology of Death & Dying	3	
BUS 100	Introduction to Business	3	
SOC 200	Principles of Sociology	3	
TOTAL PROGRAM CREDITS		**28**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

In addition to the above courses, JTCC's degree curriculum requires pre-funeral service students to take FNS 110.

Associate of Applied Science Degree

HEALTH INFORMATION MANAGEMENT (152)

Program Description

The Health Information Management (HIM) degree provides students the opportunity to gain knowledge and skills required to perform a variety of specialized duties in a non-clinical healthcare setting. Graduates may seek positions as medical records technicians, coders, health information specialists, and similar designations.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Apply Diagnosis and Procedure codes according to current professional classification systems guidelines.
2. Identify complete health record according to organizational policies, external regulations and professional standards.
3. Analyze and interpret data and data sources for patient care (management, billing, reports, registries and other databases)
4. Use current concepts and government regulations to assign policies for data integrity and data exchange standards.
5. Apply healthcare legal terminology to identify the use of legal document, consents for treatment, retention and release of information, privacy and patient rights.
6. Apply confidentiality, privacy and security measures and policies and procedures for internal and external of and exchange to protect electronic health information.
7. Use payment methodologies and systems such as capitation, Prospective Payment Systems, case mix and health insurance policies to evaluate the revenue cycle management process.
8. Use billing processes and procedures such as claims, electronic data exchange, advanced beneficiary notice, charge master, coding and bill reconciliation process to support the reimbursement cycle.
9. Analyze managed care and accountable care organization strategies and their impact to the delivery of care setting
10. Obtain Certified Coding Associate through AHIMA (American Health Information Management Association), Certified Professional Coder through AAPC (American Association of Professional Coders).

Employment Opportunities

HIM graduates will be able to work at acute care hospitals, clinics, behavioral healthcare facilities, hospice, home care, healthcare government agencies, EHR vendors, insurance companies, and Managed Care Organizations. Opportunities for certification include Certified Professional Coder (CPC) and Certified Coding Associate (CCA).

Program Requirements

Students entering the HIM program must meet the College's general admissions requirements, as well as program specific admission requirements which include:

- Completion of the Health Information Management Application for Admission packet, including a letter of intent and criminal background check.
- Students are required to take English and mathematics placement tests. Developmental classes in these areas may be required.
- Students may receive college credit for verified on-the-job experience.
- Courses taken out of suggested sequence must have the approval of the program advisor.

FOR FURTHER INFORMATION, CONTACT:

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nblankenbecler@mecc.edu
276.523.2400 ext. 241

Tommy Clements, Dean
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Clinical Affiliation Agreement for HIM Internship

The Health Information Management Program has clinical affiliation agreements with clinical agencies to ensure student safety. If students cannot comply with these contractual requirements, they will not be able to participate in clinical experiences and will be asked to withdraw from the program. General guidelines follow:

- Clinical agencies reserve the right to dismiss a student from their agency at any time with due cause. This will be done with advance notice, except in an emergency.
- Published policies of the clinical agency must be followed. Each student must successfully complete an orientation program prior to participating in activities at any clinical facility.
- Clinical facilities requires that all students have documentation of ability to perform the physical demands required in direct patient care activities.
- Immunizations must be current. A flu vaccine may be required.
- Students release clinical agencies, its agents and employees from any liability for personal injury or death, or damage to personal property arising from the use of the clinical agency's facilities.
- Proof of HIPAA and CPR Certification must be provided.
- Clinical facilities require a criminal background check and drug screen clearance as a condition for student placement.

HEALTH INFORMATION MANAGEMENT
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
NAS 171	Human Anatomy & Physiology I	4	
ENG 111	College Composition I	3	
HIT 130	Intro to Computer Systems for Health Info Technology	3	
HIM 113	Medical Term. & Disease Processes I	3	
HIM 260	Pharmacology for HIM	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
HIM 114	Medical Term. & Disease Processes II	3	
	Guided General Education Elective	3	
HIM 150	Health Records Management	3	
HIM 265	Facility Based Coding	3	
HIM 253	Health Records Coding	4	
SDV 106	Preparation for Employment	1	
	ELIGIBLE FOR CAREER READINESS CERTIFICATIONS WHILE ENROLLED IN SDV 106		
SECOND YEAR FALL			
HIM 149	Introduction to Medical Practice	2	
HIM 151	Reimbursement Issues in Medical Practice Mgmt.	2	
HIM 249	Supervision & Management Practices in HIM	3	
HIM 254	Advanced Coding & Reimbursements	4	HIM 253
	ELIGIBLE FOR AMERICAN PROFESSIONAL CODING CERTIFICATION (AAPC) CERTIFIED PROFESSIONAL CODER (CPC)		
HIM 251	Clinical Practice I	3	
	Humanities Elective	3	
SECOND YEAR SPRING			
HIM 220	Health Statistics	3	
HIM 226	Legal Aspects of Health Record Documentation	2	
HIM 229	Performance Improvement in Healthcare	2	
HIM 233	Electronic Health Records Management	3	HIT 130
HIM 252	Clinical Practice II	3	
	ELIGIBLE FOR AMERICAN HEALTH INFORMATION MANAGEMENT ASSOCIATION (AHIMA) CERTIFIED CODING ASSOCIATE (CCA)		
	Social Science Elective	3	
TOTAL PROGRAM CREDITS		**67**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Certificate

MEDICAL OFFICE CODING AND PROCEDURES (285)

Purpose

The Medical Office Coding & Procedures Certificate is designed to provide entry-level skills for individuals preparing for employment in the healthcare industry as medical coders, medical office assistants, medical secretaries, insurance billing specialists, or medical records technicians. The curriculum provides basics in diagnostic/procedural and medical terminology and coding, medical office procedures and the reporting of data to third party payers, insurance companies and government agencies for reimbursement.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Apply Diagnosis and Procedure codes according to current professional classification systems guidelines.
2. Identify complete health record according to organizational policies, external regulations and professional standards.
3. Analyze and interpret data and data sources for patient care (management, billing, reports, registries and other databases)
4. Analyze managed care and accountable care strategies and their impact to the delivery of care.
5. Obtain Certified Professional Coder (CPC) through AAPC (American Association of Professional Coders).

Employment Opportunities

Students will have the opportunity to gain the knowledge and skills required to perform a variety of specialized duties with competence and understanding. The Medical Office Coding & Procedures certificate will prepare students for a wide range of entry-level positions in healthcare facilities such as clinics, private medical practices, and hospitals.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

FOR FURTHER INFORMATION, CONTACT:

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MEDICAL OFFICE CODING AND PROCEDURES
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
AST 101	Keyboarding I	2	
AST 102	Keyboarding II	2	AST 101
AST 108	Telephone Techniques	1	
ENG 111	College Composition I	3	
HIM 111	Medical Terminology I	3	
HIM 130	Healthcare Information Systems	3	
HIM 150	Health Records Management	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
AST 141	Word Processing I	3	AST 101
	ELIGIBLE FOR MICROSOFT OFFICE WORD CORE CERTIFICATION UPON COMPLETION OF AST 141		
AST 271	Medical Office Procedures	3	
HIM 112	Medical Terminology II	3	
HIM 253	Health Records Coding	4	
HIM 265	Facility Based Medical Coding	3	
SECOND YEAR FALL			
AST 215	Medical Keyboarding	3	AST 102
HIM 254	Advanced Coding & Reimbursement	4	HIM 253
	ELIGIBLE FOR CPC (CERTIFIED PROFESSIONAL CODER), CCA (CERTIFIED CODING ASSOCIATE), AND CBCS (CERTIFIED BILLING AND CODING SPECIALIST) EXAMS UPON COMPLETION OF HIM 253 AND HIM 254		
MTH 141	Business Math	3	
NAS 171	Human Anatomy and Physiology	4	
	Social Science or Humanities Elective	3	
TOTAL PROGRAM CREDITS		**51**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Career Studies Certificate

MEDICAL RECEPTIONIST & TRANSCRIPTIONIST (221-286-01)

Purpose

The Medical Receptionist & Transcriptionist Career Studies Certificate prepares individuals for entry-level responsibilities in the health care environment. Emphasis is placed on developing skills in transcribing and interpreting the physician's dictation into diagnostic test results, operative reports, referral letters, and other medical documents; greeting and scheduling patients and visitors, using patient accounting software for patient record creation/maintenance, and contemporary medical office procedures.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Demonstrate medical office procedures to include preparation of medical documents, records management, and patient scheduling.
2. Develop proficiency in transcribing business and medical documents.

Employment Opportunities

The Medical Receptionist & Transcriptionist Career Studies Certificate prepares students for entry-level support positions in hospitals, clinics, and private practice offices.

MEDICAL RECEPTIONIST & TRANSCRIPTIONIST PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
AST 101	Keyboarding I	2	
AST 102	Keyboarding II	2	AST 101
AST 107	Editing/Proofreading	3	
HIM 111	Medical Terminology I	3	
HIM 130	Healthcare Information Systems	3	
	ELIGIBLE FOR HDM HIPAA CERTIFICATION		
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
AST 215	Medical Keyboarding	3	AST 102
AST 271	Medical Office Procedures	3	AST 102 Co-requisite
HIM 112	Medical Terminology II	3	
AST 240	Machine Transcription	3	AST 102 Co-requisite
AST 108	Telephone Techniques	1	
MKT 170	Customer Service	1	
TOTAL PROGRAM CREDITS		**28**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Career Studies Certificate

MEDICAL RECORDS TECHNICIAN (221-285-73)

Purpose

This career studies certificate prepares individuals for entry-level responsibilities in the medical records/healthcare environment. Emphasis is placed on developing skills in accurately compiling and maintaining medical records of patients, reviewing medical records for completeness, using patient accounting and application software.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Understand the definition, benefits, standards, functionality, confidentiality and security, and impact of the electronic health record (EHR) in the healthcare environment.
2. Understand the basic concepts of computer software to include operating systems, word processing, spreadsheets, database, and presentation software applications as they are used in the healthcare environment.

Employment Opportunities

Medical Records Technicians generally work in entry-level support positions in hospitals, clinics, and private practice offices.

MEDICAL RECORDS TECHNICIAN PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
HIM 113	Med. Term. & Disease Processes I	3	
HIM 130	Healthcare Info. Systems	3	
HIM 150	Health Records Management	3	
SDV 100	College Success Skills	1	
	AST or HIM Electives	3	
FIRST YEAR SPRING			
HIM 226	Legal Aspects of Health Record Doc.	2	
HIM 230	Info. Systems & Tech. in Healthcare	3	
HIM 233	Electronic Health Records Mgmt.	3	
	AST or HIM Electives	6	

ELIGIBLE FOR NATIONAL HEALTHCAREER ASSOCIATION CERTIFIED ELECTRONIC HEALTH RECORDS SPECIALIST CERTIFICATION

TOTAL PROGRAM CREDITS **27**

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Career Studies Certificate

PHARMACY TECHNICIAN (221-190-07)

Purpose

Provide students with advanced theory and laboratory experience required for employment in acute care and retail pharmacies. Prepare students to take the Virginia and/or national certification exam(s). Provide employers with competent, entry-level pharmacy technicians. Provide students with exposure to the latest technology and devices being used.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Understand and describe hospital and institutional practice and formulary guidelines.
2. Describe proper procedures for repackaging and dispensing medications. Describe the functions associated with drug information centers, specialty services such as intravenous admixture and total parenteral nutrition, satellite pharmacies, and clinical pharmacists working in an institution. Maintain a floor stock.
3. Describe and apply Standard (universal) Procedures, aseptic technique, sterilization, contamination, and the germ theory of disease. Identify parenterals, appropriate means of disposing hazardous agents, and procedures to follow in the event of exposure. Identify an automated dispensing device.
4. Describe the characteristics of intravenous solutions including solubility, osmolality, osmolarity, and pH. Describe equipment and supplies necessary for preparing intravenous parenterals. Identify the components of an intravenous administration set, syringe, needle, vial, and ampule. Perform conversions between Fahrenheit and Celsius and the reverse, calculate molecular weight, specific gravity, and intravenous administration rates.
5. Understand the extent and effect of medical errors on patient health and safety. Describe how and to what extent medication errors contribute to medical errors. Identify, define, and determine how to reduce types of medical errors. Describe root cause analysis of medication errors. Identify error reporting systems.
6. Understand the importance of human relations, communications, ethics, attitude, and appearance. Describe policies and procedures. Understand the importance of not dispensing medical or pharmaceutical advice.
7. Describe and abide by the confidentiality laws in healthcare. Understand and practice within the scope of duties of a pharmacy technician. Maintain professionalism at all times.
8. Create a resume that stands out in the job market and increases employability. Understand Virginia registration and licensure, Virginia certification, and national certifications, and the benefits of each. Identify recertification requirements.

Employment Opportunities

Job opportunities for Pharmacy Technicians include retail pharmacies, acute care facilities , long term care facilities, and pharmaceutical companies.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

Additional Information

Students must take or test out of MTE 1 and 2 prior to enrolling in HLT 262. All courses may be completed online with the exception of one hybrid course, HLT 105. Completion of HLT 261 and HLT 262 with a grade of "C" or better is required for eligibility to take the pharmacy technician certification exam.

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PHARMACY TECHNICIAN
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST SEMESTER			
SDV 100	College Success Skills	1	
HIM 111	Medical Terminology I	3	
HLT 145	Ethics/Healthcare Personnel	2	
HLT 261	Basic Pharmacy I	3	
HLT 262	Basic Pharmacy II	3	HLT 261
	ELIGIBLE TO TAKE THE NATIONAL PTCB (PHARMACY TECHNICIAN CERTIFICATION BOARD) EXAM		
SECOND SEMESTER			
HIM 112	Medical Terminology II	3	
HLT 105	CPR	1	
	STUDENT RECEIVES AHA BLS FOR HEALTHCARE PROVIDER CPR CERTIFICATION		
HLT 121	Introduction to Drug Use and Abuse	3	
ITE 119	Information Literacy	3	
MTH 133	Mathematics for Health Professionals	3	
TOTAL PROGRAM CREDITS		**25**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

HLT 119, HLT 100, EMS 100, EMS 111, or EMS 101 may be substituted for HLT 105. ITE 100, ITE 115, or HIM 130 may be substituted for ITE 119. HLT 261 and 262 should be taken in the same semester, 261 in the first 8-week session and 262 in the last 8-week session. A grade of "C" or better is a pre-requisite to HLT 262.

Career Studies Certificate

SPORTS MEDICINE ASSISTANT (TBA)

Purpose

Provide students with theory and laboratory experience desired for coaching, athletic, and personal training activities. Provide students with a credential to supplement applications to competitive physician assistant, athletic trainer, and sports medicine programs.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Demonstrate workplace readiness skills.
2. Obtain first aid and CPR certification.
3. Perform and interpret a nutritional analysis.
4. Explain the integumentary, musculoskeletal, respiratory, cardiovascular, nervous, immune, and endocrine systems.
5. Use appropriate medical terminology.
6. Describe the principles associated with the planes and axes of human movement.
7. Differentiate between many common injuries and illnesses.
8. Explain the legal and ethical significance of documentation and record-keeping in sports medicine.
9. Demonstrate ethical behavior within the sports medicine profession.
10. Perform a fitness assessment.
11. Explain the basic principles and importance of strength training.
12. Develop a safe strengthening program for health individuals.
13. Identify factors related to equipment safety.
14. Manage an injury within the scope of first aid.
15. Utilize various methods to perform and analyze body composition.

Employment Opportunities

Job opportunities may include coaching assistance, fitness and wellness centers. Volunteer opportunities may include coaching, athletic, and personal training activities.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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SPORTS MEDICINE ASSISTANT
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FALL SEMESTER			
SDV 100	Student Success Skills	1	
SAF 130	Safety - OSHA 10 (Healthcare Track)	1	
HLT 145	Ethics/Healthcare Personnel	2	
HLT 130	Nutrition & Diet Therapy	2	
HLT 100	First Aid & CPR	3	
STUDENTS EARN AHA BLS FOR HEALTHCARE PROVIDER CPR CERTIFICATION, AHA HEARTSAVER OSHA BLOODBORNE PATHOGEN CERTIFICATION, OSHA 10 SAFETY CERTIFICATION, AND AHA HEARTSAVER FIRST AID CERTIFICATION			
SPRING SEMESTER			
HLT 141	Introduction to Medical Terminology	1	
HLT 125	Anatomy & Physiology for Exercise Science	3	
HLT 156	Health Care for Athletic Injuries	3	
	Approved Elective	3	
TOTAL PROGRAM CREDITS		**19**	

Notes and Additional Curriculum Options
Course substitutions may be available. Please see your advisor.

Career Studies Certificate

OLD TIME MUSIC (221-529-30)

Purpose

The purpose of the Career Studies Certificate in Old Time Music is to allow students to expand or enhance their knowledge and performance skills in cultural heritage music and explore this field as a career option. This certificate is not intended for transfer.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Discuss and write about the culture and history of the central Appalachian region with more extensive knowledge on the heritage music.
2. Perform proficiently on one instrument of their choice and have a beginning level of proficiency on a second instrument of their choice.
3. Set up and operate the equipment for providing audio sound and recording as well as assist with the establishment and operation of a heritage music event.
4. Teach heritage music to others in private and group lessons.
5. Explore cultural heritage as a career option for music education and performance as well as event management.

Employment Opportunities

- Assist with heritage festival and event planning and management.
- Perform heritage music.
- Teach private and group music lessons.
- Work in a music store.

OLD TIME MUSIC
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
SDV 107	Career Education	1	
HUM 153	Introduction to Appalachian Studies	3	
MUS 133	Recording Systems Services I	3	
	Elective Instrument Class	3	
	Elective	3	
MUS 150	Old Time String Band	3	
FIRST YEAR SPRING			
TRV 295	Festival Management	3	
	Elective	3	
	Elective Instrument Class	3	
MUS 290	Internship in Recording	3	
TOTAL PROGRAM CREDITS		**28**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

FOR FURTHER INFORMATION, CONTACT:

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Associate of Applied Science Degree

ADMINISTRATIVE SUPPORT TECHNOLOGY (298)

Purpose

The Administrative Support Technology major is designed to prepare individuals for positions in an office and/or to update skills of office workers. The program provides the knowledge and skills necessary for effective job performance in office administrative support positions. In addition, the program helps prepare individuals for MCAS (Microsoft Certified Application Specialist) and CAP (Certified Administrative Professional).

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Written Communications: Students will apply effective writing and formatting techniques to the composition of e-mail messages, interoffice memos, routine letters, goodwill messages, persuasive messages, negative messages, informal reports, proposals, and formal reports.
2. Scientific Reasoning: Students will demonstrate proficiency in recording, analyzing, and reporting data using computerized tools and methods.
3. Critical Thinking: Students will be able to select, analyze, interpret and evaluate a range of source materials.
4. Quantitative Reasoning: Students will be able to explain information presented in graphs, diagrams, and tables.
5. Information Literacy: Students will be able to recognize when information is needed and have the ability to locate, evaluate, and effectively use the needed information.

Employment Opportunities

Administrative Support Technologists work in office support positions and perform a variety of office tasks. Employers seek workers who have excellent skills in computer applications, communications, decision making, critical thinking, and team-work. Job opportunities as executive secretaries, administrative assistants, receptionists, word processing specialists, and office technicians are available locally, regionally, and nationally.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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ADMINISTRATIVE SUPPORT TECHNOLOGY
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ACC 115	Applied Accounting	3	
AST 101	Keyboarding I	2	
AST 102	Keyboarding II	2	AST 101
AST 107	Editing/Proofreading Skills	3	
ENG 111	College Composition	3	
ITE 119	Information Literacy	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
ACC 215	Computerized Accounting	3	ACC 105, 111/211, or 115
	ELIGIBLE FOR QUICKBOOKS ONLINE CERTIFIED USER CERTIFICATION UPON COMPLETION OF ACC 215		
AST 137	Records Management	3	
AST 141	Word Processing I	3	AST 101
AST 238	Word Processing Advanced Operations	3	
	ELIGIBLE FOR MICROSOFT OFFICE SPECIALIST WORD CERTIFICATION CORE & MASTER UPON COMPLETION OF AST 141 AND AST 238		
MTH 141	Business Mathematics I	3	
AST 108	Telephone Techniques	1	
SECOND YEAR FALL			
AST 205	Business Communications	3	
AST 236	Specialized Software Applications	3	
AST 243	Office Administration I	3	AST 141
BUS 205	Human Resource Management	3	
BUS 241	Business Law I	3	
SDV 106	Preparation for Employment	1	
SECOND YEAR SPRING			
AST 244	Office Administration II	3	AST 243
AST 290	Coordinated Internship	3	
	ELIGIBLE FOR CAREER READINESS CERTIFICATIONS WHILE ENROLLED IN AST 290		
	Humanities Elective	3	
	Humanities or Social Science Elective	3	
MKT 170	Customer Service	1	
PSY 120	Human Relations	3	
TOTAL PROGRAM CREDITS		**65**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Certificate

CLERICAL ASSISTANT (218)

Purpose

The Clerical Assistant Certificate is designed to prepare students for entry-level positions in an office. Keyboarding, filing, word processing, administrative support technology, and general education courses provide individuals with the knowledge and skills necessary for performance in today's automated office.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Demonstrate the fundamental accounting concepts and principles that governs the accounting cycle.
2. Create documents, spreadsheets, databases, and presentations using integrated software.
3. Develop keyboarding and document production skills with emphasis on preparation of business documents.
4. Develop business communication skills essential in proofreading and editing business documents.

Employment Opportunities

Business, industry, and government offices have job opportunities for entry-level office workers in the immediate area and throughout the nation.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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CLERICAL ASSISTANT
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ACC 115	Applied Accounting	3	
AST 101	Keyboarding I	2	
AST 102	Keyboarding II	2	AST 101
AST 107	Editing/Proofreading Skills	3	
AST 236	Specialized Software Apps.	3	AST 101
ENG 111	College Composition I	3	
MKT 170	Customer Service	1	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
AST 108	Telephone Techniques	1	
AST 137	Records Management	3	
AST 141	Word Processing I	3	AST 101
AST 238	Word Processing Adv. Oper.	3	
	ELIGIBLE FOR MICROSOFT OFFICE SPECIALIST WORD CORE & MASTER CERTIFICATIONS UPON COMPLETION OF AST 141 AND AST 238		
MTH 132	Business Math	3	
PSY 120	Human Relations	3	
SDV 106	Preparation for Employment	1	
	ELIGIBLE FOR CAREER READINESS CERTIFICATION WHILE ENROLLED IN SDV 106		
TOTAL PROGRAM CREDITS		**35**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Career Studies Certificate

HELP DESK SUPPORT (221-299-09)

Purpose

The Help Desk Support Career Studies Certificate prepares students to fill entry-level information technology positions which require the employee to provide technical assistance and support related to computer systems, software, and hardware in person, over the web, and/or over the phone.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Perform help desk functions to address end-user needs.
2. Use proper computer system and networking terminology. Install, configure, and deploy desktop operating systems.
3. Troubleshoot/debug, maintain, repair and upgrade client desktop systems.
4. Use proper help desk support principles and practices while interacting with customers.
5. Document actions taken to resolve customer problems and or issues.
6. Use computer systems and networks in a responsible and ethical manner.
7. Work as an effective member of a work group.

Employment Opportunities

Opportunities for employment in the immediate area and throughout the nation abound for students trained in computers. Students who complete the certificate will be qualified to work as Help Desk Technicians in a variety of businesses and organizations.

HELP DESK SUPPORT PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR			
ITE 140	Spreadsheet Software	3	
ITN 110	Client Operating System	3	
ITN 171	Unix	3	
ITE 150	Desktop Database Software	3	
ITN 101	Introduction to Network Concepts	3	
BUS 106	Security Awareness for Managers	3	
ITN 107	Personal Computer Hardware & Troubleshooting	3	
ITE 182	User Support/Help Desk Principles	3	
TOTAL PROGRAM CREDITS		**24**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Certificate

LEGAL OFFICE ASSISTING (261)

Purpose

The Legal Office Assisting Certificate is designed to prepare students for an entry-level position in a legal office setting. Students will gain basic skills in word processing, telephone reception, ethics, and professionalism. Specialized legal courses are complemented by several general education courses. The Legal Office Assisting Certificate is a milestone for students who plan to pursue the Paralegal Studies Associate of Applied Science degree.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Demonstrate effective communication skills through interaction, in person, by telephone, in written and electronic correspondence, with lawyers, clients, witnesses, court personnel, co-workers, and other business professionals, using appropriate legal terminology and formatting.
2. Utilize strong organizational skills necessary to sort through and manage information, manually and electronically.
3. Apply ethical and professional principles that guide paralegal conduct, including but not limited to: unauthorized practice of law and lawyer supervision of non-lawyers; confidentiality and attorney-client privilege; conflicts of interests; competency; handling of client funds; office decorum and dress.
4. Integrate appropriate skills to work effectively and positively with others beginning on the first day of a new job.

Employment Opportunities

The Legal Office Assisting program prepares students for a wide range of entry-level positions in the legal/paraprofessional field.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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LEGAL OFFICE ASSISTING
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
AST 101	Keyboarding I	2	
AST 108	Telephone Techniques	1	
BUS 241	Business Law I	3	
ENG 111	College Composition	3	
LGL 120	Legal Terminology	3	
LGL 110	Intro. to Law & the Legal Assist.	3	
LGL 200	Ethics for the Paralegal	1	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
MKT 170	Customer Service	1	
AST 141	Word Processing I	3	AST 101
LGL 115	Real Estate Law	3	
LGL 117	Family Law	3	
MTH 141	Business Mathematics I	3	
TOTAL PROGRAM CREDITS		**30**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Associate of Applied Science Degree

MANAGEMENT (212)

Purpose

The Associate of Applied Science Degree in Management prepares students for employment in entry-level management positions. Business managers are essential to all organizations. Managers plan, organize, lead, and control activities to effectively and efficiently accomplish organizational goals. The successful manager has excellent communication and interpersonal skills; demonstrates team-building and leadership abilities; exercises initiative, self-discipline, and good judgment; and possesses basic computer skills. The curriculum consists of courses in business management, computer applications, marketing, and general education.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Explain the major concepts in the functional areas of accounting, marketing, finance, and management.
2. Evaluate the legal, social, and economic environments of business.
3. Describe the global environment of business.
4. Describe and explain the ethical obligations and responsibilities of business.
5. Apply decision-support tools to business decision-making.
6. Construct and present effective oral and written forms of professional communication.
7. Apply knowledge of business concepts and functions in an integrated manner.
8. Use management processes in an applied organization or business situation to manage people, processes, and resources within a diverse organization.
9. Apply knowledge of key marketing concepts in an integrated manner to analyze marketing decisions in a dynamic business environment.

Employment Opportunities

The Management major is designed for students who seek employment in business or who wish to operate their own business upon completion of the program. Salaries of managers vary depending on the level of responsibility, length of service, and the size of the business.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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MANAGEMENT
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ACC 115	Applied Accounting	3	
BUS 200	Principles of Management	3	
ENG 111	College Composition I	3	
ITE 119	Information Literacy	3	
MKT 170	Customer Service	1	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
ACC 215	Computerized Accounting--QuickBooks Online	3	ACC 115
	ELIGIBLE FOR QUICKBOOKS ONLINE PRO-ADVISOR CERTIFICATION UPON COMPLETION OF ACC 215		
BUS 202	Applied Management Principles	3	BUS 200
ECO 120	Survey of Economics	3	
ITE 140	Spreadsheet Software	3	
PSY 120	Human Relations	3	
MTH 132	Business Math	3	
SECOND YEAR FALL			
BUS 205	Human Resource Management	3	
BUS 241	Business Law I	3	
ITE 150	Desktop Database Software	3	
MKT 100	Principles of Marketing	3	
AST 205	Business Communications	3	
SDV 106	Preparation for Employment	1	
	ELIGIBLE FOR CAREER READINESS CERTIFICATIONS WHILE ENROLLED IN SDV 106		
SECOND YEAR SPRING			
BUS 111	Principles of Supervision	3	
BUS 165	Small Business Management	3	
BUS 290	Coordinated Internship	3	
BUS 285	Current Issues in Management	3	
MKT 284	Social Media Marketing	3	
	Humanities Elective	3	
TOTAL PROGRAM CREDITS		**66**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Associate of Applied Science Degree

PARALEGAL STUDIES (260)

Purpose

The Paralegal Studies Degree is designed to prepare individuals to work in a legal office environment. The program provides training in the general processes of American law and the knowledge/skills to perform specific legal tasks under the supervision of an attorney. In addition, the program helps prepare individuals for paralegal certification exams.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Demonstrate effective communication skills through interaction, in person, by telephone, in written and electronic correspondence, with lawyers, clients, witnesses, court personnel, co-workers, and other business professionals, using appropriate legal terminology and formatting.
2. Perform basic legal research and analysis necessary to identify legal issues and potential solutions to legal problems.
3. Utilize strong organizational skills necessary to sort through and manage information, manually and electronically.
4. Apply principles of writing and rules of English grammar to all writing tasks, to be able to prepare legal documents commonly used in the profession.
5. Demonstrate competent understanding of computer literacy and proficiency required in the typical law office.
6. Apply ethical and professional principles that guide paralegal conduct, including but not limited to: unauthorized practice of law and lawyer supervision of non-lawyers; confidentiality and attorney-client privilege; conflicts of interests; competency; handling of client funds; office decorum and dress.
7. Integrate appropriate skills to work effectively and positively with others beginning on the first day of a new job.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

Opportunities for Employment

Students will have opportunity to gain the knowledge and skills required to perform a variety of specialized duties with competence and understanding. The Paralegal Studies Degree will help prepare students for a wide range of entry-level positions as a paraprofessional in the legal field with opportunities in law firms, mortgage companies, banks, title insurance companies, private corporations, and government and administrative agencies.

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PARALEGAL STUDIES
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
AST 101	Keyboarding I	2	
AST 108	Telephone Techniques	1	
BUS 241	Business Law I	3	
ENG 111	College Composition	3	
LGL 120	Legal Terminology	3	
LGL 110	Intro. to Law & the Legal Assistant	3	
LGL 200	Ethics for the Paralegal	1	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
MKT 170	Customer Service	1	
AST 141	Word Processing I	3	AST 101
	ELIGIBLE FOR MICROSOFT OFFICE SPECIALIST WORD CORE EXAM UPON COMPLETION OF AST 141		
LGL 115	Real Estate Law	3	
LGL 117	Family Law	3	
LGL 127	Legal Research & Writing	3	
MTH 132	Business Math	3	
	ELIGIBLE FOR LEGAL OFFICE ASSISTING CERTIFICATE (261)		
SECOND YEAR FALL			
AST 205	Business Communications	3	
ITE 119	Information Literacy	3	
LGL 216	Trial Preparation & Discovery Practice	3	
LGL 218	Criminal Law	3	
PLS 211	U.S. Government I	3	
SDV 106	Preparation for Employment	1	
	ELIGIBLE FOR CAREER READINESS CERTIFICATIONS WHILE ENROLLED IN SDV 106		
SECOND YEAR SPRING			
AST 265	Legal Office Procedures I	3	ENG 111; AST 141
LGL 225	Estate Planning & Probate	3	
LGL 230	Legal Transactions	3	ENG 111
LGL 290	Coordinated Internship	3	
	ELIGIBLE FOR CAREER READINESS CERTIFICATIONS WHILE ENROLLED IN LGL 290		
PSY 120	Human Relations	3	
	Humanities Elective	3	
TOTAL PROGRAM CREDITS		**67**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Career Studies Certificate

REAL ESTATE (221-273-01)

Purpose

The Real Estate Career Studies Certificate is designed to provide a high quality, cost effective, accessible education to those seeking to enter the real estate business, and to those who are seeking licensure as a real estate agent.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Understand common types of real estate transactions and conveyances such as deeds, contracts, leases, and deeds of trust.
2. Understand real estate principles such as study of titles, estates, land descriptions, contracts, legal instruments, financing, and management of real estate.
3. Demonstrate basic computer concepts, Internet skills, and the use of Microsoft Office.

Employment Opportunities

Employment opportunites are available with local real estate agencies, as well as agencies throughout the state for students who obtain licensure as a real estate agent in Virginia.

REAL ESTATE
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ITE 119	Information Literacy	3	
MKT 100	Principles of Marketing	3	
GIS 200	Geographical Info. Systems	4	ITE 215/Instructor Approval
REA 217	Real Estate Finance	3	
FIRST YEAR SPRING			
REA 100	Principles of Real Estate	4	
	ELIGIBLE FOR VIRGINIA REALTOR LICENSING EXAM UPON COMPLETION OF REA 100		
LGL 115	Real Estate Law	3	
MKT 284	Social Media Marketing	3	
AST 150	Desktop Publishing	1	
AST 155	Intro. to Desktop Information Management	1	
AST 160	Learning the Internet for Bus.	1	
TOTAL PROGRAM CREDITS		**26**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Career Studies Certificate

SMALL BUSINESS MANAGEMENT (221-212-24)

Purpose

The Small Business Management Career Studies Certificate provides training in the effective and efficient management and operation of a small business. The curriculum includes coursework in accounting, management, marketing, and finance.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Explain the major concepts in the functional areas of accounting, marketing, finance, and management.
2. Describe and explain the ethical obligations and responsibilities of business.
3. Apply knowledge of business concepts and functions in an integrated manner.

Employment Opportunities

The Small Business Management Career Studies Certificate is designed for students who seek an entry-level managerial position in a small business or who wish to operate their own small business.

SMALL BUSINESS MANAGEMENT PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ACC 115	Applied Accounting	3	
BUS 205	Human Resource Management	3	
FIN 107	Personal Finance	3	
MKT 100	Principles of Marketing	3	
MKT 170	Customer Service Management	1	
FIRST YEAR SPRING			
ACC 124	Payroll Accounting	3	
ACC 134	Small Business Taxes	3	
ACC 215	Computerized Accounting	3	ACC 115
	ELIGIBLE FOR QUICKBOOKS ONLINE CERTIFIED USER CERTIFICATION UPON COMPLETION OF ACC 215		
BUS 165	Small Business Management	3	
MKT 284	Social Media Marketing	3	
TOTAL PROGRAM CREDITS		**28**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Certificate

AIR CONDITIONING AND REFRIGERATION (903)

Purpose

The Air Conditioning and Refrigeration program is designed to provide the job skills necessary for employment a beginning electrician or as a HVAC service technician. Special emphasis is placed upon the installation and repairing of residential and commercial air conditioning units. The program is offered during the day and on a part time basis in the evening.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Follow safe working practice.
2. Apply the principles and strategies used to troubleshoot and service air condition systems, heat pump systems, electric furnaces, fossil fuel furnace, and system controls.
3. Recognize components and design principles used in air distribution systems.
4. Use mathematical skills to solve problems in electrical, heating, and air conditioning systems.
5. Apply troubleshooting skills to diagnose and repair the following: air distribution, heating systems, cooling systems, and system controls.
6. Use tools and equipment required for repairing, testing, and installation of air conditioning systems, refrigeration systems, heat pump systems, electric furnace, fossil fuel furnace, and system controls.
5. Handle refrigerant by completing EPA Section 608 Type II Technician Certification.
6. Perform basic business, employability and customer service skills as related to the HVA/C-R industry.

Opportunities for Employment

The certificate in Air Conditioning and Refrigeration is designed to prepare graduates for occupations such as Air Conditioning Service & Installation technicians or beginning electricians.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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AIR CONDITIONING AND REFRIGERATION PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
AIR 111	AC & Refrigeration Controls I	3	
AIR 121	AC & Refrigeration I	4	
ELE 140	Basic Electricity & Machinery	4	
		ELIGIBLE FOR NCCER LEVEL 1 ELECTRICAL	
ELE 131	National Electric Code I	3	
BLD 110	Introduction to Construction	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
AIR 112	AC & Refrigeration Controls II	3	
AIR 154	Heating Systems I	3	
ENE 230	Geothermal Applications I	4	`
ELE 156	Electrical Control Systems I	3	ELE 140
ELE 110	Home Electric Power	3	
FIRST YEAR SUMMER			
AIR 116	Duct Construction and Maintenance	2	
ENG 111	College Composition	3	
AIR 281	Energy Management I	3	
		ELIGIBLE FOR NCCER LEVEL HVAC 1	
	Social Science Elective	3	
MTH 111	Basic Technical Math	3	
TOTAL PROGRAM CREDITS		**48**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Career Studies Certificate

AIR CONDITIONING AND REFRIGERATION (221-903-10)

Purpose

The Air Conditioning and Refrigeration Career Studies Certificate is designed to provide the job skills necessary for employment aa an entry level HVAC service technician. Special emphasis is placed upon the installation and repairing of residential and commercial air conditioning units.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Follow industry safety practices.
2. Apply the principles and strategies used for the installation of air condition systems, heat pump systems, electric furnace, fossil fuel furnace, and system controls.
3. Apply the principles and strategies used to troubleshoot and service air condition systems, heat pump systems, electric furnaces, fossil fuel furnace, and system controls.
4. Recognize components and design principles used in air distribution systems.
5. Use mathematical skills to solve problems in electrical, heating, and air conditioning systems.
6. Apply troubleshooting skills to diagnose and repair the following: air distribution, heating systems, cooling systems, and system controls.
7. Use tools and equipment required for repairing, testing, and installation of air conditioning systems, Refrigeration systems, heat pump systems, electric furnace, fossil fuel furnace, and system controls.
8. Handle refrigerant by completing EPA Section 608 Type II Technician Certification.

Opportunities for Employment

The certificate in Air Conditioning and refrigeration is designed to prepare graduates for occupations such as Air Conditioning Service & Installation technicians.

AIR CONDITIONING AND REFRIGERATION PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
AIR 111	AC & Refrigeration Controls I	3	
AIR 121	AC & Refrigeration I	4	
FIRST YEAR SPRING			
AIR 112	AC & Refrigeration Controls II	3	
AIR 154	Heating Systems I	3	
ENE 230	Geothermal Applications I	4	
	ELIGIBLE FOR NCCER HVAC1LEVEL 1 CERTIFICATION		
TOTAL PROGRAM CREDITS		**17**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Career Studies Certificate

BUILDING CONSTRUCTION - ELECTRICAL EMPHASIS (221-989-01)

Purpose

The Building Construction Electrical program is designed to provide the job skills necessary for employment as an entry level electrical technician. Special emphasis is placed upon the installation and repairing of residential electrical distribution Systems.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Demonstrate the knowledge of safe working practices and procedures.
2. Demonstrate and understand reading of blue prints and building design, and schematic.
3. Demonstrate and understand troubleshooting techniques.
4. Gain knowledge of the National Electrical Code.
5. Gain an NCCER certification in Electrical and Core curriculums.
6. Gain the ability to Communicate and demonstrate good working practices with other workers.
7. Demonstrate common wiring methods of residential standards.

Opportunities for Employment

The certificate in Construction - Electrical Emphasis is designed to prepare graduates for occupations such as electrician's helpers.

Program Requirements

Participants must be enrolled in Plugged- In program.

CONSTRUCTION - ELECTRICAL EMPHASIS PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
SDV 100	College Success Skills	1	
BLD 105	Shop Practices & Procedures	2	
BLD 110	Intro to Construction	3	
MTH 111	Basic Technical Math	3	
ENG 100	Basic Occupational English	3	
FIRST YEAR SPRING			
ELE 131	National Electric Code I	3	
ELE 110	Home Electric Power	3	
ELE 140	Basic Electricity & Machinery	4	
	ELIGIBLE FOR NCCER CONSTRUCTION CORE AND ELECTRICAL LEVEL 1 CERTIFICATION		
TOTAL PROGRAM CREDITS		**22**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor. *This program is not offered continuously and enrollment is by permission only.*

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Career Studies Certificate

CONSTRUCTION (221-989-10)

Purpose

The Building Construction career studies program is designed to provide the job skills necessary for employment as an entry level construction technician. This program is designed to be flexible and meet industry needs as they arise. It is not offered continuously and admission is by permission only.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Follow industry safety practices
2. Apply basic construction math to solve problems
3. Read and interpret basic blueprints
4. Use basic computer skills
5. Apply technical construction skill particular to the concentration

CONSTRUCTION
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ITE 100	Intro. to Information systems	3	
MTH 111	Basic Technical Math	3	MTH 103, MTH 105 & 106, MTH 151, MTH 163
SDV 100	College Success Skills	1	
BLD 105	Shop Practices and Procedures	2	
BLD 110	Intro to Construction	3	
FIRST YEAR SPRING			
ENG 100	Basic Occupational English		
or ENG 111	or English Composition	3	
BLD 195	Topics - Communication & Employability	1	
	ELIGIBLE FOR NCCER CONSTRUCTION CORE CERTIFICATION		
BLD 195	Topics in Construction	3	
BLD 295	Topics in Construction	3	
BLD 197	Co-operative Education	3	
TOTAL PROGRAM CREDITS		**25**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Career Studies Certificate

ELECTRICITY (221-941-01)

Purpose

The Electricity Career Studies Certificate is designed to provide the job skills necessary for employment as an entry level electrical technician. Special emphasis is placed upon the installation and repairing of residential electrical distribution Systems.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Demonstrate the knowledge of safe working practices and procedures.
2. Demonstrate and understand reading of blue prints and building design, and schematic.
3. Demonstrate and understand troubleshooting techniques.
4. Gain knowledge of the National Electrical Code.
5. Gain an NCCER certification in Electrical, and Core curriculum.
6. Gain the ability to Communicate and demonstrate good working practices with other workers.
7. Demonstrate common wiring methods of residential standards.

Employment Opportunities

The career studies certificate in Electricity is designed to prepare graduates for occupations such as electricians helpers and entry level electricians.

ELECTRICITY
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
BLD 110	Introduction to Construction	3	
	ELIGIBLE FOR NCCER CONSTRUCTION CORE CERTIFICATION		
ELE 131	National Electrical Code I	3	
ELE 140	Basic Electrical Machinery	4	
ELE 156	Electrical Control Systems	3	ELE 140
FIRST YEAR SPRING			
ELE 110	Home Electric Power	3	
	ELIGIBLE FOR NCCER ELECTRICAL LEVEL 1 CERTIFICATION		
	Technical Elective	3	
TOTAL PROGRAM CREDITS		**19**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Associate of Applied Science Degree

ENERGY TECHNOLOGY (820)

Purpose

Graduates of the Energy Technology program are trained in the job skills necessary for employment as an entry level HVAC/Electrical technician in both commercial and residential fields. These fields include leading edge technologies such as geothermal, solar PV installation, and solar thermal systems. Graduates will find employment in various industries and service sectors as HVAC technicians or electricians.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Demonstrate the knowledge of safe working practices and procedures.
2. Demonstrate and understand reading of blue prints and building design, and schematic.
3. Demonstrate and understand the installation of HVAC units for both residential and commercial, Loads and calculations.
4. Demonstrate and understand troubleshooting techniques.
5. Gain knowledge of the National Electrical Code.
6. Gain an NCCER certification in Electrical and start the HVAC NCCER.
7. Gain the ability to Communicate and demonstrate good working practices with other workers.

Employment Opportunities

Graduates can expect find as entry level or apprentice HVAC technicians or electricians in the residential or commercial construction industries or as industrial maintenance technicians.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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ENERGY TECHNOLOGY
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
AIR 121	Air Conditioning & Refrigeration I	4	
ITE 119	Information Literacy	3	
ELE 131	National Electrical Code I	3	
ELE 140	Basic Electrical Machinery	4	
	STUDENTS ARE ELIGIBLE FOR NCCER LEVEL 1 ELECTRICAL		
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
ENG 111	College Composition	3	
ELE 132	National Electrical Code II	3	ELE 131
ELE 156	Electrical Control Systems	3	ELE 140
ENE 230	Geothermal Applications	4	ELE 140
MTH 111	Applied Technical Math	3	
HLT 105	CPR	1	
SECOND YEAR FALL			
AIR 281	Energy Management I	3	
AIR 205	Hydronic and Zoning	4	
ENE 110	Solar Power Installations	4	ELE 140
AIR 282	Energy Management II	2	
	ELIGIBLE FOR BUILDING PERFORMANCE INSTITUTE LEVEL 1		
ENE 105	Solar Thermal Active and Passive Technology	4	
SECOND YEAR SPRING			
IND 137	Team Concepts and Problem Solving	3	
ELE 239	Programmable Controllers	3	ELE 140, ELE 156
ELE 298	Seminar & Project	3	
PHY 131	Applied Physics	3	MTH 103, 111
	Social Science Elective	3	
	Humanities Elective	3	
TOTAL PROGRAM CREDITS		**67**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Associate of Applied Science Degree

ENERGY TECHNOLOGY - ELECTRICAL SPECIALIZATION (820-01)

Purpose

Graduates of the Energy Technology Electrical Specialization program are trained in the job skills necessary for employment as an entry level electrician in both commercial and residential fields. Course work includes a strong emphasis in electrical technology with related courses in computer applications, quality control, teamwork and communication.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Demonstrate the knowledge of safe working practices and procedures.
2. Demonstrate and understand reading of blue prints and building design, and schematic.
3. Demonstrate and understand the installation of HVAC units for both residential and commercial.
4. Demonstrate and understand troubleshooting techniques.
5. Gain knowledge of the National Electrical Code.
6. Gain an NCCER certification in Electrical, Core and HVAC.
7. Gain the ability to communicate and demonstrate good working practices with other workers.
8. Demonstrate common wiring methods of both residential and commercial standards.

Employment Opportunities

Graduates can expect to find positions as entry level or apprentice electricians in various industries and service sectors.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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ENERGY TECHNOLOGY - ELECTRICAL SPECIALIZATION
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
BLD 110	Introduction to Construction	3	
	STUDENTS ARE ELIGIBLE FOR NCCER CONSTRUCTION CORE		
AIR 111	Air Conditioning & Refrigeration I	3	
AIR 281	Energy Management I	3	
ELE 131	National Electrical Code I	3	
ELE 140	Basic Electrical Machinery	4	
	STUDENTS ARE ELIGIBLE FOR NCCER LEVEL I ELECTRICAL		
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
MTH 111	Basic Technical Math	3	
ELE 132	National Electrical Code II	3	
ELE 156	Electrical Control Systems	3	ELE 140
AIR 112	Air Conditioning & Refrigeration	3	
ITE 119	Information Literacy	3	
ELE 110	Home Electric Power	3	
SECOND YEAR FALL			
ETR 218	Industrial Electronics Circuits	4	ELE 140 or Div. Approval
ENE 110	Solar Power Installations	4	ELE 140
IND 137	Team Concepts and Problem Solving	3	
ENG 111	College Composition I	3	
PHY 131	Applied Physics	3	
HLT 105	CPR	1	
SECOND YEAR SPRING			
ELE 239	Programmable Controllers	3	ELE 140, 156
ELE 298	Seminar & Project	3	
	Technical Elective	3	
	Humanities Elective	3	
	Social Science Elective	3	
TOTAL PROGRAM CREDITS		**68**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Career Studies Certificate

ENERGY TECHNOLOGY - ELECTRICAL EMPHASIS (221-820-05)

Purpose

Graduates of the Energy Technology Electrical Emphasis Career Studies program are trained in the job skills necessary for employment as an entry level Electrical technician in both commercial and residential fields. These fields include leading edge technologies such as Solar PV and storage.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Demonstrate the knowledge of safe working practices and procedures.
2. Demonstrate and understand reading of blue prints and building design, and schematic.
3. Demonstrate and understand troubleshooting techniques.
4. Gain knowledge of the National Electrical Code.
5. Gain an NCCER certification in Electrical.
6. Gain the ability to Communicate and demonstrate good working practices with other workers.
7. Demonstrate common wiring methods of both residential and commercial standards.
8. Demonstrate wiring methods for alternative energy using solar electricity.

Employment Opportunities

Graduates will find employment in various industries and service sectors as entry level electrical technicians.

Program Requirements

Students may receive college credit for verified on-the-job experience.

ENERGY TECHNOLOGY - ELECTRICAL EMPHASIS PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
AIR 281	Energy Management I	3	
ELE 131	National Electrical Code I	3	
ELE 140	Basic Electrical Machinery	4	
	ELIGIBLE FOR NCCER ELECTRICAL LEVEL 1 CERTIFICATION		
SDV 100	College Success Skills	1	
MTH 111	Basic Technical Math	3	
FIRST YEAR SPRING			
ELE 156	Electrical Control Systems	3	ELE 140
ELE 239	Programmable Controllers	3	ELE 140, 156
ENE 110	Solar Power Installations	4	ELE 140
TOTAL PROGRAM CREDITS		**24**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Career Studies Certificate

ENERGY TECHNOLOGY - HVAC EMPHASIS (221-820-06)

Purpose

Graduates of the Energy Technology HVAC Emphasis Career Studies program are trained in the job skills necessary for employment as an entry level HVAC technician in both commercial and residential fields. These fields include leading edge technologies such as geothermal, and solar thermal systems.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Demonstrate the knowledge of safe working practices and procedures.
2. Demonstrate and understand reading of blue prints and building design, and schematic.
3. Demonstrate and understand the installation of HVAC units for both residential and commercial, Loads and calculations.
4. Demonstrate and understand troubleshooting technique.
5. Gain an NCCER certification in Electrical and start the HVAC NCCER.
6. Gain the ability to Communicate and demonstrate good working practices with other workers.

Employment Opportunities

Graduates will find employment in various industries and service sectors as HVAC technicians

Program Requirements

Students may receive college credit for verified on-the-job experience.

ENERGY TECHNOLOGY - HVAC EMPHASIS PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
SDV 100	College Success Skills	1	
ENE 230	Geothermal Applications	4	
ENE 105	Solar Therm. Active/Passive Tech.	4	
AIR 205	Hydronic and Zoning	4	
AIR 281	Energy Management I	3	
FIRST YEAR SPRING			
MTH 111	Basic Technical Math	3	
ELE 140	Basic Electrical Machinery	4	
AIR 282	Energy Management II	2	
TOTAL PROGRAM CREDITS		**25**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Associate of Applied Science Degree

WELDING (718-02)

Purpose

Graduates of the Technical Studies Welding program are trained in the job skills necessary to enter employment as apprentice welders immediately upon completion of the curriculum. Course work includes a strong emphasis in welding technology with related courses in computer applications, quality control, teamwork, and communication.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Follow industry safety practices.
2. Cut metals using (oxyfuel and plasma arc) cutting processes .
3. Weld in (flat, horizontal, vertical and overhead positions) using the basic welding processes of SMAW, GMAW, FCAW and GTAW..
4. Apply basic math and measurement.
5. Read and interpret basic blueprints and welding symbols to fabricate components.

Employment Opportunities

Graduates can expect to find employment as welders in a variety of industries including mining, manufacturing and construction.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

Additional Information

Up to 15 hours credit may be given for documented previous work experience and certifications. Although the program is designed to educate and train welders entering the industry, the program offers increased skill levels and knowledge for experienced welders as well. Welders seeking a degree or desiring promotion to upper level managerial positions should also take advantage of this excellent opportunity.

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WELDING
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
	Math/Science Elective	3	
WEL 100	Fundamentals of Welding	3	
WEL 115	Arc and Gas Welding	3	
WEL 123	Arc Welding I	3	
DRF 160	Machine Blueprint Reading	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
IND 137	Team Concepts	3	
ENG 111	College Composition I	3	
	Humanities Elective	3	
	Social Science Elective	3	
WEL 124	Arc Welding II	3	
SUMMER			
WEL 129	Pipefitting & Fabrication	3	
WEL 126	Pipe Welding	3	
SECOND YEAR FALL			
ITE 119	Information Literacy	3	
IND 101	Quality Assurance Tech	3	
DRF 200	Survey of Computer-Aided Drafting	4	
	Social Science Elective	3	
ENG 115	Technical Writing	3	
SECOND YEAR SPRING			
	Personal Development Elective	1	
	Welding Elective or Equivalent Experience	3	
	Welding Elective or Equivalent Experience	3	
	Welding Elective or Equivalent Experience	3	
	Welding Elective or Equivalent Experience	3	

ELIGIBLE FOR NCCER WELDING LEVEL 1 CERTIFICATION

TOTAL PROGRAM CREDITS **66**

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Certificate

WELDING (995)

Purpose

Certificate in Welding is designed to prepare students for employment as apprentice welders immediately upon completion of the curriculum. Technical courses and shop experience comprise the majority of the program. The remaining courses are in related subjects and general education.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Follow industry safety practices.
2. Cut metals using (oxyfuel and plasma arc) cutting processes.
3. Weld in (flat, horizontal, vertical and overhead positions) using the basic welding processes of SMAW, GMAW, FCAW and GTAW.
4. Apply basic math and measurement.
5. Read and interpret basic blueprints and welding symbols to fabricate components.

Opportunities for Employment

The Certificate in Welding will prepare students for the occupational goal of welder.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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WELDING
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
MTH 111	Basic Technical Math	3	
SDV 100	College Success Skills	1	
WEL 100	Fundamentals of Welding	3	
WEL 110	Welding Process	3	
WEL 115	Arc and Gas Welding	3	
WEL 123	Arc Welding I	3	
FIRST YEAR SPRING			
ENG 111	College Composition I	3	
WEL 124	Arc Welding II	3	
WEL 130	Inert Gas Welding	3	
WEL 141	Welder Qualification Tests	3	
WEL 198	Seminar and Project	3	
	Social Science Elective	3	
FIRST YEAR SUMMER			
WEL 126	Pipe Welding I	3	
WEL 160	Semi-Automatic Welding	3	
WEL 129	Pipefitting & Fabrication	3	

STUDENTS ARE ELIGIBLE FOR NCCER CONSTRUCTION CORE AND WELDING LEVEL ONE CERTIFICATION

TOTAL PROGRAM CREDITS **43**

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Career Studies Certificate

WELDING OPERATOR (221-995-01)

Purpose

The Welding Operator career studies certificate is designed to prepare students for employment as apprentice welders immediately upon completion of the curriculum. Technical courses and shop experience comprise the program.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Follow industry safety practices.
2. Cut metals using oxyfuel and plasma arc cutting processes.
3. Weld in flat, horizontal, vertical and overhead positions using the basic welding processes of SMAW, GMAW, FCAW and GTAW.
4. Read and interpret basic blueprints and welding symbols to fabricate components .

Employment Opportunities

The Career Studies Certificate in Welding will prepare students for the occupational goal of an entry level welder.

Program Requirements

Articulation course credits may be earned by the validation of welding skills learned in a vocational school or on-the-job experience.

WELDING OPERATOR PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
WEL 110	Welding Processes	3	
WEL 115	Arc and Gas Welding	3	
WEL 100	Fundamentals of Welding	3	
WEL 123	Arc Welding I	3	
FIRST YEAR SPRING			
WEL 124	Arc Welding II	3	
WEL 141	Welder Qualification Tests	3	
WEL 130	Inert Gas Welding	3	
WEL 198	Seminar and Project	3	
	ELIGIBLE FOR NCCER CORE AND WELDING LEVEL ONE CERTIFICATIOn		
TOTAL PROGRAM CREDITS		**24**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Career Studies Certificate

EARLY CHILDHOOD DEVELOPMENT (221-636-04)

Purpose

This program is designed as an introduction to the field. The curriculum is designed to provide entry-level competencies documented by Virginia's Competencies for Early Childhood Professionals. These competencies include health, safety and nutrition, understanding child growth and development, appropriate child observation and assessment, partnering with families and community, learning environment, effective interactions, program management, teacher qualifications and professional development curriculum. Additionally, this program provides the necessary CPR training for young children desired by many employment agencies.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Recognize the stages of early childhood development.
2. Utilize the arts and other creative developmentally appropriate activities for young children.
3. Use developmentally appropriate practices to plan activities to stimulate the logical thinking skills in children
4. Create positive ways to build self-esteem in children and to help them develop self-control.

Employment Opportunities

Upon completion of the Early Childhood Career Studies Certificate graduates possess the knowledge and skills required for entry into Early Childhood Educational facilities such as, Head Start and Early Head Start programs, family day care homes, and preschool programs. Graduates will also be equipped to apply for a minimum of two Early Childhood Endorsements from the Virginia Department of Social Services (VDSS).

Program Requirements

The Code of Virginia restricts who may legally provide child care in Virginia. Most agencies require a criminal background check through the Virginia State Police Department and a child abuse or neglect check through the Virginia Department of Social Services before employment involving contact with young children. In addition, some child care facilities and schools may require proof of specific vaccinations and health related tests for students to complete their supervised workplace experiences.

EARLY CHILDHOOD DEVELOPMENT PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST SEMESTER			
CHD 120	Intro. to Early Childhood Education	3	ENF 2 requisite
CHD 145	Teaching Art, Music and Movement to Children	3	
CHD 205	Guiding the Behavior of Children	3	
HLT 135 or EDU 235	Child Health and Nutrition Education	3	
CHD 165	Observation and Participation in Early Childhood Settings	3	
HLT Elec.	HLT 105 Cardiopulmonary Resuscitation	1	
TOTAL PROGRAM CREDITS		**16**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Career Studies Certificate

EARLY CHILDHOOD DEVELOPMENT - INFANT & TODDLER OPTION (221-636-05)

Purpose

This program is designed as an introduction to the field, specializing in infant and toddler care. The curriculum is designed to provide entry-level competencies documented by Virginia's Competencies for Early Childhood Professionals. These competencies include health, safety and nutrition, understanding child growth and development, appropriate child observation and assessment, partnering with families and community, learning environment, effective interactions, program management, teacher qualifications and professional development curriculum. Additionally, this program provides the necessary CPR training for young children desired by many employment agencies.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Recognize the stages of early childhood development.
2. Understand regulatory standards for infant/ toddler caregiving.
3. Use developmentally appropriate curriculum and learning environment for very young children.
4. Create positive ways to build self-esteem in children and to help them develop self-control.

Employment Opportunities

Upon completion of the Early Childhood Career Studies Certificate graduates possess the knowledge and skills required for entry into Early Childhood Educational facilities such as, Head Start and Early Head Start programs, family day care homes, and preschool programs. Graduates will also be equipped to apply for a minimum of two Early Childhood Endorsements from the Virginia Department of Social Services (VDSS).

Program Requirements

The Code of Virginia restricts who may legally provide child care in Virginia. Most agencies require a criminal background check through the Virginia State Police Department and a child abuse or neglect check through the Virginia Department of Social Services before employment involving contact with young children. In addition, some child care facilities and schools may require proof of specific vaccinations and health related tests for students to complete their supervised workplace experiences.

EARLY CHILDHOOD DEVELOPMENT - INFANT & TODDLER OPTION PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST SEMESTER			
CHD 120	Intro. to Early Childhood Education	3	ENF 2 requisite
CHD 164	Working with Infants & Toddlers in an Inclusive Setting	3	ENF 2 requisite
CHD 165	Observation and Participation in Early Childhood Settings	3	ENF 2 requisite
CHD 166	Infant and Toddler Programs	3	ENF 2 requisite
HLT 135			
or EDU 235	Child Health and Nutrition Education	3	ENF 2 requisite
HLT Elec.	HLT 105 Cardiopulmonary Resuscitation	1	
TOTAL PROGRAM CREDITS		**16**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Associate of Applied Science Degree

COMPUTER-AIDED DRAFTING AND DESIGN TECHNOLOGY (729)

Purpose

Classes offered in the Computer-Aided Drafting & Design Technology major program will introduce you to architectural and mechanical design that will prepare you to work as a drafts person. Approximately one-half of the courses taken are in drafting and design technology. Students will also take courses in related areas and general education. MECC utilizes CADD operations extensively. Micro-Station PC, AutoCADD, and 3D software programs are available. These programs are the most widely used in industry in our service area. Computer-Aided Drafting & Design Technology major classes are available to evening students.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Demonstrate knowledge of drafting conventions including symbols, linetypes, lineweights, and dimension styles as applicable to the design discipline.
2. Perform and support estimating functions including quantity, types, costs, labor requirements, equipment, and scheduling functions.
3. Demonstrate the ability to develop and/or interpret 2D and 3D projects to solve common engineering problems.
4. Illustrate the engineering design process from the transformation of an idea or need into a completed project.
5. Develop quantitative reasoning skills useful in working in industry.
6. Collaborate with team members to identify and evaluate solutions to engineering problems.

Employment Opportunities

Successful completion of the Associate of Applied Science degree in the Computer-Aided Drafting & Design Technology major will prepare you for employment in areas in drafting and design including: mechanical, architectural, structural steel, and civil engineering.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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COMPUTER-AIDED DRAFTING AND DESIGN TECHNOLOGY PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ENG 111	College Composition	3	
	Technical Elective	3	
DRF 160	Machine Blueprint Reading	3	
DRF 200	Survey of Computer-Aided Drafting (CAD)	4	
MTH 111	Basic Technical Math	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
DRF 233	Computer-Aided Drafting III	3	
	Technical Elective	3	
DRF 201	Computer-Aided Drafting and Design I	3	DRF 200
IND 137	Team Concepts	3	
MEC 113	Materials and Processes of Industry	4	
SECOND YEAR FALL			
CIV 171	Surveying I	3	MTH 103 or Ready for 111
DRF 231	Computer-Aided Drafting I	3	
IND 101	Quality Assurance Technology	3	
PHY 131	Applied Physics	3	
	Social Science Elective	3	See approved Social Science list
	Personal Development Elective	1	
SECOND YEAR SPRING			
CIV 172	Surveying II	3	
DRF 232	Computer-Aided Drafting and Design II	3	DRF 231
DRF 298	Seminar and Project in Drafting		
or DRF 290	or Coordinated Internship	4	
MEC 122	3D Printing for Engineering Design	3	
	Humanities Elective	3	See approved Humanities list
TOTAL PROGRAM CREDITS		**65**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Associate of Applied Science Degree

COMPUTER-AIDED DRAFTING AND DESIGN TECHNOLOGY - MAPPING SPECIALIZATION (729-01)

Purpose

Classes offered in the Computer-Aided Drafting & Design Technology Mapping Specialization major program will introduce you to mechanical and civil design that will prepare you to work as a drafts person. Approximately one-half of the courses taken are in drafting, design & mapping technology. Students will also take courses in related areas and general education. MECC utilizes CADD operations extensively. Micro-Station PC, AutoCADD, and 3D software programs are available. These programs are the most widely used in industry in our service area. Computer-Aided Drafting & Design Technology major classes are available to evening students.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Demonstrate knowledge of drafting conventions including symbols, linetypes, lineweights, and dimension styles as applicable to the design discipline.
2. Perform and support estimating functions including quantity, types, costs, labor requirements, equipment, and scheduling functions.
3. Demonstrate the ability to develop and/or interpret 2D and 3D projects to solve common engineering problems
4. Illustrate the engineering design process from the transformation of an idea or need into a completed project.
5. Develop quantitative reasoning skills useful in working in industry.
6. Collaborate with team members to identify and evaluate solutions to engineering problems.

Employment Opportunities

Successful completion of the Associate of Applied Science degree in the Computer-Aided Drafting & Design Technology major will prepare you for employment in areas in drafting and design including: mechanical, architectural, structural steel, and civil engineering.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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COMPUTER-AIDED DRAFTING AND DESIGN TECHNOLOGY - MAPPING SPECIALIZATION PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ENG 111	College Composition	3	
GIS 200	GEO Info Systems I	4	
DRF 160	Machine Blueprint Reading	3	
	Personal Development Elective	1	
DRF 200	Survey of Computer-Aided Drafting (CAD)	4	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
DRF 233	Computer-Aided Drafting III	3	
GIS 201	GEO Info Systems II	4	
DRF 201	Computer-Aided Drafting and Design I	3	
MEC 113	Materials and Processes of Industry	4	
MTH 111	Basic Technical Math	3	
SECOND YEAR FALL			
CIV 171	Surveying I	3	MTH 103 or Ready for 111
DRF 231	Computer-Aided Drafting I	3	
PHY 131	Applied Physics	3	
	Social Science Elective	3	See approved Social Science list
IND 137	Team Concepts & Problem Solving	3	
SECOND YEAR SPRING			
CIV 172	Surveying II	3	
DRF 232	Computer-Aided Drafting and Design II	3	
DRF 298	Seminar and Project in Drafting		
or DRF 290	or Coordinated Internship	4	
GIS 210	Understanding GEO Data	4	
	Humanities Elective	3	See approved Humanities list
TOTAL PROGRAM CREDITS		**65**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Career Studies Certificate

3-D DESIGN (221-727-09)

Purpose

Classes offered in the 3D Design Technology program will introduce you to design techniques that will prepare you to work in engineering technology fields. All of the courses taken are in the computer-aided drafting and design curriculum. Students will take courses in related areas only. MECC utilizes CADD operations extensively. 3D software programs are available and used extensively. These programs are the most widely used in industry in our service area. 3D Design classes are available to day and evening students.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Practice industry recognized safety practices and guidelines, including the use of personal protective equipment in an industrial operating environment.
2. Demonstrate knowledge of drafting conventions including symbols, linetypes, lineweights, and dimension styles as applicable to the design discipline.
3. Demonstrate the ability to develop and /or interpret 2D and 3D projects to solve common engineering problems.
4. Illustrate the engineering design process from the transformation of an idea or need into a completed project.

3-D DESIGN
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
DRF 160	Blueprint Reading	3	
DRF 200	Survey of Computer-Aided Drafting	4	
GIS 200	Geographic Info. Systems I	4	ITE 115/119 or equiv.
FIRST YEAR SPRING			
DRF 233	Computer-Aided Drafting III	3	
MEC 122	3D Printing for Engineering Design	3	
TOTAL PROGRAM CREDITS		**17**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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121

Career Studies Certificate

GEOGRAPHIC INFORMATION SYSTEMS (221-719-71)

Purpose

Classes offered in the Geographic Information Systems (GIS) program will provide a hands-on approach to education that will prepare you to work with GIS in the field. The program will prepare you to address advanced topics in problem solving, decision-making, modeling, programming, and data management, using 2D and 3D data.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Comprehend fundamental concepts and practices of Geographic Information Systems (GIS).
2. Demonstrate organizational skills in file and database management.
3. Give examples of interdisciplinary applications of Geospatial Information Science and Technology.
4. Apply GIS analysis to address geospatial problems and/or research questions.
5. Manipulate data for the purpose of analysis, presentation, and decision-making.
6. Recognize, gather, and process data for GIS.
7. Display, create and analyze 2D and 3D spatial GIS data.

Employment Opportunities

Successful completion of the career studies certificate in Geographic Information Systems (GIS) will prepare you for employment in areas of GIS including: GIS Technician, Civil and Municipal Planning, Cartographic Design, GIS Analysis, Computer modeling.

GEOGRAPHIC INFORMATION SYSTEMS PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
GIS 200	Geographical Info. Systems I	4	ITE 115/119 or equiv.
GIS 201	Geographical Info. Systems II	4	ITE 115/119 or equiv.
GIS 205	GIS 3-D Dimensional Analysis	4	ITE 115/119 or equiv.
GIS 210	Understanding Geographical Data	4	ITE 115/119 or equiv.
TOTAL PROGRAM CREDITS		**16**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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122

Associate of Applied Science Degree

ENVIRONMENTAL SCIENCE (828)

Purpose

The Environmental Science student will take course work from a wide array of natural resource offerings. This will prepare the student to work in all areas of environmental science related jobs.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Understand the natural environment and its relationships with human activities.
2. Characterize and analyze human impacts on the environment.
3. Integrate facts, concepts, and methods from multiple disciplines and apply to environmental problems.
4. Acquire practical skills for scientific problem-solving, including familiarity with laboratory and field instrumentation, computer applications, statistical and modeling techniques.
5. Understand and implement scientific research strategies, including collection, management, evaluation, and interpretation of environmental data.
6. Design and evaluate strategies, technologies, and methods for sustainable management of environmental systems and for the remediation or restoration of degraded environments.

Employment Opportunities

The Associate of Applied Science degree program in Environmental Science is designed to prepare students for employment as an Environmental Technician.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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123

ENVIRONMENTAL SCIENCE
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ENG 111	College Composition I	3	
ENV 220	Environmental Problems	3	
FOR 100	Introduction to Forestry	3	
MTH 111	Basic Technical Math	3	
SCT 111	Intro to Environmental & Science Technology I	4	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
GIS 200	Geographical Info Systems	4	ITE 119, 115 or Equiv.
	Humanities Elective	3	
HRT 137	Environmental Factors in Plant Growth	3	
NAS 106	Conservation of Natural Resources	3	
SCT 112	Intro to Environmental & Science Technology II	4	
SECOND YEAR FALL			
AGR 205	Soil Fertility Management	3	
ENV 227	Environmental Law	3	
ENV 230 or GIS 230	GIS: Apps in Environmental Science	3	
ENV 235	Soil Conservation & Spoils	3	
HLT/PED 111	Health/Physical Education	1	
	Technical Elective	3	
SECOND YEAR SPRING			
AGR 208	Insect Control	3	
CIV 246	Water Resource Tech	3	
ENV 290	Coordinated Internship in Environmental Science	4	
ENV 211	Sanitary Biology & Chemistry	3	
	Social Science Elective	3	
TOTAL PROGRAM CREDITS		**66**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

124

Associate of Applied Science Degree

ENVIRONMENTAL SCIENCE - WATER/WASTEWATER SPECIALIZATION (828-02)

Purpose

The Water/Wastewater Major student will take course work from a wide array of natural resource offerings. These courses stress the practical application of scientific principles to the treatment of water for human consumption and for protection of water resources.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Possess the knowledge and skills necessary to succeed in an entry-level position in a water/wastewater treatment facility.
2. Become knowledgeable about processes and equipment used in water treatment, water distribution, wastewater collection and wastewater treatment.
3. Demonstrate knowledge of the procedures related to water and wastewater treatment processes.
4. Demonstrate basic knowledge of microbiology and chemistry applicable to water and wastewater treatment.
5. Demonstrate knowledge of the principles of hydraulic systems as related to water and wastewater systems.
6. Analyze and solve operational problems and perform mathematical calculations related to water and wastewater treatment processes.
7. Describe major concepts, theories, and classic research studies in environmental science.
8. Operate a treatment plant in a respectable and ethical manner as dictated by state and federal regulations.

Employment Opportunities

The Associate of Applied Science degree program in Environmental Science is designed to prepare students for employment in municipal and industrial treatment facilities and laboratories. State agencies and private companies also employ MECC Environmental Science graduates. As environmental concerns continue to make news headlines, the job market continues to expand.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

Additional Information

Distance Education Option: The entire Water/Wastewater Program can be completed through distance education courses. All technical courses are available through at water.mecc.edu. All support courses are available through web-based instruction. Opportunities for Advancement: Coursework in the Water/Wastewater major prepares students for the state certification exam required for a water or wastewater operator's license. This license is essential for career advancement. Students will also be able to keep abreast of technological advances in the field of environmental science, thus furthering career opportunities in this and related fields.

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125

ENVIRONMENTAL SCIENCE - WATER/WASTEWATER SPECIALIZATION PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ENG 111	College Composition I	3	
ENV 110	Intro to Water-Wastewater Technology	3	
ENV 220	Environmental Problems	3	
MTH 111	Basic Technical Math	3	
SCT 111	Intro to Environmental & Science Technology I	4	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
ENV 115	Water Purification	3	
	Humanities Elective	3	
NAS 106	Conservation of Natural Resources	3	
SCT 112	Intro to Environmental & Science Tech. II	4	
	Technical Elective	3	
SECOND YEAR FALL			
ENV 108	Environmental Microbiology	3	
ENV 149	Wastewater Treatment Plant Operation	3	
ENV 227	Environmental Law	3	
CIV 246	Water Resource Technology Experience	3	
	Social Science Elective	3	
	Health or PE Elective	1	
SECOND YEAR SPRING			
CIV 240	Fluid Mechanics/Hydraulics	3	
	Elective	3	
ENV 211	Sanitary Biology and Chemistry	3	
ENV 290	Coordinated Internship in Environmental Science	4	
	Social Science Elective	3	
TOTAL PROGRAM CREDITS		**65**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

126

Associate of Applied Science Degree

FOREST SCIENCE (839)

Purpose

Forest Science students will take course work from a wide array of natural resource offerings. This will prepare the student to work in all phases of forest science from monitoring, managing, and protecting forest areas, harvesting timber, and producing primary and secondary wood products.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Apply knowledge of mathematics, and natural and management sciences to challenges related to timber management and forest operations in an efficient, safe, and environmentally and socially acceptable manner.
2. Recognize environmental conditions, such as those involving soil, water, and aesthetics, that impact forest operations and to design procedures that minimize adverse environmental impacts.
3. Design and conduct timber management tasks including silvicultural prescriptions, harvest scheduling, and timber appraisal, procurement and marketing.
4. Communicate effectively in a professional setting and to function productively in multi-disciplinary teams.
5. Demonstrate an understanding of how forest operations impact society in local, regional, and global contexts.
6. Apply business skills and modern forestry tools necessary for professional practice.

Employment Opportunities

The Associate of Applied Science degree program in Forest Science is designed to prepare students for employment as a forestry technician, lumber grader and other technical/supervisory positions within the forestry and timber industries.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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127

FOREST SCIENCE
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ENG 111	College Composition I	3	
FOR 100	Introduction to Forestry	3	
FOR 115	Dendrology	4	
IND 137	Team Concepts and Problem Solving	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
GIS 200	Geographical Info Systems	4	ITE 119, 115 or Equiv.
	Humanities Elective	3	See approved Humanities list
MTH 111	Basic Technical Math	3	
NAS 106	Conservation of Natural Resources	3	
	Technical Elective	3	
SUMMER			
FOR 215	Applied Silviculture	4	FOR 100 or 115
FOR 237	Wildlife Ecology	3	
SECOND YEAR FALL			
AGR 205	Soil Fertility & Management	3	
ENV 227	Environmental Law	3	
CIV 271	Surveying I	3	
GIS 230	GIS: Apps in Environmental Sciences	3	
SECOND YEAR SPRING			
AGR 208	Insect Control	3	
CIV 172	Surveying II	3	
or FOR 201	Forest Mensuration	4	
FOR 245	Forest Products I	2	
FOR 290	Coordinated Internship in Forestry	4	
	HLT or PED	1	
	Social Science Elective	3	See approved Social Science list
TOTAL PROGRAM CREDITS		**65**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

128

Career Studies Certificate

GEOGRAPHIC INFORMATION SYSTEMS (221-719-71)

Purpose

Classes offered in the Geographic Information Systems (GIS) program will provide a hands-on approach to education that will prepare you to work with GIS in the field. The program will prepare you to address advanced topics in problem solving, decision-making, modeling, programming, and data management, using 2D and 3D data.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Comprehend fundamental concepts and practices of Geographic Information Systems (GIS).
2. Demonstrate organizational skills in file and database management.
3. Give examples of interdisciplinary applications of Geospatial Information Science and Technology.
4. Apply GIS analysis to address geospatial problems and/or research questions.
5. Manipulate data for the purpose of analysis, presentation, and decision-making.
6. Recognize, gather, and process data for GIS.
7. Display, create and analyze 2D and 3D spatial GIS data.

Employment Opportunities

Successful completion of the career studies certificate in Geographic Information Systems (GIS) will prepare you for employment in areas of GIS including: GIS Technician, Civil and Municipal Planning, Cartographic Design, GIS Analysis, Computer modeling.

GEOGRAPHIC INFORMATION SYSTEMS PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
GIS 200	Geographical Info. Systems I	4	ITE 115/119 or equiv.
GIS 201	Geographical Info. Systems II	4	ITE 115/119 or equiv.
GIS 205	GIS 3-D Dimensional Analysis	4	ITE 115/119 or equiv.
GIS 210	Understanding Geographical Data	4	ITE 115/119 or equiv.
TOTAL PROGRAM CREDITS		**16**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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129

Career Studies Certificate

WASTEWATER PLANT OPERATOR (221-828-68)

Purpose
This program is intended for apprentices in wastewater plants. See faculty advisor for additional information or visit water.mecc.edu.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Possess the knowledge and skills necessary to succeed in an entry-level position in a water/wastewater treatment facility.
2. Become knowledgeable about processes and equipment used in water treatment, water distribution, wastewater collection and wastewater treatment.
3. Demonstrate knowledge of the procedures related to water and wastewater treatment processes.
4. Demonstrate basic knowledge of microbiology and chemistry applicable to water and wastewater treatment.
5. Demonstrate knowledge of the principles of hydraulic systems as related to water and wastewater systems.
6. Analyze and solve operational problems and perform mathematical calculations related to water and wastewater treatment processes.
7. Operate a treatment plant in a respectable and ethical manner as dictated by state and federal regulations.

Employment Opportunities
This program is designed to provide entry level wastewater plant operator skills.

Additional Information
To view additional details regarding the Water/Wastewater program, visit water.mecc.edu.

WASTEWATER PLANT OPERATOR PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ENV 108	Environmental Microbiology	3	
ENV 110	Introduction to Water/Wastewater Technology	3	
ENV 149	Wastewater Treatment Plant Operator	3	
CIV 246	Water Resources Technology	3	
FIRST YEAR SPRING			
ENV 211	Sanitary Biology & Chemistry	3	
CIV 240	Fluid Mechanical Hydraulics	3	
ENV 227	Environmental Law	3	
ENV 290	Coordinated Internship in Wastewater Plant Operator	4	
TOTAL PROGRAM CREDITS		**25**	

Notes and Additional Curriculum Options
Course substitutions may be available. Please see your advisor.

FOR FURTHER INFORMATION, CONTACT:

Dr. Chuks Ogbonnaya
cogbonnaya@mecc.edu
276-523-2400 ex.276

Rosa Cooke
rcooke@mecc.edu
253-2400 Ext. 364

Tommy Clements, Dean
tclements@mecc.edu
276.523.2400 ex. 431

130

Career Studies Certificate

WATER PLANT OPERATOR (221-828-67)

Purpose
This program is intended for apprentices in water plants. See faculty advisor for additional information or visit water.mecc.edu.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Possess the knowledge and skills necessary to succeed in an entry-level position in a water/wastewater treatment facility.
2. Become knowledgeable about processes and equipment used in water treatment, water distribution, wastewater collection and wastewater treatment.
3. Demonstrate knowledge of the procedures related to water and wastewater treatment processes.
4. Demonstrate basic knowledge of microbiology and chemistry applicable to water and wastewater treatment.
5. Demonstrate knowledge of the principles of hydraulic systems as related to water and wastewater systems.
6. Analyze and solve operational problems and perform mathematical calculations related to water and wastewater treatment processes.
7. Operate a treatment plant in a respectable and ethical manner as dictated by state and federal regulations.

Employment Opportunities
This program is designed to provide entry level water plant operator skills.

Additional Information
To view additional details regarding the Water/Wastewater program, visit water.mecc.edu.

WATER PLANT OPERATOR PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ENV 108	Environmental Microbiology	3	
ENV 110	Introduction to Water/Wastewater Technology	3	
ENV 115	Water Purification	3	
CIV 246	Water Resources Technology	3	
FIRST YEAR SPRING			
ENV 211	Sanitary Biology & Chemistry	3	
CIV 240	Fluid Mechanical Hydraulics	3	
ENV 227	Environmental Law	3	
ENV 290	Coordinated Internship in Wastewater Plant Operator	4	
TOTAL PROGRAM CREDITS		**25**	

Notes and Additional Curriculum Options
Course substitutions may be available. Please see your advisor.

FOR FURTHER INFORMATION, CONTACT:

Dr. Chuks Ogbonnaya
cogbonnaya@mecc.edu
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131

Career Studies Certificate

COMPUTED TOMOGRAPHY (SWCC)

Purpose:
The Career Studies Certificate in Computed Tomography Imaging is designed to prepare selected students to qualify as contributing members of the allied health interdisciplinary team. Upon completion of the curriculum (and successful completion and documentation of all required clinical competencies as set for by the American Registry of Radiologic Technologists), the student is eligible to apply to take the National Registry examination leading to advanced certification as a Registered Radiographer in CT by the ARRT.

Program Learning Outcomes
Students who complete this program can:

1. Demonstrate competence in the essential aspects of computed tomography at the entry-level.
2. Understand the importance of life-long continuing education in the field of computed tomography.

Employment Opportunities
Employment opportunities for well-trained registered CT radiographers are available in hospitals, clinics, education, industry, government agencies, and private offices.

Program Requirements
Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate devlopmental studies courses.

Admission Requirements: The student in Computed Tomography must have completed an approved program in radiography, radiation therapy, or nuclear medicine technology (either AART or NMTCB). The student must be registered by the appropriate certification agency. All students must have a current CPR certification and must maintain that certification throughout the program. Applicants must have maintained a "C" average in past program courses in the discipline or certification. Applicants must provide the following to be considered for admission.

1. Application to SWCC or VHCC
2. Official transcripts of all other colleges attended submitted to the appropriate admissions office at either SWCC or VHCC
3. Completed CT program application submitted to Christy Lee at clee@mecc.edu
4. Copy of current ARRT or NMTCB certification card submitted to Christy Lee at clee@mecc.edu

The student in Computed Tomography must abide by all community college policies as well as hospital policies while enrolled in the program.

Additional Information

Program Requirements:
Upon admission and during the course of study, the college and hospital faculty will carefully observe and evaluate the student's progress. If, in the opinion of the faculty, a student does not exhibit professional behavior, the student will be asked to withdraw from the program.

Students will not be eligible to receive the certificate until a grade of "C" or better is obtained in each of the required courses. Before entering the clinical areas, the student must receive complete clinical clearance. Please see Ms. Lee for details.

FOR FURTHER INFORMATION, CONTACT:

Sarah Clarkston
sclarkston@mecc.edu
276.523.2400 ex. 665

Christy Lee, Program Coordinator
clee@mecc.edu
276.523.2400 ex.208

Kim Dorton, Dean, Health Sciences
kdorton@mecc.edu
276.523.2400 ex.356

132

Criminal Background Check/Drug Screening

Background checks for criminal history and sex offender crimes against minors are required for entrance into some clinical agencies. Students with convictions may be prohibited from clinical practice and may not complete the program. Clinical agencies may require drug testing prior to placement of students for clinical rotations. Students with positive drug test results may be prohibited from clinical practice and may not complete the program. Cost for criminal background checks and drug testing will be the responsibility of the student.

COMPUTED TOMOGRAPHY PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
RAD 247	Cross Sectional Anatomy for CT/MR	3	
RAD 242	CT Procedures and Instrumentation	2	
RAD 195	Topics in Pharmacology for Technologists	1	
RAD 196	Clinical Internship in CT	1	
FIRST YEAR SPRING			
RAD 295	Topics in CT Registry Preparation	3	
RAD 196	Clinical Internship in CT*	2	
HLT 143	Medical Terminology I	3	
HLT 145	Ethics for Healthcare Personnel	2	
	ELIGIBLE FOR THE NATIONAL REGISTRY EXAMINATION LEADING TO ADVANCED CERTIFICATION AS A REGISTERED TECHNOLOGIST IN COMPUTED TOMOGRAPHY BY THE ARRT		
TOTAL PROGRAM CREDITS		**17**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Applicants must be ARRT or CNMT registered.

** Students who can provide documentation of continuous employment in CT for a minimum of 1 year prior to the application deadline have the option of NOT completing the RAD 196 clinical class requirements.*

133

Associate of Applied Science Degree

EMERGENCY MEDICAL SERVICES TECHNOLOGY (146)

Purpose

The purpose of this curriculum is to produce competent, entry-level Emergency Medical Technician-Paramedics who can service the community with advanced life support care via the Emergency Medical Services infrastructure. Upon successful completion of the program, students will be eligible for National Registry testing and certification in the Commonwealth of Virginia.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Perform current techniques in pre-hospital emergency care to include signs and symptoms of illness, injuries, medical emergencies, appropriate medical techniques, and ambulance operations.
2. Assess, extricate, and care for victims of trauma incidents utilizing the following management skills; scene size-up, disentanglement, victim stabilization for single and multi-victim situations, hazardous materials incidents, integration of local emergency medical services (EMS) for patient assessment and management, and standard operating procedures.
3. Describe the basic pharmacological background and actions of drugs, regulations, human body systems, pharmacokinetics, and drug calculations.
4. Demonstrate the advanced life support skills approach to emergency care of the emotionally disturbed to include emotional aspects, approach to the patient, psychiatric emergencies and techniques of management.
5. Perform an advanced physical assessment on an emergency patient to include the physical exam, integrative and on-going exams, and communicate/document the findings to the patient and others.
6. Recognize and intervene in medical emergencies related to toxicology, hazardous materials, infectious disease, and hematology. Include poisoning, drug overdose, and transmission of infectious diseases.
7. Identify pathophysiological principles and assessment findings to formulate a field impression and implement the treatment plan for the patient with cardiovascular disease/injury based on 3-lead and 12-lead cardiac monitoring and interpretation. Define cardiovascular anatomy and physiology, cardiovascular pathologies and management, and adjunctive diagnostics.
8. Utilize assessment findings to formulate a field impression and implement the treatment plan for obstetric, neonatal, pediatric, geriatric, and chronic-care patients.

Employment Opportunities

Opportunities for paramedics include employment by fire and rescue service providers, hospitals, school systems, industry, ambulance and transportation services, local, state and federal government agencies, humanitarian relief organizations, and the military.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses. Admission to the program will be governed by the requirements for general admission to the College and the Commonwealth of Virginia Office of Emergency Medical Services. Individuals who have a felony conviction may not be eligible to take the certification exam.

Additional Information

The paramedic curriculum is an academically rigorous program, but one having the potential to provide a rewarding career for participants. Applicants must meet the following requirements:

- Be at least 18 years of age by the beginning of the program pursuant to Section 12VAC5-30-270A.1. of the Rules and Regulations of the Board of Health Governing Emergency Medical Services.

FOR FURTHER INFORMATION, CONTACT:

Kim Dorton, Dean, Health Sciences
kdorton@mecc.edu
276.523.2400 ex.356

Bill Akers, EMS Program Director
Bill.Akers@sw.edu
276.964.7729

134

- Be a high school graduate or have satisfactorily completed the GED.
- Have a current and valid certificate evidencing Emergency Medical Technician certification in Virginia pursuant to Section 12VAC5-30-290 of the Rules and Regulations of the Board of Health Governing Emergency Medical Services.
- Possess and maintain current CPR certification.

Accreditation and State Approval

This program is accredited by the Virginia Office of Emergency Medical Services and is offered in conjunction with Southwest Virginia and Virginia Highland Community Colleges. The program is also nationally accredited by the Committee on Accreditation of Allied Health Educational Programs (CAAHEP).

Academic Requirements:

Any student receiving a grade of less than "C" in any of the required program courses will be placed on programmatic academic probation. That course shall be remediated once, with a written contract drafted containing the requirements of the remediation. Remediated courses must be completed with a final grade of "C" or better. Dismissal from the program shall result if the student does not meet the requirements of the contract.

Course and Behavioral Requirements:

Selected and supervised student clinical experience is required by the program and will be accomplished at selected, regional health care facilities. The student is responsible for transportation to these facilities, as well as to any scheduled field trips or combined program classes. Program preceptors will observe and evaluate the student's aptitude for the profession. If the student does not exhibit those documented behaviors required of the EMS professional, the student may be asked to withdraw from the program.

Physical Requirements

This program requires extensive walking, stooping, bending, pushing, pulling, climbing stairs, and lifting. Lifting and carrying requirements: at least 125 pounds; Motor coordination is necessary because over uneven terrain, the patients', EMTs', and other workers' well-being must not be jeopardized. Further, extensive use of sight, hearing, and speaking is required. An EMS provider is faced with many physical and psychological challenges. Please refer to the Virginia Office of Emergency Medical Services web site for a more detailed functional job description – www.vdh.virginia.gov/oems/training.

Other Requirements:

In addition to basic college costs such as tuition and fees, this program requires expenditures for uniforms, books, liability insurance, CPR certification, immunizations and physical, testing fees, certification courses and some medical equipment items. Students are also responsible for their own transportation to clinical sites. Applicants accepted to the program are required to submit a health certificate signed by a licensed physician or nurse practitioner and should include documentation of measles, seasonal flu, mumps, Hepatitis B, Rubella (MMR) and chicken pox exposure.

Selection Process:

To be eligible for selection to the program, interested persons should complete the following process by May 15:

- Submit a college admission application.
- Submit an online application to the program with required attachments.
- Take the Program Entrance Exam at the June orientation meeting
- Take the VPT placement test (or submit ASSET, COMPASS, SAT or ACT scores).
- Send transcripts of previous college courses to MECC.
- Send high school transcripts to MECC.

After May 15th the first round of students will be selected. Selection will be based on previous college coursework, entrance exam score, and college placement reading scores. Should openings still be available, persons who apply or meet requirements after May 15 will be considered.

135

EMERGENCY MEDICAL SERVICES TECHNOLOGY
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR SUMMER			
SDV 100	College Success Skills	1	
EMS 111	EMT-Basic	7	Co-req EMS 120
EMS 100	CPR for Healthcare Providers	1	
	STUDENTS EARN AHA BLS FOR HEALTHCARE PROVIDE CPR CERTIFICATION		
EMS 120	EMT-Basic Clinical	1	Co-req EMS 111
	ELIGIBLE TO TAKE NATIONAL REGISTRY EMERGENCY MEDICAL TECHNICIAN EXAM		
BIO 145	Human Anatomy & Physiology	4	
FIRST YEAR FALL			
EMS 121	Preparatory Foundations	2	
EMS 123	EMS Clinical Preparation	1	
EMS 125	Basic Pharmacology	1	Co-req EMS 126
EMS 126	Basic Pharmacology Lab	1	Co-req EMS 125
EMS 127	Airway, Shock and Resuscitation	1	Co-req EMS 128
EMS 128	Airway, Shock and Resuscitation Lab	1	Co-req EMS 127
EMS 135	Emergency Medical Care	2	Co-req EMS 136
EMS 136	Emergency Medical Care Lab	1	Co-req EMS 135
EMS 137	Trauma Care	1	Co-req EMS 138
EMS 138	Trauma Care Lab	1	Co-req EMS 137
	ELIGIBLE TO TAKE NATIONAL REGISTRY ADVANCED EMERGENCY MEDICAL TECHNICIAN EXAM		
FIRST YEAR SPRING			
EMS 139	Special Populations	1	Co-req EMS 140; Pre-req EMS 121,123,125,126,127,128
EMS 140	Special Populations Lab	1	Co-req EMS 139
EMS 141	Cardiovascular Care	2	Co-req EMS 142; Pre-req EMS 121,123,125,126,127,128
EMS 142	Cardiovascular Care Lab	1	Co-req EMS 141
EMS 175	Paramedic Clinical Experience I	2	EMS 121,123,125,126,17,128
ENG 111	College Composition I	3	
PSY 230	Developmental Psychology	3	
SECOND YEAR FALL			
EMS 202	Paramedic Pharmacology	2	EMS 125,126,135,136,137,138,139,140,141,142
EMS 203	Advanced Patient Care	2	Co-req EMS 204; Pre-req EMS 125,126,135,136,137,138,139,140,141,142
EMS 204	Advanced Patient Care Lab	2	Co-req EMS 203
EMS 206	Pathophysiology for Health Professions	3	BIO 145 or 141&142
EMS 247	Paramedic Clinical Experience II	1	EMS 135,136,137,138,139,140,141,142,175
EMS 248	Paramedic Comprehensive Field Experience	2	EMS 135,136,137,138,139,140,141,142,175
SECOND YEAR SPRING			
EMS 210	EMS Operations	1	EMS 135,136,17,138,139, 140,141,142
EMS 212	Leadership and Professional Developmenet	1	EMS 135,136,17,138,139, 140,141,142
EMS 165	Advanced Cardiac Life Support	1	
EMS 163	Prehospital Trauma Life Support	1	
EMS 167	Emergency Pediatric Care	1	
EMS 164	Advanced Medical Life Support	1	
EMS 216	Paramedic Review	1	
EMS 249	Paramedic Capstone Internship	2	EMS 202,203,204,206, 247, 248
	General Education Elective	3	
	Humanities Elective	3	
	ELIGIBLE TO TAKE NATIONAL REGISTRY EMERGENCY MEDICAL TECHNICIAN PARAMEDIC EXAM		
TOTAL PROGRAM CREDITS		**66**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

BIO 141 and 142 or 231 and 232 will substitute for BIO 145 and the additional credits may satisfy the general education elective.

136

Career Studies Certificate

EMERGENCY MEDICAL TECHNICIAN BASIC (221-146-01)

Purpose

Produce competent entry-level EMTs to serve our region that are eligible for National Registry testing and certification in the Commonwealth of Virginia.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Apply fundamental knowledge of the EMS system, safety/well-being of the Paramedic, medical/legal and ethical issues to the provision of the emergency care.
2. Integrate knowledge of the anatomy, physiology, and pathophysiology of the airway, respiratory, and circulatory system to the practice of EMS.
3. Use simple knowledge of the principles of the role of EMS during public health emergencies.
4. Apply fundamental knowledge of the medications utilized by the EMT that may be administered to the patient during an emergency.
5. Apply knowledge of upper airway anatomy and physiology to patient assessment and management in order to assure a patent airway, adequate mechanical ventilation and respiration for patients of all ages.
6. Apply scene information and patient assessment findings (scene size-up, primary and secondary assessment, patient history, reassessment) to guide emergency management.
7. Apply fundamental knowledge to provide basic and selected advanced emergency care and transportation based on assessment findings for an acutely ill medical (neurology, GI/GU, immunology, infectious disease, endocrine, psychiatric, cardiovascular, toxicology, respiratory, hematology, OB/GYN) patient.
8. Apply fundamental knowledge to provide basic and selected advanced emergency care and transportation based on assessment findings for a patient in shock, respiratory failure or arrest, cardiac failure or arrest and post resuscitation management.
9. Apply fundamental knowledge to provide basic and selected advanced emergency care and transportation based on assessment findings for an acutely injured trauma (bleeding, chest trauma, abdominal/GI trauma, orthopedic trauma, soft tissue trauma, head/facial/neck/spinal trauma, nervous system trauma, environmental) patient.
10. Apply fundamental knowledge of growth, development, aging, and assessment findings to provide a basic and selected advanced emergency care and transportation for a patient with special needs (OB, neonatal, pediatrics, geriatrics).
11. Apply fundamental knowledge of operational roles and responsibilities to ensure patient, public, and personnel safety to include ambulance operations, incident management, MCI, air medical, vehicle extrication and hazmat awareness.
12. Competently perform the skills and administer medications listed in the Virginia scope of practice for an EMT provider.

Employment Opportunities

Opportunities for EMTs include employment by fire and rescue service providers, hospitals, school systems, industry, ambulance and transportation services, local, state and federal government agencies, humanitarian relief organizations, and the military.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

FOR FURTHER INFORMATION, CONTACT:

Kim Dorton, Dean, Health Sciences
kdorton@mecc.edu
276.523.2400 ex.356

Bill Akers, EMS Program Director
Bill.Akers@sw.edu
276.964.7729

137

Additional Information

Admission to the program will be governed by the requirements for general admission to the College and the Commonwealth of Virginia Office of Emergency Medical Services. Individuals who have a felony conviction may not be eligible to take the certification exam. Applicants must be at least 16 years of age by the beginning of the program pursuant to Section 12VAC5-30-270A.1 of the Rules and Regulations of the Board of Health governing Emergency Medical Services and possess and maintain current CPR certification. This program is accredited by the Virginia Office of Emergency Medical Services and is offered in conjunction with Southwest Virginia Community College and Virginia Highlands Community College. Travel to clinical\field assignments is required.

EMERGENCY MEDICAL TECHNICIAN BASIC PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL OR FIRST YEAR SPRING			
SDV 100	College Success Skills		
or HLT 105	or CPR	1	
EMS 111	EMT-Basic	7	Co-req EMS 120
EMS 120	EMT-Clinical	1	Co-req EMS 111
STUDENTS EARN AHA BLS FOR HEALTHCARE PROVIDER CPR CERTIFICATION AND *ELIGIBLE TO TAKE NATIONAL REGISTRY MEDICAL TECHNICIAN EXAM*			
TOTAL PROGRAM CREDITS		**9**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.
EMS 100 or HLT 100 will substitute for HLT 105.

138

Career Studies Certificate

EMERGENCY MEDICAL TECHNICIAN PARAMEDIC (221-146-05)

Purpose

The purpose of this curriculum is to produce competent, entry-level EMT-Paramedics who can service the community with advanced life support care via the Emergency Medical Services infrastructure. This route to EMT-Paramedic is only available to experienced EMT-Intermediates. Upon successful completion of the program, students will be eligible for National Registry testing and certification in the Commonwealth of Virginia.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Perform current techniques in pre-hospital emergency care to include signs and symptoms of illness, injuries, medical emergencies, appropriate medical techniques, and ambulance operations.
2. Assess, extricate, and care for victims of trauma incidents utilizing the following management skills; scene size-up, disentanglement, victim stabilization for single and multi-victim situations, hazardous materials incidents, integration of local emergency medical services (EMS) for patient assessment and management, and standard operating procedures.
3. Describe the basic pharmacological background and actions of drugs, regulations, human body systems, pharmacokinetics, and drug calculations.
4. Demonstrate the advanced life support skills approach to emergency care of the emotionally disturbed to include emotional aspects, approach to the patient, psychiatric emergencies and techniques of management.
5. Perform an advanced physical assessment on an emergency patient to include the physical exam, integrative and on-going exams, and communicate/document the findings to the patient and others.
6. Perform a pediatric assessment, manage airway and respiratory emergencies, cardiovascular emergencies, neonatal emergencies, and Sudden Infant Death Syndrome (SIDS). Treat children with special healthcare needs.
7. Recognize and intervene in medical emergencies related to toxicology, hazardous materials, infectious disease, and hematology. Include poisoning, drug overdose, and transmission of infectious diseases.
8. Identify pathophysiological principles and assessment findings to formulate a field impression and implement the treatment plan for the patient with cardiovascular disease/injury based on 3-lead and 12-lead cardiac monitoring and interpretation. Define cardiovascular anatomy and physiology, cardiovascular pathologies and management, and adjunctive diagnostics.
9. Utilize assessment findings to formulate a field impression and implement the treatment plan for obstetric, neonatal, pediatric, geriatric, and chronic-care patients.

Employment Opportunities

Opportunities for paramedics include employment by fire and rescue service providers, hospitals, school systems, industry, ambulance and transportation services, local, state and federal government agencies, humanitarian relief organizations, and the military.

Program Requirements

PLEASE NOTE: This route to becoming a National Registry paramedic is only available to EMT-Intermediates who can submit documentation of three years of experience working as an EMT-Intermediate and approval by the Operational Medical Director of the program.

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate devlopmental studies courses.

FOR FURTHER INFORMATION, CONTACT:

Kim Dorton, Dean, Health Sciences
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276.523.2400 ex.356

Bill Akers, EMS Program Director
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139

Additional Information
The paramedic curriculum is an academically rigorous program, but one having the potential to provide a rewarding career for participants. Admission to the program will be governed by the requirements for general admission to the College and the Commonwealth of Virginia Office of Emergency Medical Services. Individuals who have a felony conviction may not be eligible to take the certification exam.

Applicants must meet the following requirements:
- Be at least 18 years of age by the beginning of the program pursuant to Section 12VAC5-30-270A.1. of the Rules and Regulations of the Board of Health governing Emergency Medical Services.
- Be a high school graduate or have satisfactorily completed the GED.
- Have a current and valid certificate evidencing Emergency Medical Technician certification in Virginia pursuant to Section 12VAC5-30-290 of the Rules and Regulations of the Board of Health governing Emergency Medical Services.
- Possess and maintain current CPR certification.

Accreditation
This program is accredited by the Virginia Office of Emergency Medical Services and is offered in conjunction with Southwest Virginia and Virginia Highland Community Colleges. The program is also nationally accredited by the Committee on Accreditation of Allied Health Educational Programs (CAAHEP).

Academic Requirements
Any student receiving a grade of less than "C" in any of the required program courses will be placed on programmatic academic probation. That course shall be remediated once, with a written contract drafted containing the requirements of the remediation. Remediated courses must be completed with a final grade of "C" or better. Dismissal from the program shall result if the student does not meet the requirements of the contract.

Clinical and Behavioral Requirements
Selected and supervised student clinical experience is required by the program and will be accomplished at selected, regional health care facilities. The student is responsible for transportation to these facilities, as well as to any scheduled field trips or combined program classes. Program preceptors will observe and evaluate the student's aptitude for the profession. If the student does not exhibit those documented behaviors required of the EMS professional, the student may be asked to withdraw from the program.

Physical Requirements
This program requires extensive walking, stooping, bending, pushing, pulling, climbing stairs, and lifting. Lifting and carrying requirements: at least 125 pounds; Motor coordination is necessary because over uneven terrain, the patients', EMTs', and other workers' well-being must not be jeopardized. Further, extensive use of sight, hearing, and speaking is required. An EMS provider is faced with many physical and psychological challenges. Please refer to the Virginia Office of Emergency Medical Services web site for a more detailed functional job description – www.vdh.virginia.gov/oems/training.

Selection Process
To be eligible for selection to the program, interested persons should complete the following process by May 15:
- Submit a college admission application.
- Submit an application to the program (separate document) with required attachments.
- Take the Program Entrance Exam.
- Take the VPT placement test (or submit ASSET, COMPASS, SAT or ACT scores).
- Have transcripts of previous college courses sent to MECC.
- Have high school transcripts sent to MECC.

After May 15th the first round of students will be selected. Selection will be based on previous college coursework, entrance exam score, and college placement reading scores. Should openings still be available, persons who apply or meet requirements after May 15 will be considered.

140

Other Requirements

In addition to basic college costs such as tuition and fees, this program requires expenditures for uniforms, books, liability insurance, CPR certification, immunizations and physical, testing fees, certification courses and some medical equipment items. Students are also responsible for their own transportation to clinical sites. Applicants accepted to the program are required to submit a health certificate signed by a licensed physician or nurse practitioner and should include documentation of measles, seasonal flu, mumps, Hepatitis B, Rubella (MMR) and chicken pox exposure.

EMERGENCY MEDICAL TECHNICIAN PARAMEDIC PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR SUMMER			
SDV 100	College Success Skills I	1	
EMS 213	ALS Skills Development	2	Program Director approval
EMS 123	EMS Clinical Preparation	1	
BIO 145	Human Anatomy & Physiology	4	
FIRST YEAR FALL			
EMS 202	Paramedic Pharmacology	2	
EMS 203	Advanced Patient Care	2	
EMS 204	Advanced Patient Care Lab	2	
EMS 206	Pathophysiology for Health Professions	3	
EMS 247	Paramedic Clinical Experience II	1	
EMS 248	Paramedic Comprehensive Clinical Experience	2	
FIRST YEAR SPRING			
EMS 210	EMS Operations	1	
EMS 212	Leadership and Professional Development	1	
EMS 165	Advanced Cardiac Life Support	1	
EMS 163	Prehospital Trauma Life Support	1	
EMS 167	Emergency Pediatric Care	1	
EMS 164	Advanced Medical Life Support	1	
EMS 216	Paramedic Review	1	
EMS 249	Paramedic Capstone Internship	2	EMS 202, 203, 204, 206, 247, 248
	ELIGIBLE TO TAKE NATIONAL REGISTRY EMERGENCY MEDICAL TECHNICIAN PARAMEDIC EXAM		
TOTAL PROGRAM CREDITS		**29**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Program only available for EMT Intermediates with a minimum of three years of documented experience per Operational Medical Director.

141

Career Studies Certificate

EMERGENCY MEDICAL TECHNICIAN ADVANCED (TBA)

Purpose

The purpose of this curriculum is to produce competent, entry-level Advanced Emergency Medical Technicians who can service the community with advanced life support care via the Emergency Medical Services infrastructure. Upon successful completion of the program, students will be eligible for National Registry testing and certification in the Commonwealth of Virginia.

Program Learning Outcomes

Upon successful completion, students will be able to:

1. Apply fundamental knowledge of the EMS system, safety/well-being of the EMT, medical/legal and ethical issues to the provision of the emergency care.
2. Integrate complex knowledge of the anatomy, physiology, and pathophysiology of the airway, respiratory, and circulatory system to the practice of EMS.
3. Use simple knowledge of the principles of the role of EMS during public health emergencies.
4. Apply fundamental knowledge of the medications carried by the Advanced EMT that may be administered to the patient during an emergency
5. Apply knowledge of upper airway anatomy and physiology to patient assessment and management in order to assure a patient's airway, adequate mechanical ventilation and respiration for patients of all ages.
6. Apply scene information and patient assessment findings (scene size-up, primary and secondary assessment, patient history, reassessment) to guide emergency management
7. Apply fundamental knowledge to provide basic and selected advanced emergency care and transportation based on assessment findings for a patient in shock, respiratory failure or arrest, cardiac failure or arrest and post resuscitation management.
8. Apply fundamental knowledge to provide basic and selected advanced emergency care and transportation based on assessment findings for an acutely injured trauma (bleeding, chest trauma, abdominal/GI trauma, orthopedic trauma, soft tissue trauma, head/ facial/ neck/spinal trauma, nervous system trauma, environmental) patient
9. Apply fundamental knowledge of operational roles and responsibilities to ensure patient, public, and personnel safety to include ambulance operations, incident management, MCI, air medical, vehicle extrication and hazmat awareness.
10. Competently perform the skills and administer medications listed in the Virginia scope of practice for an Advanced EMT provider.

Employment Opportunities

Opportunities for AEMTs include employment by fire and rescue service providers, hospitals, school systems, industry, ambulance and transportation services, local, state and federal government agencies, humanitarian relief organizations, and the military.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

Additional Information

Admission to the program will be governed by the requirements for general admission to the College and the Commonwealth of Virginia Office of Emergency Medical Services. Individuals who have a felony conviction may not be eligible to take the certification exam.

FOR FURTHER INFORMATION, CONTACT:

Kim Dorton, Dean, Health Sciences
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142

Applicants must meet the following requirements:

- Be at least 18 years of age by the beginning of the program pursuant to Section 12VAC5-30-270A.1. of the Rules and Regulations of the Board of Health Governing Emergency Medical Services.
- Be a high school graduate or have satisfactorily completed the GED.
- Have a current and valid certificate evidencing Emergency Medical Technician certification in Virginia pursuant to Section 12VAC5-30-290 of the Rules and Regulations of the Board of Health Governing Emergency Medical Services.
- Possess and maintain current CPR certification.

Academic Requirements

Any student receiving a grade of less than "C" in any of the required program courses will be placed on programmatic academic probation. That course shall be remediated once, with a written contract drafted containing the requirements of the remediation. Remediated courses must be completed with a final grade of "C" or better. Dismissal from the program shall result if the student does not meet the requirements of the contract.

Clinical and Behavioral Requirements

Selected and supervised student clinical experience is required by the program and will be accomplished at selected, regional health care facilities. The student is responsible for transportation to these facilities, as well as to any scheduled field trips or combined program classes. Program preceptors will observe and evaluate the student's aptitude for the profession. If the student does not exhibit those documented behaviors required of the EMS professional, the student may be asked to withdraw from the program.

Selection Process

To be eligible for selection to the program, interested persons should complete the following process by May 15:

- Submit a college admission application.
- Submit an online application to the program (separate document) with required attachments.
- Take the Program Entrance Exam.
- Take the VPT placement test (or submit ASSET, COMPASS, SAT or ACT scores).
- Have transcripts of previous college courses sent to MECC.
- Have high school transcripts sent to MECC.

After May 15th the first round of students will be selected. Selection will be based on previous college coursework, entrance exam score, and college placement reading scores. Should openings still be available, persons who apply or meet requirements after May 15 will be considered.

Other Requirements

In addition to basic college costs such as tuition and fees, this program requires expenditures for uniforms, books, liability insurance, CPR certification, immunizations and physical, testing fees, certification courses and some medical equipment items. Students are also responsible for their own transportation to clinical sites. Applicants accepted to the program are required to submit a health certificate signed by a licensed physician or nurse practitioner and should include documentation of measles, seasonal flu, mumps, Hepatitis B, Rubella (MMR) and chicken pox exposure.

Physical Requirements

This program requires extensive walking, stooping, bending, pushing, pulling, climbing stairs, and lifting. Lifting and carrying requirements: at least 125 pounds; Motor coordination is necessary because over uneven terrain, the patients', EMTs', and other workers' well-being must not be jeopardized. Further, extensive use of sight, hearing, and speaking is required. An EMS provider is faced with many physical and psychological challenges. Please refer to the Virginia Office of Emergency Medical Services web site for a more detailed functional job description – www.vdh.virginia.gov/oems/training.

143

EMERGENCY MEDICAL TECHNICIAN ADVANCED
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST SEMESTER			
SDV 100	College Success Skills I	1	
EMS 111	Emergency Medical Technician	7	Co-req EMS 120
EMS 100	CPR for Healthcare Providers	1	
	STUDENTS EARN AHA BLS FOR HEALTHCARE PROVIDER CPR CERTIFICATION		
EMS 120	Emergency Medical Technician-Basic Clinical	1	Co-req EMS 111
	ELIGIBLE TO TAKE NATIONAL REGISTRY EMERGENCY MEDICAL TECHNICIAN EXAM		
SECOND SEMESTER			
EMS 121	Preparatory Foundations	2	
EMS 123	EMS Clinical Preparation	1	
EMS 125	Basic Pharmacology	1	Co-req EMS 126
EMS 126	Basic Pharmacology Lab	1	Co-req EMS 125
EMS 127	Airway, Shock and Resuscitation	1	Co-req EMS 128
EMS 128	Airway, Shock and Resuscitation Lab	1	Co-req EMS 127
EMS 135	Emergency Medical Care	2	Co-req EMS 136
EMS 136	Emergency Medical Care Lab	1	Co-req EMS 135
EMS 137	Trauma Care	1	Co-req EMS 138
EMS 138	Trauma Care Lab	1	Co-req EMS 137
EMS 170	ALS Internship I	1	
	ELIGIBLE TO TAKE NATIONAL REGISTRY ADVANCED EMERGENCY MEDICAL TECHNICIAN EXAM		
TOTAL PROGRAM CREDITS		**23**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

144

Career Studies Certificate

HEALTH SCIENCES (221-190-01)

Purpose

The Health Sciences Career Studies Certificate is designed for students preparing for admission through a selective/competitive process to a healthcare certificate or degree program. Although some courses are standard, each track will differ to some degree. Students are encouraged to work closely with their assigned advisor to prepare the strongest program application. The advisor will also assist students with the various individual program application processes.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Earn credits that prepare them for entry into competitive admissions healthcare educational programs.
2. Demonstrate understanding of the various options for healthcare careers that are available to pursue.
3. Participate in laboratory experiences that increase their knowledge of the human body.
4. Increase their skills in communicating verbally, in writing and using electronic methods.
5. Participate in classroom activities that increase their understanding of providing care for individuals with acute, chronic, or life-threatening physical, psychological, and psychosocial health conditions.

Employment Opportunities

Completion of this certificate does not prepare a student for employment but rather prepares a student to competitively seek admission to a selective admissions healthcare program.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

HEALTH SCIENCES PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST SEMESTER			
SDV 100	College Success Skills I	1	
HLT 105	CPR	1	
	STUDENT RECEIVES AHA BLS FOR HEALTHCARE PROVIDER CPR CERTIFICATION		
ENG 111	College Composition	3	
BIO 141	Human Anatomy & Physiology I	4	
PSY 230	Developmental Psychology	3	
	Elective	3	
SECOND SEMESTER			
BIO 142	Human Anatomy & Physiology II	4	BIO 141
	Elective	3-4	
	Humanities Elective	3	
	Elective	3	
TOTAL PROGRAM CREDITS		**28-29**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Please see your advisor as selective admission healthcare programs require different electives. Also note the R.N. program has curricular changes effective with the cohort admitted Fall of 2018.

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145

Career Studies Certificate

MAMMOGRAPHY (SWCC)

Purpose

The Career Studies Certificate in Mammography is designed to prepare selected students to qualify as contributing members of the allied health interdisciplinary team. Upon completion of the curriculum (and successful completion and documentation of all required clinical competencies as set for by the American Registry of Radiologic Technologists), the student is eligible to apply to take the National Registry examination leading to advanced certification as a Registered Radiographer in Mammography by the ARRT.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Demonstrate competence in the essential aspects of Mammographic imaging at the entry-level.
2. Understand the importance of life-long continuing education in the field of Mammographic imaging.

Employment Opportunities

Employment opportunities for well-trained registered mammographers are available in hospitals, clinics, education, industry, government agencies, and private offices.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate devlopmental studies courses.

Admission Requirements

The student in Mammography must have completed an approved program in radiography. The student must be registered (or registry eligible) by the appropriate certification agency (ARRT). All students must have a current CPR certification and must maintain that certification throughout the program. Applicants must have maintained a "C" average in past program courses in the discipline or certification. Applicants must provide the following to be considered for admission.

- Application to SWCC or VHCC
- Official transcripts of all other colleges attended submitted to the appropriate admissions office at either SWCC or VHCC
- Completed Mammography program application submitted to Christy Lee at clee@mecc.edu
- Copy of current ARRT certification card submitted to Christy Lee at clee@mecc.edu

The student in Mammography must abide by all community college policies as well as hospital policies while enrolled in the program.

Additional Information

Program Requirements

Upon admission and during the course of study, the college and hospital faculty will carefully observe and evaluate the student's progress. If, in the opinion of the faculty, a student does not exhibit professional behavior, the student will be asked to withdraw from the program.

Students will not be eligible to receive the certificate until a grade of "C" or better is obtained in each of the required courses. Before entering the clinical areas, the student must receive complete clinical clearance. Please see Ms. Lee for details.

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146

Criminal Background Check/Drug Screening
Background checks for criminal history and sex offender crimes against minors are required for entrance into some clinical agencies. Students with convictions may be prohibited from clinical practice and may not complete the program. Clinical agencies may require drug testing prior to placement of students for clinical rotations. Students with positive drug test results may be prohibited from clinical practice and may not complete the program. Cost for criminal background checks and drug testing will be the responsibility of the student.

MAMMOGRAPHY
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR SPRING			
RAD 233	Anatomy and Positioning of the Breast	1	
RAD 234	Breast Imaging/Instrumentation	1	
RAD 235	Quality Assurance in Mammography	1	
RAD 196	Clinical Internship in Mammography	1	
	ELIGIBLE FOR THE NATIONAL REGISTRY EXAMINATION LEADING TO ADVANCED CERTIFICATION AS A REGISTERED TECHNOLOGIST IN MAMMOGRAPHY BY THE ARRT		
TOTAL PROGRAM CREDITS		**4**	

Notes and Additional Curriculum Options
Course substitutions may be available. Please see your advisor.
Applicants must be ARRT registered.

147

Associate of Applied Science Degree

MEDICAL LABORATORY TECHNOLOGY (WCC)

Purpose

The Medical Laboratory Technology curriculum is a concentrated course of study and coordinated practice designed to prepare students with the knowledge and skills necessary to join the medical field as a contributing health professional. The Associate Degree program prepares students for employment as Medical Laboratory Technicians. Upon satisfactory completion of program requirements, the student is eligible to take a national registry examination for certification as a Medical Laboratory Technician and is eligible for employment in a variety of medical and scientific laboratory settings. The program is fully approved by the State Council of Higher Education and the National Accrediting Agency of Clinical Laboratory Sciences (NAACLS).This program is being provided through an innovative, cooperative arrangement between Wytheville Community College and Mountain Empire Community College. Students will register at MECC for their general education course requirements and register through WCC for their program courses. However, all course offerings and clinicals will be provided on the MECC campus and at regional healthcare facilities. The AAS degree will be awarded by Wytheville Community College. Opportunities for Employment Opportunities for MLTs include employment at hospital clinical laboratories, reference and industrial laboratories, pharmaceutical firms, independent clinical laboratories, service agencies, physicians' offices, clinics, government agencies, research institutions and the armed forces.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Perform routine clinical laboratory procedures within acceptable quality control parameters in Hematology, Chemistry, Immunohematology, and Microbiology under the general supervision of a Clinical Laboratory Scientist or Pathologist.
2. Demonstrate technical skills, social behavior, and professional awareness incumbent upon a laboratory technician as defined by the American Society for Clinical Laboratory Science and the American Society of Clinical Pathologists.
3. Effect a transition of information and experiences learned in the MLT program to employment situations and performance on the written examinations conducted by the American Society of Clinical Pathologists and/or the National Certifying Agency for Clinical Laboratory Personnel.
4. Apply systematized problem solving techniques to identify and correct procedural errors, identify instrument malfunctions and seek proper supervisory assistance, and verify the accuracy of laboratory results obtained.
5. Operate and maintain laboratory equipment, utilizing appropriate quality control and safety procedures.
6. Perform within the guidelines of the code of ethics of the American Society for Clinical Laboratory Science, the American Society of Clinical Pathologists, and the restrictions established by state and local regulatory groups.
7. Recognize and participate in activities which will provide current knowledge and upgrading of skills in laboratory medicine.

Employment Opportunities

Opportunities for MLTs include employment at hospital clinical laboratories, reference and industrial laboratories, pharmaceutical firms, independent clinical laboratories, service agencies, physicians' offices, clinics, government agencies, research institutions and the armed forces.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate devlopmental studies courses.

Program Requirements Applicants must be high school graduates or the equivalent. In order to meet the admission requirements, the applicant must have completed:

1. A WCC application (including all high school and college transcripts or copy of GED by February 15.
2. Competency in English and Math Essentials MTE 1-4 as demonstrated through the placement and diagnostic

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148

tests, or by satisfactorily completing the required MTE units or equivalent. All developmental courses must be completed the spring semester before entering the program in the fall of the next academic year.*
3. High school biology or equivalent (one unit) with at least "C".
4. High school chemistry or equivalent (one unit) with at least "C".
5. A 2.0 average for high school courses or a 2.0 cumulative average for all college course work.**
6. Shadowing hours in selected program to be determined by program head. 7. Take the TEAS Test for Allied Health.
7. An interview/information session with the program head or designee.

*Students who have completed all academic requirements prior to the February 15th deadline will be admitted first. Students completing developmental coursework in the spring will be admitted to any remaining unfilled slots in the program, based on the selective admission criteria.

**If the student has completed a minimum of 12 college credits that are included in calculating the college GPA (non-developmental courses), the 2.0 high school GPA requirement will be waived.

In the event there are more applicants who apply in a given year than there are slots available the college will employ selective admission. Please consult the Health Professions Admission Packet for a detailed description of the selective criteria.

Additional Information

Program Requirements
Upon admission to the Medical Laboratory program, the following are necessary:
1. The student must have a complete medical examination, which must include a 2-step tuberculin skin test, a profile of medical condition, designated immunizations, and documentation of HBV and varicella status. A chest x-ray is required only if the tuberculin test is positive. Cost for the medical examination and all necessary testing will be the responsibility of the student.
2. The student must obtain a criminal background check and urine drug screen (see below). Costs will be the responsibility of the student.
3. The student must read the Essential/Technical Standards required for the program and indicate by signature readiness for physical requirements of the profession.
4. The student must maintain a minimum of a "C" grade in each Medical Laboratory course. The student must demonstrate the desire and capability to become a contributor of quality patient health care.
5. Clinical experience will be provided in affiliated hospitals or laboratories. Each student will be responsible for transportation to and from the hospital and must also secure the required apparel.

Criminal Background Check/Drug Screening
Background checks for criminal history and sex offender crimes and urine drug screens are required for admission to clinical sites. Students with convictions and/or positive tests may be prohibited from clinical practice and may not complete the program. Costs for criminal background checks and urine drug screens will be the responsibility of the student.

149

MEDICAL LABORATORY TECHNOLOGY
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
BIO 141	Human Anatomy & Physiology I	4	
CHM 111	College Chemistry I	4	
MDL 101	Intro to Med Lab Techniques	3	
MDL 127	Hematology	3	MDL 101
ENG 111	College Composition I	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
BIO 142	Human Anatomy & Physiology II	4	
MDL 126	Clinical Immunohematology & Immunology I	4	MDL 101 & 127
BIO 150	Introductory Microbiology	4	
MDL 261	Clinical Chemistry & Instrumentation I	4	MDL 101 & 127
SECOND YEAR SUMMER			
	Humanities/Fine Arts Elective	3	
	Social/Behavioral Science Elective	3	
MDL 199	Supervised Study in Phlebotomy & Lab Math	2	Completion of first year
MDL 130	Basic Clinical Microbiology	3	MDL 101 & 127
SECOND YEAR FALL			
MDL 190	Coordinated Practice	2	Completion of first year
MDL 225	Clinical Hematology II	3	MDL 126
MDL 240	Clinical Microscopy II	2	MDL 261
MDL 252	Clinical Microbiology II	3	MDL 130
MDL 262	Clinical Chemistry & Instrumentation II	4	MDL 261
SECOND YEAR SPRING			
MDL 227	Clinical Immunohematology/Immunology II	3	MDL 126
MDL 263	Clinical Chemistry & Instrumentation III	3	MDL 262
MDL 275	Clinical Hematology III	3	MDL 225
MDL 279	Clinical Microbiology III	2	MDL 252
MDL 290	Coordinated Practice	2	

ELIGIBLE TO TAKE A NATIONAL REGISTRY EXAMINATION FOR CERTIFICATION AS A MEDICAL LABORATORY TECHNICIAN

TOTAL PROGRAM CREDITS **72**

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

BIO 231 will substitute for BIO 141 and BIO 231 will substitute for BIO 142.

150

Career Studies Certificate

NURSING ASSISTANT (CNA) (221-157-06)

Purpose

Provide students with theory and laboratory experience required for employment in acute care, long-term care, and assisted living healthcare institutions. Prepare students to take the Virginia Board of Nursing Certified Nurse Aide exams. Provide employers with competent, entry-level CNAs.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Assist professional health care providers in assessing the physical, social, emotional, and spiritual needs of patients.
2. Communicate and relate interpersonally with patients and co-workers.
3. Observe, chart, and report patient findings.
4. Perform safety and infection control practices at all times.
5. Competently perform all skills required by the Virginia Board of Nursing curriculum.
6. Competently care for patients of various ages, with special emphasis on geriatric, home health, and long term facilities.
7. Register to take the skills and written portion of the certification exam.

Employment Opportunities

Opportunities for CNA's include employment in hospitals, long term care facilities, assisted living facilities, home health agencies, private care, and physician and practice offices.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

Additional Information

Applicants must pass a drug screen and criminal background check. Applicants must submit proof of required vaccinations and health screenings. Travel is required to clinical facilites. Eligibility for certification testing is determined by the Virginia Board of Nursing.

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151

NURSING ASSISTANT (CNA)
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST SEMESTER			
SDV 100	College Success Skills	1	
HLT 105	CPR	1	
	STUDENTS RECEIVE AHA BLS FOR HEALTHCARE PROVIDER CPR CERTIFICATION		
HCT 101	Health Care Technician I	3	Co-Req HCT 102
HCT 102	Health Care Technician II	4	Pre- or Co-Req HCT 101
	STUDENTS ARE ELIGIBLE TO TAKE THE VIRGINIA BOARD OF NURSING CERTIFIED NURSE AIDE EXAMS		
HCT 115	Medication Admin. Training	3	HCT 101 or Co-Enrolled
	STUDENTS ARE ELIGIBLE TO TAKE THE VIRGINIA BOARD OF NURSING CERTIFIED MEDICATION AIDE EXAM		
SECOND SEMESTER			
HLT 145	Ethics for Healthcare Personnel	2	
ITE 119	Information Literacy	3	
HLT 235	Diagnostic Cardiography	4	Previous completion of a healthcare program
	STUDENTS ARE ELIGIBLE TO TAKE THE CCI EXAM FOR CERTIFICATION AS AN EKG TECHNICIAN		
TOTAL PROGRAM CREDITS		**21**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

EMS 100, EMS 111, or HLT 100 will substitue for HLT 105. ITE 115, ITE 100, or HIM 130 will substitute for ITE 119.

152

Associate of Applied Science Degree

OCCUPATIONAL THERAPY ASSISTANT (SWCC)

Purpose:
Graduates of the program are prepared to qualify as contributing members of the health care team who will care for patients under the supervision of a Registered Occupational Therapist. The goals of the occupational therapy team are to develop, restore, or maintain adaptive skills in individuals whose abilities to cope with daily living are threatened or impaired by disease, injury, developmental disability, or social disadvantage. This program is offered in partnership with Southwest Virginia Community College (SWCC) and degrees will be conferred from SWCC.

The Occupational Therapy Assistant Program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, P. O. Box 31220, Bethesda, MD 20824-1220. AOTA's phone number is (301) 652-2582. Graduates of the program will be able to sit for the national certification examination for the occupational therapy assistant administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this exam, the individual will be a Certified Occupational Therapy Assistant (COTA). Most states require licensure in order to practice; however, state licenses are usually based on the results of the NBCOT Certification Examination.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Demonstrate knowledge of the structure and function of the human body.
2. Demonstrate knowledge of common diseases and disorders treated by OT.
3. Demonstrate the ability to document OT services to ensure accountability and to meet standards for reimbursement.
4. Identify components of professional behavior in the clinic and work setting

Employment Opportunities
Occupational therapy assistants earn good incomes and work in a wide variety of settings. The U.S. Labor Department estimates that job openings for occupational therapy assistant will rise by nearly 40 percent over the next decade.

Certified Occupational Therapy Assistants can find employment in a wide variety of settings, including: hospitals, nursing homes, rehabilitation clinics, schools, and social service agencies.

Program Requirements
Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate devlopmental studies courses.

Admission Requirements
In addition to the general requirements for admission to the College, consideration for a position in this program requires the following:

1. Graduation from high school or satisfactory completion of the GED.
2. The completion of one unit each of biology (with laboratory) and chemistry (with laboratory) with no grade below a "C" prior to January 15 application deadline (deficiencies can be made up through developmental studies or college courses).
3. High school seniors who have not completed the full sequence of the prerequisite courses must be enrolled in the second semester of these courses and have earned a grade of "C" or above for the first semester to be considered for program admission. Grades in these courses must reflect a minimum of "C."

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153

4. All high school courses and/or college work must reflect an overall grade average of "C" (2.5 GPA) or higher.
5. The completion of the Virginia Placement Tests (VPT) with demonstrated readiness for ENG 111 and proficiency in MTE 1-6.
   - Satisfactory completion of ENG 111 with grade of "C" or above will meet the ENG pre-requisite
   - Scores of 520 or above for SAT math and 22 for ACT math or College Math courses number 151 or above with at least a "C" grade or better will meet the Math pre-requisite
   - The completion of the TEAS-V test
6. Any prescribed developmental studies courses, must be successfully completed before the January 15 application deadline.
7. Eight (8) hours of observation in an occupational therapy setting should be documented by the OT personnel denoting and date (s') and time (s).

Classes begin the fall semester of each academic year. Students accepted into the program are required to submit a certificate reflecting a successful physical examination, signed by a licensed physician. The physical examination must be completed after receiving notification of acceptance to the program and prior to beginning classes. Immunizations must be current and include Hepatitis B and MMR. Proof of Tuberculin skin test (PPD) and CPR certification must be shown on admission to the program and kept current throughout the program. Students are responsible for any additional costs related to physicals, vaccinations, uniforms, insurance, background checks, drug testing, clinical travel, or other needed supplies or requirements.

Additional Information

Clinical and Behavioral Requirements
Selected and supervised learning experiences are required by this program and will be accomplished at selected health care facilities. Because there are limited clinical sites within the area, students may be required to travel to other areas to complete clinical training. Students are responsible for providing their own transportation, uniforms, and living expenses during fieldwork experiences. In the fifth semester, there will be 40 hours per week of clinical time (Level II fieldwork) in two eight week segments, so students must plan their schedules accordingly. Program faculty will observe and evaluate the student's suitability for the profession. If in the judgment of the Program Faculty the student does not exhibit those behaviors required of the occupational therapy assistant, the student may be asked to withdraw from the program. All OTA students must complete Level II Fieldwork within 18 months following completion of academic preparation. A felony conviction may affect a graduate's ability to sit for the NBCOT certification examination or attain state licensure.

Program Requirements
The student is required to complete a sequence of courses and learning experiences. Students must achieve a grade of "C" or better in all program courses. Any student receiving a grade of "D" in any of the program courses will be placed on Program Probation. That course shall be remediated once, with a written contract containing the requirements of the remediation. Please note: Students may be required to wait at least one academic year before they will have an opportunity to remediate the course. Students on program probation status will only be allowed to remediate the course if there is an open position in the class. Dismissal from the program shall result if: 1) the student does not meet the requirements of the probationary contract; 2) the student receives a final grade of less than "C" in any program courses either during or after the period of the Program Probation; or 3) a final grade of "F" in any coursework after admittance to the program will result in dismissal from the program. Remediated courses must be completed with a final grade of "C" or better.

Criminal Background Check/Drug Screening
Background checks for criminal history and sex offender crimes against minors are required for entrance into some clinical agencies. Students with convictions may be prohibited from clinical practice and may not complete the program. Clinical agencies may require drug testing prior to placement of students for clinical rotations. Students with positive drug test results may be prohibited from clinical practice and may not complete the program. Cost for criminal background checks and drug testing will be the responsibility of the student.

154

OCCUPATIONAL THERAPY ASSISTANT
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
BIO 141	Human Anatomy & Physiology I	4	
ENG 111	College Composition I	3	
HLT 143	Medical Terminology	3	
OCT 100	Introduction to OT	3	
PSY 230	Developmental Psychology	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
BIO 142	Human Anatomy & Physiology II	4	
OCT 195	Topics in OT for Physical Dysfunction	2	
OCT 201	OT with Psychosocial	3	
OCT 205	Therapeutic Media	2	
NAS 195	Kinesiology	1	
ITE 119	Information Literacy	3	
	Humanities/Fine Arts Elective	3	
SECOND YEAR SUMMER			
OCT 190	Coordinate Practice in OT I-Level I Fieldwork	1	
OCT 207	Therapeutic Skills	3	
OCT 220	OT for the Adult	2	
SECOND YEAR FALL			
OCT 190	Coord. Practice in OT I-Level I Fieldwork	1	
OCT 202	OT with Physical Disabilities	4	
OCT 203	OT with Developmental Disabilities	4	
OCT 208	OT Service Management & Delivery	3	
OCT 210	Assistive Tech in OT	2	
SECOND YEAR SPRING			
OCT 290	Coordinate Practice in OT III-Level II Fieldwork	6	
OCT 290	Coordinate Practice in OT IV-Level II Fieldwork	6	
OCT 298	Seminar and Project OTA	1	
	ELIGIBILITY TO SIT FOR NBCOT CERTIFICATION		
TOTAL PROGRAM CREDITS		**68**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

ITE 115 or ITE 100 will substitute for ITE 119. HIM 111 or HIM 112 will substitute for HLT 143. The completion of both PSY 231 and 232 will substitute for PSY 230. BIO 231 will substitute for BIO 141 and BIO 232 will substitue for BIO 142.

155

Career Studies Certificate

PHLEBOTOMY (221-151-02)

Purpose

Provide students with advanced theory and laboratory experience required for employment in healthcare facilities. Prepare students to take the NPA (National Phlebotomy Association) certification exam. Provide employers with competent, entry-level phlebotomists. Provide students with exposure to the latest technology and devices being used.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Utilize universal precautions as outlined by the CDC.
2. Identify the venous anatomy and surfaces on which phlebotomy can be performed.
3. Differentiate between serum and plasma.
4. Analyze factors to be considered in venipuncture or skin puncture site selection.
5. Assemble the equipment and supplies needed to collect blood by venipuncture and skin puncture.
6. Discuss critically complications associated with blood collection.
7. Perform the steps in accurate specimen collection, tube draw order, and documentation procedures.
8. Perform a minimum of 100 successful venipunctures on human patients.

Employment Opportunities

Phlebotomists may be employed by physician and other practices, acute care facilities, long term care facilities, home health agencies, insurers and by some government agencies.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies these areas may be corrected by completing the appropriate developmental studies courses.

Additional Information

The is a competitive admissions program. The deadline to submit a program application to the summer cohort is April 15th, the deadline to apply for admission to the fall cohort is July 15th. Please visit www.mecc.edu to apply for program admission. Phlebotomy students must complete the following prior to enrolling in MDL 106:

- Proof & record of three Hepatitis B vaccinations OR proof of immunity by titer.
- Proof & record of two MMR vaccines OR proof of immunity by titer.
- Proof & record of negative TB test (two-step).
- Proof & record of seasonal flu shot.
- Proof & record of two varicella vaccinations OR proof of immunity by titer.
- Proof & record of DTP (diphtheria, tetanus, pertussis) vaccinations OR proof of immunity by titer.
- Copy of BLS for Healthcare Provider (CPR) certification card, back and front.
- Passing of criminal and sexual background checks and drug screen.

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156

PHLEBOTOMY
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST SEMESTER (SUMMER OR FALL)			
SDV 100	College Success Skills	1	
HIM 111	Medical Terminology I	3	
HLT 100	First Aid & CPR	3	
	STUDENTS EARN AHA BLS FOR HEALTHCARE PROVIDER CPR CERTIFICATION, AHA HEARTSAVER OSHA BLOODBORNE PATHOGEN CERTIFICATION, AND AHA HEARTSAVER FIRST AID CERTIFICATION		
HLT 145	Ethics/Healthcare Personnel	2	
MDL 105	Phlebotomy	3	
SECOND SEMESTER (FALL OR SPRING)			
ENG 111	College Composition	3	
HIM 112	Medical Terminology II	3	
ITE 119	Information Literacy	3	
MDL 106	Clinical Phlebotomy	4	HIM 111, HLT 145, MDL 105
	STUDENTS ELIGIBLE TO TAKE THE NATIONAL PHLEBOTOMY ASSOCIATION CERTIFICATION EXAM		
TOTAL PROGRAM CREDITS		**25**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

ITE 115, ITE 100, or HIM 130 may be substitute for ITE 119. EMS 111, HLT 119, or EMS 101 may be substituted for HLT 100. Proof and record of clinical affiliate required vaccinations and titers are required for program admission. Please see an advisor for details.

157

Associate of Applied Science Degree

PHYSICAL THERAPY ASSISTANT (WCC)

Purpose

The two-year program is designed to prepare the student with the philosophical, theoretical, and clinical knowledge to become a trained technical health care worker who can assist the physical therapist in meeting the physical therapy needs of the public. These needs include, but are not limited to, improving patient mobility, relieving pain, lessening the functional limitations that occur as a result of physical disability. The profession of physical therapy also includes health and wellness promotion, public education, and injury and disability prevention. Students may register at MECC for their general education course requirements and apply to the WCC Physical Therapist Assistant Program for admission according to the procedure outlined below. Students will be totally responsible for transportation to and from the college(s) and the health agencies utilized for clinical experiences. The A.A.S. degree will be awarded by Wytheville Community College. Employment opportunities for the licensed Physical Therapist Assistant include positions in hospitals, nursing homes, home health care agencies, rehabilitation centers, school systems, and private practices. Graduates work under the direction and supervision of a physical therapist to provide such interventions as exercises, massage, electrical stimulation, paraffin baths, hot and cold packs, traction, or ultrasound. They also record the patient's response to treatment and report this to the supervising physical therapist. Employment settings include: outpatient clinics, acute care hospitals, long-term care and skilled care facilities, rehabilitation centers, home health care agencies, contracting agencies and corporations, and school systems. Patients range in age from newborn to the elderly, with age- and developmental stage-specific concerns.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Demonstrate a general core of academic general education knowledge that includes written communication and biological, physical, behavioral, and social sciences.
2. Demonstrate knowledge of sciences and scientific reasoning in topics basic to physical therapy including the cardiovascular, endocrine and metabolic, gastrointestinal, genital and reproductive, hematologic, hepatic and biliary, immune, integumentary, lymphatic, musculoskeletal, nervous, respiratory, and renal and urologic systems; and the medical and surgical conditions across the lifespan commonly seen by physical therapist assistants.
3. Provide physical therapy care that adheres to practice standards of ethics, values, and responsibilities.
4. Provide Patient/Client management
5. Carry out the plan of care established by the physical therapist.
6. Demonstrate competence in implementing selected components of physical therapy interventions in the plan of care established by the physical therapist.
7. Demonstrate competence in performing components of data collection skills essential for carrying out the plan of care by administering the appropriate tests and measures (before, during, and after interventions).
8. Complete accurate documentation that follows guidelines and specific documentation formats required by state practice acts, the practice setting, and other regulatory agencies.
9. Respond effectively to patient/client and environmental emergencies that commonly occur in the clinical setting.
10. Participate in and promote the healthcare environment and practice management.

Employment Opportunities

Employment opportunities for the licensed Physical Therapist Assistant include positions in hospitals, nursing homes, home health care agencies, rehabilitation centers, school systems, and private practices. Graduates work under the direction and supervision of a physical therapist to provide such interventions as exercises, massage, electrical stimulation, paraffin baths, hot and cold packs, traction, or ultrasound. They also record the patient's response to treatment and report this to the supervising physical therapist. Employment settings include: outpatient clinics, acute care hospitals,

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158

long-term care and skilled care facilities, rehabilitation centers, home health care agencies, contracting agencies and corporations, and school systems. Patients range in age from newborn to the elderly, with age- and developmental stage-specific concerns.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

The Physical Therapist Assistant Program participates in the WCC Health Programs' Selective Admissions process. In the event that there are more applicants for the PTA program than there are slots, a selective admissions process outlined below will take effect. Deadline for submitting all required information to be considered for admission is February 15 of the spring before the desired fall semester admissions. The following Minimal admission requirements must be met by February 15 in the spring prior to the desired fall admission:

- Student must complete a Wytheville Community College General Student Application.
- Student must forward to WCC an official transcript of any and all non-VCCS college work previously attempted and/or completed by February 15. The student must ALSO forward to WCC an official high school transcript or copy of the student's GED by February 15. Students currently enrolled in high school at the time of application for admission should forward to WCC a copy of their high school transcript through the fall semester of the senior year. Transcripts should be sent as early as possible so that previous course work can be evaluated to determine the need for developmental courses prior to applying for admission to the PTA program.
- Competency in English and Math Essentials MTE 1-4 as demonstrated through the placement and diagnostic tests, or by satisfactorily completing the required MTE and/or ENF units or equivalent.
- Student must have completed one high school Biology with a lab with a minimum grade of "C", or the student must have successfully completed one unit of developmental or college-level Biology.
- Student must have completed one high school Chemistry with a lab with a minimum grade of a "C", or the student must have successfully completed one unit of developmental or college-level Chemistry.
- All Developmental coursework must be completed prior to the February 15 admission deadline.
- The student must have an overall minimum GPA of 2.0 for all college or high school work attempted. If the student has completed > 12 semester credit hours of college-level work, the college GPA will be used in calculating the student's admissions score. If the student has completed <12 semester credit hours of college-level work, the high school GPA will be used in calculating the student's admissions score. Because grades for courses taken during the spring semester of the application process will not be available during the student's application assessment, all GPA calculations will be based on work completed through the fall semester preceding the February 15 deadline.
- Student must complete twelve (12) shadowing hours with a physical therapist or a licensed physical therapist assistant in a physical therapy practice of the student's choice PRIOR to Feb. 15. The student may choose to complete the shadowing hours in one facility or in several, and the student may choose to perform more than the minimum number of hours required in order to have a more thorough knowledge of the field of physical therapy. Students should make the arrangements for the shadowing experience at a facility of their choosing at the convenience of the facility. The student should log the hours spent in the shadowing experience and should have their supervising clinician sign the log to verify the experience. Shadowing log forms are available here or you may use a form of your own choosing. Documentation of the shadowing experience is due in the WCC Admissions Office by Feb. 15.
- Student must take a pre-admissions screening test through WCC. The student must contact the WCC Testing Center at (276) 223 – 4707 or by e-mail at testing@wcc.vccs.edu to set up an appointment to take the ATI TEAS Test. This is a web-based test that will cost the student a nominal fee payable via credit or debit card directly to the testing company on-line. The ATI TEAS will assess the student's competency in high school level reading, high school level grammar, high school level Math up through Algebra I, and high school level general sciences. Tests may be taken at alternate sites; however, the student must make arrangements and schedule the test through the WCC testing center. Further information on the testing is available from the WCC Admissions Office at (276) 223 – 4702 or kalexander@wcc.vccs.edu .For the purposes of admission to the WCC PTA program, there is no "passing" or lowest possible score on the ATI TEAS test. The score is merely added to the selective admissions score. Therefore,

159

the higher the ATI TEAS score, the more points toward the admissions score. The ATI TEAS test must be completed in time for the scores to be reported to the WCC Admissions Office by February 15.
- Please take great care to sign up for the ATI TEAS and not the TEAS test used for Nursing Program admission.
- Student must complete an application from the Selective Admissions Procedures for Health Professions Programs packet by February 15. This form identifies the student as an applicant for one of WCC's Health Programs and includes a checklist of required criteria for each program.
- All applicants meeting the above requirements by the February 15 deadline will be screened based upon items ranging from overall and sciences GPAs, TEAS V-AH test performance, and completion of college level science classes. The top-scoring finalists will be offered an admissions interview with program faculty.

Following the completion of the interview, each application will be scored on items ranging from overall and science GPAs, TEAS V-AH test performance, completion of college-level science classes, and knowledge of the field of physical therapy communicated in the interview. The top scores will be offered admissions slots for the upcoming fall semester.

Students will be notified by approximately May 1st prior to the fall of admission of their admissions status. Students who are accepted for admission must notify the WCC Admissions Office of their intention to accept or decline the offered slot by the deadline listed on their admission letter. Failure to do so will result in the loss of that slot to an alternate.

Students who are not accepted into the program must re-submit the Health Professions Application from the Selective Admissions Procedure for Health Professions Programs packet to reapply for a future year. If they wish, these students may also schedule an appointment with PTA faculty to discuss ways to improve their application.

Students who fail to submit any of the required material to the WCC Admissions Office by the February 15 deadline will not be considered for admission for the following fall semester. There will be no exceptions. The WCC PTA program will establish only one admission deadline, as there are frequently many more applicants than available slots. Students submitting materials late may be considered for admission for the following year if they wish. It is HIGHLY recommended that students applying to the PTA program begin the admissions process early and check frequently with the WCC Admissions Office to ensure that their application is complete well before the February 15 deadline. It is not the duty of the WCC Admissions Office to notify applicants of incomplete application packets or missing information. Making sure that the admissions packet is complete is the sole responsibility of the applicant.

Additional Program Requirements
- Upon admission, the student must schedule a complete medical physical examination and return the completed physical form to the WCC Admissions Office by August 15. Included in this information must be a current record of the student's immunizations including all recommended childhood vaccines, immunization against Hepatitis B or waiver, current tetanus immunity, chicken pox and mumps immunity, and proof of HIV status.
- Students will be required to complete a criminal background check prior to enrollment in the program and a drug screen to be completed in the spring semester of the first year. These screens and checks will be provided to the student through WCC at a nominal fee to the student. It should be noted that applicants who have been convicted of felonies or misdemeanors of a personal injury nature will have considerable difficulty in obtaining professional licensure in a health care field. Students with a history of illegal substance abuse indicated by criminal conviction or by positive drug screens will also have difficulty obtaining professional licensure.
- Students will achieve and maintain certification in Cardiopulmonary Resuscitation (Health Care Provider) throughout the course of the program, beginning in the spring of the first year.
- Students will take all program courses in the order that they are offered and are expected to complete all courses successfully prior to moving forward. Students must complete BIO 141 with a grade of "C" or better prior to enrolling in the second semester of the program. Students must complete BIO 142 with a grade of "C" or better prior to enrolling in the summer term between the second and third semesters of the program.
- In order to progress through the program, all students must receive a final grade of "C" or better in all courses with a PTH prefix and in BIO 141 and BIO 142. Students who do not receive a final grade of "C" or better in these courses will be ineligible to continue in the program and will be withdrawn. In addition, for all PTH classes that have a lab component, each student must earn an overall average of 75% in both the didactic and the laboratory portion of

160

the course to successfully complete the course. Students who do not earn a 75% in both portions of the course will be considered to have failed the course and will be ineligible to continue in the program, regardless of their average in the other portion of the course.

- If a student must leave the program due to poor academic performance, or because of personal reasons, he or she may apply for reinstatement according to the following procedure:
- The student must apply in writing to the Physical Therapist Assistant Program Head at least one semester before the requested readmission date, requesting permission to repeat the course in which they received a grade lower than a "C." For students who left the program for reasons other than academics, they should request permission to re-enter the program at the point where they last successfully completed work.
- The student requesting re-entry must have at least a 2.0 cumulative GPA at the time of the request.
- Confer with the PTA Program Head, discussing the following subjects:
- Any personal or professional factors which may have an influence on the student's future academic success in the program
- Any academic or professional activities that the student may have participated in since leaving the program that may have an influence on the student's future academic success in the program
- There must be an available open slot in the program.
- Students may be required to take and pass written final examinations or lab skill check-offs for the courses that they have previously completed to ensure that they continue to have mastery of the content of these courses.

Normally the student will be notified of his or her re-admission to the program approximately 4 weeks prior to the beginning of the re-enrollment date. However, special circumstances may arise requiring shorter notice.

During the time that the student is not enrolled in the PTA program, he or she may elect to complete co-requisite work or other college courses; however, performance in these courses will be part of the student's overall GPA and may influence readmission. Having taken the co-requisites for the program will not influence the decision to readmit the student to the program, other than the influence these courses may make on the student's overall GPA. If a student has been withdrawn from the program due to a grade lower than a "C" in BIO 141 or BIO 142, the student must successfully complete these courses prior to re-admission.

Additional Information

Clinical Education Requirements

- Prior to beginning the clinical education portion of the program, the following criteria must be met:
- The student must sign a waiver freeing the clinical site, Wytheville Community College, the Virginia Community College System, and the Commonwealth of Virginia from any liability for any injury the student may receive or from any liability claim that the student may incur, while engaged in the clinical portions of the physical therapist assistant program.
- The student must have a current physical examination.
- The student must read and agree to, as is evidenced by their signature, the rules and regulations of the WCC Physical Therapist Assistant Program as outlined in the Student Handbook.
- The student must read and acknowledge capability in all areas of the Physical Therapist Assistant Essential Functions, as indicated by the student's signature.
- The Student must hold a current CPR (Healthcare Provider) Certification.
- The student must provide the college with a current immunization record including evidence of completion of the Hepatitis B immunization series or a waiver, current tetanus immunity, chicken pox and mumps immunity, and proof of HIV status.
- The student will be required to complete a criminal background check prior to enrollment in the program and a drug screen to be completed in the spring semester of the first year. These screens and checks will be provided to the student through WCC at a nominal fee to the student.
- If a student has a positive finding on the Criminal Background Check and/or the Urine Drug Screen, the student may not be accepted for clinical education by any of the clinical education sites. If positive results occur, the program is not responsible for finding a clinical education placement for the student, and the student may not be able to continue his or her education in the program due to a lack of clinical education sites which are willing

161

to accommodate the student. It then becomes the student's sole responsibility to locate a clinical education site that is willing to accommodate the student, after having been fully informed of the findings of the screen(s). The student is referred to the Student Handbook for specific policies and procedures that apply to positive results on the Criminal Background Check and/or the Urine Drug Screen.

PHYSICAL THERAPY ASSISTANT PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
BIO 141	Human Anatomy & Physiology I	4	
ENG 111	College Composition I	3	
PSY 230	Developmental Psychology	3	
PTH 105	Introduction to Physical Therapy	3	
PTH 110	Medical Reporting	2	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
BIO 142	Human Anatomy & Physiology II	4	
PTH 115	Kinesiology for the Physical Therapy	4	PTH 105 and 110
PTH 121	Therapeutic Procedures I	5	PTH 105 and 110
PTH 151	Musculoskeletal Structure & Function	5	PTH 105 and 110
SECOND YEAR SUMMER			
PTH 131	Clinical Education I	2	PTH 105 and 110
PTH 210	Psychological Aspects of Therapy	2	PTH 105, 110, 115, 121, 131, 151
PTH 227	Pathological Conditions	3	PTH 105, 110, 115, 121, 131, 151
SECOND YEAR FALL			
PTH 122	Therapeutic Procedures II	5	PTH 105, 110, 115, 121, 131, 151
PTH 225	Rehabilitation Procedures	5	PTH 105, 110, 115, 121, 131, 151
PTH 226	Therapeutic Exercise	4	PTH 105, 110, 115, 121, 131, 151, 210, 227, 122, 225
SECOND YEAR SPRING			
PTH 245	Professional Issues	3	PTH 105, 110, 115, 121, 131, 151, 210, 227, 122, 225
PTH 251	Clinical Practicum I	3	PTH 105, 110, 115, 121, 131, 151, 210, 227, 122, 225
PTH 252	Clinical Practicum II	4	PTH 105, 110, 115, 121, 131, 151, 210, 227, 122, 225
	Humanities/Fine Arts Elective	3	

ELIGIBILITY FOR LICENSURE EXAM AS A PTA

TOTAL PROGRAM CREDITS **68**

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

The completion of both PSY 231 and PSY 232 is a substitute for PSY 230. BIO 231 is a substitute for BIO 141. BIO 232 is a substitute for BIO 142.

162

Certificate

PRACTICAL NURSING LEADING TO LPN (157)

Purpose:
The mission of the MECC Practical Nursing program is to facilitate the health of the community. This mission is accomplished through nursing education, leadership, scholarship, and innovative nursing practice. The foundation of these goals is lifelong learning, responsiveness to changing healthcare needs, generation and dissemination of new knowledge, and service to the public and the profession.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Obtain training that allows them entry level nursing positions within various healthcare facilities.
2. Provides nursing care that contributes to the enhancement of the health care delivery setting and protects clients and health care personnel.
3. Collaborate with health care team members to facilitate effective client care.
4. Protectntal and social well-being of the clients.
5. Assist in the promotion of physical health and well-being by providing care and comfort, reducing risk potential for clients and assisting them with the management of health alterations.
6. Provide care related to the administration of medications and monitors clients who are receiving parenteral and enteral therapies.
7. Reduce the potential for clients to develop complications or health problems related to treatments, procedures, or existing conditions.
8. Participate in providing care for clients with acute, chronic, or life-threatening physical health conditions.

Employment Opportunities
Employment opportunities for the Licensed Practical Nurse include, but are not limited to, staff positions in hospitals, nursing homes, health departments, physicians' offices, clinics, home health agencies, day care centers, public schools, and civil service.

Program Requirements
Students must have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses. All identified developmental course needs must be completed prior to admission to the Practical Nursing program.

1. State accredited high school diploma, home school diploma, or GED.
2. For high school graduates/GED recipients with less than twelve (12) transferable college credits completed, the cumulative high school GPA will be used. The GPA for GED recipients will be computed based on the total GED score.
3. Applicants are solely responsible for completing and/or submitting the following items:
    - MECC application for admission to the college
    - MECC Practical Nursing Program Application (Spring Semester deadline is October 15; Fall Semester deadline is June 15. Applicants will be notified of status for admission during the month following application deadline.
    - A copy of high school transcript or GED scores and any college transcripts must be submitted as an attachment to the Application for Practical Nursing online program application.
    - It is the sole responsibility of the applicant to ensure the application file is complete and all supporting documents have been uploaded as part of the online program application.
    - A copy of TEAS testing scoring sheet must be uploaded with the online application.
    - Completion of an online Practical Nursing Program Application is required for each academic year for which the applicant is interested in being considered.

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163

Additional Information

Admission to Practical Nursing program is based upon:

- College placement scores indicating readiness for MTH 133 or higher
- College placement scores indicating readiness for ENG 111
- Biology with a lab (high school or college) with a "C" or better. **Applied biology and/or ecology does not satisfy this requirement.** Biology requirements must have been completed within five (5) years of application. PNE 155, BIO 1, BIO 101 or BIO 102, BIO 141 or BIO 142, BIO 145, or NAS 171 will meet the admission requirements.
- Cumulative GPA will be calculated at 40% into the overall scoring rubric. GED recipients will be ranked according to their general equivalent diploma scores. **The most current grade recorded for coursework will be used in admission consideration.**
- TEAS (Test of Essential Academic Skills) entrance testing: Applicants must complete all sections of the TEAS test. The individualized adjusted score will be calculated at 25% into the overall grading rubric for admission.
- TEAS scores must be attached to the application and submitted to Enrollment Services.
    - o Scheduling a TEAS examination: Go to www.mecc.edu/testing and click on the TEAS registration form link. Complete this form to register for a date and time to take the TEAS assessment. After you submit the form, you will receive an Outlook Calendar invitation within 48 hours.
    - o Students can choose to submit previous completed TEAS testing scores. Testing scores must be completed and dated within the last two (2) years.
    - o Testing fee: $55.00. (price for testing subject to change).
    - o Paying for TEAS testing: Fees for TEAS testing must be paid by credit card, debit card, or prepaid card in the Student Services Testing Center. Please bring one of these methods of payment with you on the day of your test. Student Services staff will assist test takers in processing online payment.
- Study guides for the TEAS test can be found online at www.atitesting.com, uniontestprep.com/teas and the Wampler Library on MECC campus. Other resources may be found online using the search term: TEAS study guides.
- General Education Course Requirements. These are the required general education program courses that will be used to give points towards program admission. Students will receive credit for up to 14 credits for completed non-nursing coursework. These courses will be calculated into the overall scoring rubric at 35%. Students are highly encouraged, but not required, to complete this coursework prior to submission of program application.
    a. -ENG 111- 3 credits
    b. -MTH 126- 2 credits or MTH 133 – 3 credits
    c. -HLT 130- 2 credits
    d. -SDV 100- 1 credit
    e. -PSY 231 and 232 - 6 credits (recommended for those students planning for LPN to RN bridge)
    f. -PSY 230 – 3 credits
    g. -BIO 141 and 142- 8 credits (recommended for those students planning for LPN to RN bridge)
    h. -PNE 155 – 3 credits
    i. –BIO 145 – 4 credits
    j. –SAF 130 – 1 credit

Criminal Background Check/Drug Screening

Background checks for criminal history and sex offender crimes against minors are required for entrance into clinical agencies. Background check and drug screening documentation must be dated within one (1) year of entry into the PN program and be conducted through our approved third-party vendor. Students with convictions may be prohibited from clinical practice and may not be allowed to complete the program. Any questionable background check will be reported to the clinical agency. Clinical agencies have final say whether a student may attend clinical or not. If a student is denied admission into the clinical agency, the student must withdraw from the program. Clinical agencies require drug testing prior to placement of students for clinical rotations. Students with positive drug test results will be prohibited from clinical practice and will not be eligible to complete the program. The cost of criminal background checks and drug testing will be the responsibility of the student.

Financial Requirements

Students are responsible for the following costs in addition to tuition, fees, and book costs: uniforms, CPR/First Aid

certification, immunizations, physical exam, medical equipment (stethoscope, sphygmomanometer, pen light, watch with second hand, etc.), and mandatory review and testing services (ATI) throughout the program. Upon completion of training, students will be eligible to sit for the NCLEX-PN examination. All fees related to licensure examination are the student's responsibility. Students are also responsible for their own transportation to the college and all clinical sites. Students who fail to meet these responsibilities will not be able to continue in the program. The anticipated cost of the entire training program is $7500.00 (subject to change as prices and tuition fluctuate).

Licensure Requirements

Qualifications for a Practical Nurse licensure have been established by the Virginia State Board of Nursing and can be found in Nursing Law of Virginia that may be seen in the Program Director's Office. Upon satisfactory completion of the Practical Nursing Program, the student should apply to graduate and will be awarded the Certificate in Practical Nursing. Graduates are eligible to sit for the NCLEX-PN examination and subsequent licensure. Students are responsible for all fees relating to the NCLEX-PN examination.

Links for further NCLEX-PN and licensure information can be found at:

- https://www.dhp.virginia.gov/nursing/
- https://www.ncsbn.org/index.htm

Selection of Cohort

Applicants, submitting applications on time, will be admitted by highest to lowest scores. Applications received after the deadline may be considered: 1) if the cohort is not filled or 2) when current enrollment grades are posted. Applicants must have minimum 54 points on the scoring rubric to be considered for admission.

Scoring Rubric

Criteria	Weight	Calculation	Score	Criteria	Weight	Calculation	Score
Cumulative GPA (high school or college)	40%	GPA:_____X 10	_____	Cumulative GPA (high school or college)	40%	GPA:____X 10	_____
General Education Courses completed	35%	Grade Points Earned_____/up to 14 X 35	_____	General Education Courses completed	25%	Grade Points Earned/14 X 25	_____
TEAS testing (individual adjusted score)	25%	IAS TEAS score _____X 0.25	_____	TEAS V testing (individualized adjusted score)	35%	IAS TEAS V score X 0.35	_____
Possible bonus points:		+10 points	_____	Certified nurse aid and work experience	+ 10 points	Nurse aid certificate/work experience +10 points	_____
Certified nurse aid and work experience	+10 points	Scoring rubric total: _____					

Students should refer to the Practical Nursing Admission Process and the Health Sciences Program Applications for published deadlines and admission criteria.

Notification of Acceptance

All applicants will receive written notification of acceptance/non-acceptance by December 21 for Spring admission and August 1 for Fall admission (dates are subject to change based on number of applications to process). **If the applicant's acceptance of an admission offer is not returned by the stated deadline, the offer will be withdrawn without notice**. Letters may be sent by certified mail and will have to be signed for at the post-office. The college is not responsible for undeliverable mail. Appeals of an Admission Committee decision must be made in writing to the program faculty.

When the class has been filled, the remaining applicants will be placed on an alternate list by the score from the selection process. Should an admitted student not accept his/her position, applicants from the alternate list will be admitted into the program through the last day of registration for spring/fall classes. If the College is unable to contact the next student on the alternate list by mail/phone, or if the student is unable to immediately commit to accept, the next student, on the alternate list, will be contacted with the offer.

Priority will be given to all qualified applicants applying by the deadline for the respective semester who are domiciled residents of Lee, Wise, Scott, Dickenson Counties and the City of Norton, and to Virginia domiciled residents not having access to a given program at their local community college. A domiciled resident is one who has lived in the locality or state for the twelve months before application deadlines. Applicants moving out of the locality or state between April 1 or September 1 and the first day of classes will lose their preferred status and any offer of admission to the program may be withdrawn. In addition, residents of localities with which the college has clinical-site affiliation (Sullivan County, TN, Hawkins County, TN, Hancock County, TN, and the city of Kingsport) may receive equal consideration for admission as local residents. **Applicants who may not meet requirements for domicile are encouraged to meet with a faculty advisor.**

Orientation

Students accepted into the program are required to attend a mandatory orientation to the program. During this orientation, all requirements to begin training will be discussed. Acceptance letters will outline date, time, and location for the mandatory orientation.

Other admission point availability

Certified nurse aides with a minimum of 1,000 hours and 6 month work experience wishing to receive credit for work experience must submit the required documentation as an attachment to the online PN program application:

- A copy of their Board certification
- An official letter from Human Resources verifying length of work experience (1,000 hours or 6 months minimum), area of experience, and contact information
- All documentation will be verified by the Program Director.

Program Progression

Upon admission and during the course of the program, the LPN faculty will carefully observe and evaluate the student's aptitude for nursing. Students are expected to complete all courses listed in each semester of the curriculum before being allowed to enter subsequent semesters.

Any student who earns a grade **lower than "C" in any practical nursing curricular course must repeat the course and earn a final grade of "C" or better** before progressing to the next nursing course or graduating from the nursing program. Courses must be completed by semester in sequential order. Once a student is accepted into the Practical Nursing program - Students may repeat one PNE prefix course, or acceptable substitute, once. Repeat is limited to the original enrollment and one additional enrollment in one course. If a student fails a second time or subsequent course, the student will be dismissed from the practical nursing program. Any exception to the above policy must have the approval of the Director of the nursing program. Students who must repeat a nursing course will be enrolled in that course on a "space available" basis.

Students will be allowed two withdrawals from PNE courses. Upon a third withdrawal, the student will be dismissed from the program.

A minimum GPA of 2.0 must be maintained throughout the program. Upon failure to maintain a GPA of 2.0, the student will be dismissed from the program.

Students are highly encouraged to repeat PNE courses within the next available semester. If repeated coursework is not completed within one year, students must apply as new applicants to the program.

Students may, and are encouraged to, complete all non-nursing coursework prior to admission. After acceptance into the Practical Nursing program, students are required to complete the coursework within the designated semester listed in the Practical Nursing curriculum.

ATI Proctor Exams: Content proctored exams will be required in the following courses: PNE 161, PNE 164, PNE 173, PNE 158, PNE 145, and PNE 195 and PNE 295. Prior to proctor exam dates, students are required to complete the two ATI online practice tests with 100% as preparation for the final ATI exams. These practice tests are timed at 48 hours between

each attempt. Instead of a comprehensive final exam, the ATI proctor exam will be completed and grade calculated as the final exam. These proctor exams are calculated into the overall course grade average as follows:

Below level 1 – 0%
Level 1 – 85%
Level 2 – 92.5%
Level 3 – 100%

ATI exit exam: The final exit exam is the ATI probability exam. This exam measures the readiness of students to pass NCLEX PN on the first attempt. An exit exam will be given to all students enrolled in PNE 145 and who are in their last semester of the PN program. Students will be given a practice probability exam (students are responsible for fee) and two (2) final attempts (purchased as part of the ATI review package) on the probability exam. This probability exam will calculate into the overall grade average for the PNE 145 – Trends in PN course. The probability exam is calculated into the overall course grade average as follows:

Actual probability exam grade earned will be weighted at 80% of overall course grade average.

Physical examination/ Immunization Requirements

Individuals accepted into the program must pass a physical examination given by a licensed physician, nurse practitioner, or physician assistant and be free of any physical or mental condition, which would adversely affect performance as a member of the nursing profession. Physical examinations documentation must be dated within one (1) year of program admission.

- Physical demands in this program include duties that frequently require squatting, bending, kneeling, reaching, stair climbing, lifting and carrying up to 50 pounds, frequent pushing and pulling up to 200 pounds with assistance, and occasional lifting and carrying up to 51-74 pounds. Duties also require constant use of sight, hearing, touch, and speech. Environmental conditions include procedures that involve handling blood and body fluids using standard precautions.
- Immunizations must be current,

a. If students are unable to provide proof of immunization, titers proving immunity to diseases must be submitted.
b. A tuberculin test is required on admission and yearly while in the program, except for previous positive reactors who must have a chest x-ray.
c. MMR X2,
d. tetanus every 10 years,
e. varicella X2 (or documented history), and
f. Hepatitis B series X3.

- Students must receive an annual, current season, flu vaccination or submit physician proof of documented allergy. Clinical affiliates require the documentation to include: manufacturer, lot number, expiration date of lot, and site of injection.
- Students must also be certified in CPR (American Heart Association Healthcare Provider or American Red Cross Professional Rescuer).
- Students are NOT covered under any type of medical insurance through Mountain Empire Community College. Any and all expenses related to medical issues/injuries, whether personal or training related, is the sole responsibility of the student.

Reapplication to the Practical Nursing Program

If a student is not admitted to the program but wishes to reapply for the next year's class, he/she **MUST** complete a new online Practical Nursing Program Application form prior to established deadlines for the next year.

Students dismissed for academic reasons can reapply to the Practical Nursing program one time only. These students must complete the nurse aide program, obtain certification, and obtain at least 1,000 hours or 6 months' work experience prior to submitting application for re-admission. Students must also repeat all PNE coursework regardless of previous letter grade.

Special Note

The State Board of Nursing has the authority to deny licensure to any applicant who has violated any of the provisions of 54.1-3008 of the Code of Virginia. Any student entering the Practical Nursing program who has committed any legal offenses other than minor traffic violations may want to discuss these matters with the Program Director of the Practical Nursing program prior to application.

Transfer into the Practical Nursing program

Students wishing to transfer from other colleges' nursing programs will be given consideration by the program on an individual basis.

Students requesting to use TEAS scores from another institution or nursing program must have completed the test within the previous two (2) years prior to admission into the Practical Nursing program. It is the student's responsibility to submit copies of the TEAS testing results as an attachment to their online program application.

Students who transfer from another State Board of Nursing approved program will have to complete the following to receive credit: a) apply and meet all program admission requirements, b) Skills lab final exam and performance exam/ check off, c) Medical math test with 90% accuracy (3 attempts allowed), d) complete a final comprehensive exam on transfer materials with 80% or greater score, and e) Received a grade of "C" (80% or higher) on any course requested for transfer.

PRACTICAL NURSING LEADING TO LPN
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST SEMESTER			
SDV 100	College Success Skills*	1	
PNE 161	Nursing in Health Changes I		
	(Actual Clinic hours-24 Geriatrics)	6	Acceptance into Practical Nursing program
SAF 130	OSHA Safety for Healthcare	1	
	STUDENTS EARN AHA HEARTSAVER OSHA BLOODBORNE PATHOGEN CERTIFICATION.		
	OPTION: AFTER SUCCESSFUL COMPLETION OF PNE 161 AND 40 CLINICAL HOURS STUDENTS ARE ELIGIBLE TO CHALLENGE THE CERTIFIED NURSE AIDE EXAM		
MTH 133	Mathematics for Health Professions**	3	
PNE 143	Applied Nursing Skills	1	Acceptance into Practical Nursing program
PNE 173	Pharmacology for PNs	2	Acceptance into Practical Nursing program
PNE 155	Body Structure & Function***	3	Working on courses for or acceptance into Practical Nursing program
SECOND SEMESTER			
PNE 162	Nursing in Health Changes II		
	(Actual Clinic hours-210 MS/Geri/Pedi/Mental)	10	SDV 100, ENG 111, PNE 161, MTH 126, PNE 143, PNE 173, PNE 155
PSY 230	Developmental Psychology	3	
PNE 158	Mental Health	1	SDV 100, ENG 111, PNE 161, MTH 126, PNE 143, PNE 173, PNE 155
PNE 159	Care of Pediatric Clients	2	SDV 100, ENG 111, PNE 161, MTH 126, PNE 143, PNE 173, PNE 155
THIRD SEMESTER			
ENG 111	College Composition*	3	
PNE 164	Nursing in Health Changes IV		
	(Actual Clinic hours-210 (OB/advanced clinical)	10	PNE 162, PSY 230, PNE 158, PNE 295
PNE 132	Care of Maternal and Newborn Clients	2	PNE 162, PSY 230, PNE 158, PNE 295
PNE 145	Trends****	1	PNE 162, PSY 230, PNE 158, PNE 295
HLT 130	Nutrition and Diet Therapy*	2	
	GRADUATES ARE ELIGIBLE TO SIT FOR THE NCLEX-PN EXAMINATION AND SUBSEQUENT LICENSURE.		
TOTAL PROGRAM CREDITS		**51**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

*ENG 111, SDV 100, HLT 130, PSY 230 are curricular courses and may be repeated; but, must be completed by the end of program

**MTH 133 is a curricular course and may be repeated but must be completed prior to admission or within the first semester for program progression

***PNE 155 - may substitute BIO 141 and 142 for PNE 155. BIO 141 and 142 must be completed prior to or within first and second semesters for program progression. Due to BIO 141 and 142 being an acceptable substitute to PNE 155, failure within BIO 141 or 142 will count towards one of the PNE course failures.

****PNE 145 - PNE 199 supervised study course required if 90% probability on NCLEX predictor is not achieved during Trends

Students may and are encouraged to take all non-nursing courses prior to entrance into LPN program.

Associate of Applied Science Degree

RADIOGRAPHY TECHNOLOGY (SWCC)

Purpose

Graduates of the radiography technology program are prepared to contribute as members of the allied health team, care for patients under the supervision of qualified physicians, and meet requirements for ARRT certification. This program is being provided through an innovative, cooperative agreement with Southwest Virginia Community College. Students will register at MECC for their general education course requirements and register through SWCC for their program courses.

The educational experience will be comprised of both classroom instruction and clinical rotations for completing required competency objectives. Classroom instruction incorporates interactive video-teleconferencing between classroom locations. The A.A.S. degree will be awarded by Southwest Virginia Community College. The cooperative Radiologic Technology Program at Southwest Virginia Community College is dedicated to serve students from southwest Virginia and east Tennessee. The Program will provide a quality educational experience in the art and science of radiologic technology and help the students succeed, both academically and clinically, as entry-level radiographers. It is the Program's aim to provide a sound foundation for our students towards building a rewarding professional career, and an opportunity to qualify as a valued contributing member in the healthcare team for our region.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Obtain training that allows them entry level nursing positions within various healthcare facilities.
2. Provide nursing care that contributes to the enhancement of the health care delivery setting and protects clients and health care personnel.
3. Collaborate with health care team members to facilitate effective client care.
4. Protect clients, family/significant others and health care personnel from health and environmental hazards.
5. Provide nursing care of clients that incorporates knowledge of expected stages of growth and development and prevention and/or early detection of health problems.
6. Provide care that assists with promotion and support of the emotional, mental and social well-being of the clients.
7. Assist in the promotion of physical health and well-being by providing care and comfort, reducing risk potential for clients and assisting them with the management of health alterations.
8. Provide care related to the administration of medications and monitors clients who are receiving parenteral and enteral therapies.
9. Reduce the potential for clients to develop complications or health problems related to treatments, procedures, or existing conditions.
10. Participate in providing care for clients with acute, chronic, or life-threatening physical health conditions.

Employment Opportunities

Employment opportunities exist for well-trained, registered radiological technologists in hospitals, clinics, education, industry, government agencies, and private offices.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate devlopmental studies courses.

In addition to the general admission requirements to the College, applicants must be high school graduates or the equivalent and must reflect a "C" average. A cumulative grade point average of 2.0 must be achieved on all college work. To meet the Radiography Program admission requirements, the applicant must have completed:

FOR FURTHER INFORMATION, CONTACT:

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Sarah Clarkston, Health Sciences Advisor
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Kim Dorton, Dean of Health Sciences
kdorton@mecc.edu
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1. One unit of Biology with lab, one unit of Chemistry with lab, and two units of mathematics (Algebra I, and Algebra II and/or Geometry) with a "C" or better;
2. Biology 101 and Chemistry 05 will be considered equivalent to high school Biology and Chemistry. Completion or test credit for MTE 1-6 will fulfill the math pre-requisite.
3. Completion of a college placement test, which includes sections of reading, writing and mathematics. All prescribed developmental work must be completed before admission into the program;
4. Submitted a college and a radiography application (including all high school and college transcripts or copy of GED) to the Admissions Office at SWCC or VHCC;
5. Observation in a Radiology Department for a minimum of twelve (12) hours; this observation is to be documented by radiology personnel denoting date(s) and time(s); and be submitted to Christy Lee at MECC
6. Complete entrance test and attend a general information session.
7. Because entry into this program is competitive, students must complete the application process with the Admissions Office at SWCC by no later than January 15th.

Additional Information

Accreditation:
The program is fully accredited by the Joint Review Committee for Radiologic Technology Education (JRCERT) (20 North Wacker Drive, Suite 900, Chicago, IL, 60606-2901).

Environmental Conditions:
Environmental conditions include procedures that involve handling blood and body fluids using universal precautions.

Program Requirements:
Upon admission and during the course of the program, the radiologic faculty will carefully observe and evaluate the student's suitability for the profession. If, in the opinion of the radiologic faculty, a student does not exhibit professional behavior, the student may be asked to withdraw from the program. Once enrolled, students who receive a final grade lower than "C" in any of the courses in radiography or related areas must obtain permission from the program director to continue the major in radiography.

Selected learning experiences will be provided at the cooperating hospitals within the geographic areas served by the colleges. The student is expected to provide transportation to such facilities. Travel, time and expense, must be anticipated because of program design and location. The purchase of items such as student's uniforms, accessories, physical, vaccinations, background checks, and liability insurance is the financial responsibility of the individual student.

Criminal Background Check/Drug Screening
Background checks for criminal history and sex offender crimes against minors are required for entrance into some clinical agencies. Students with convictions may be prohibited from clinical practice and may not complete the program. Clinical agencies may require drug testing prior to placement of students for clinical rotations. Students with positive drug test results may be prohibited from clinical practice and may not complete the program. Cost for criminal background checks and drug testing will be the responsibility of the student.

RADIOGRAPHY TECHNOLOGY
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR SUMMER			
RAD 105	Intro. to Rad. Protection & Patient Care	3	
MTH 126	Math for Allied Health	2	
SDV 100	College Success Skills	1	
RAD 195	Ethics, Teamwork, & Professional Development	3	
HLT 143	Medical Terminology	3	
FIRST YEAR FALL			
ENG 111	English Composition	3	
BIO 141	Human Anatomy & Physiology I	4	
RAD 110	Imaging Equipment & Protection	3	
RAD 121	Radiographic Procedures I	4	
PSY 230	Developmental Psychology	3	
FIRST YEAR SPRING			
	Humanities/Fine Arts Elective	3	
BIO 142	Human Anatomy & Physiology II	4	
RAD 112	Radiologic Science II	4	
RAD 221	Radiologic Procedures II	4	
SECOND YEAR SUMMER			
RAD 190	Coordinated Internship	3	
RAD 205	Rad. Protection & Radiobiology (Term 1)	3	
SECOND YEAR FALL			
RAD 290	Coordinated Internship	6	
RAD 255	Radiographic Equipment	3	
SECOND YEAR SPRING			
RAD 290	Coordinated Internship	6	
RAD 240	Radiographic Pathology	3	
THIRD YEAR SUMMER			
RAD 215	Correlated Radiographic Theory	2	
RAD 290	Coordinated Internship(Term 1)	2	

STUDENTS ARE ELIGIBLE TO TAKE THE NATIONAL REGISTRY EXAMINATION LEADING TO CERTIFICATION AS A REGISTERED TECHNOLOGIST IN RADIOGRAPHY BY THE ARRT

TOTAL PROGRAM CREDITS **72**

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Completion of both PSY 231 and PSY 232 will substitute for PSY 230. Completion of either HIM 111 or HIM 112 will substitute for HLT 143. Completion of BIO 231 will substitute for BIO 141. Completion of BIO 232 will substitue for BIO 142.

Associate of Applied Science Degree

NURSING - TRACK 1: TWO-YEAR PLAN (156)

Purpose

The purpose of the Virginia Appalachian Tricollege Nursing Program (VATNP) and other nursing programs of the Virginia Community College System (VCCS) is to provide affordable, community access to quality nursing education. The VCCS nursing programs prepare qualified students to provide safe, competent, entry-level nursing care in 21st century healthcare environments. Students are prepared to meet the ever-increasing complexity of the healthcare needs of the citizens of Virginia.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Client-Centered Care - Provide client-centered care promoting therapeutic relationships, caring behaviors, and self-determination across the lifespan for diverse populations.
2. Safety - Practice safe nursing care that minimizes risk of harm across systems and client populations.
3. Clinical Judgment - Demonstrate nursing judgment through the use of clinical reasoning, the nursing process, and evidence-based practice in the provision of safe, quality care
4. Professional Behaviors - Practice professional behaviors that encompass the legal/ethical framework while incorporating self-reflection, leadership and a commitment to recognize the value of life-long learning.
5. Quality Improvement - Manage client care through quality improvement processes, information technology, and fiscal responsibility to meet client needs and support organizational outcomes
6. Collaboration - Demonstrate principles of collaborative practice within the nursing and interdisciplinary teams fostering mutual respect and shared decision-making to achieve stated outcomes of care.

Employment Opportunities

Employment opportunities for the Registered Nurse include, but are not limited to, staff positions in hospitals, nursing homes, health departments, physician's offices, clinics, home health agencies, day care centers, public schools, and civil service.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses. Admission to the Virginia Appalachian Tricollege Nursing Program is a selective process. The program is open to applicants who are free of any physical or mental condition that might adversely affect performance as a member of the nursing profession. In addition to the requirements for admission to the college, the applicant must meet the following requirements:

- State recognized high school diploma, home school diploma (at least 18 years of age), or GED
- Demonstrated competency in science as evidenced by completion of high school biology (with laboratory) or high school chemistry (with laboratory) or the college equivalents or completion of BIO 141 and BIO 142 with no grade below a "C" prior to application deadline.
- Demonstrated competency in mathematics as evidenced by placement out of MTE 1-5 on the Virginia Placement Test (VPT). Placement is determined by means and measures identified in the Multiple Measures Placement Policy. For those who do not meet this requirement, all prescribed developmental work must be completed prior to application deadline.

FOR FURTHER INFORMATION, CONTACT:

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- Demonstrated competency in English as evidenced by placement into ENG 111. Placement is determined by means and measures identified in the Multiple Measures Placement Policy. For those who do not meet this requirement, all prescribed developmental work must be completed prior to application deadline
- Satisfactory performance (national percentile score of 45 or higher) on a nursing pre-admission test (ATI TEAS). Nursing pre-admission test scores will be accepted if completed within 5 years of applying to the nursing program.
- A 2.5 grade point average (GPA) for the following five general education courses: BIO 141, ENG 111, SDV 100, PSY 230 and ITE 119. These courses must be completed prior to enrollment in nursing courses.
- College students must be in good standing with the most recently attended institution with a minimum GPA of 2.0.
- Completion of Nursing Application for each academic year interested in being considered for the nursing program.
- NOTE: Applicants will be ranked for admission using their ATI TEAS National Percentile Rank score and curricular GPA (2.5 or higher) for the following five general education courses: BIO 141, ENG 111, SDV 100, PSY 230 and ITE 119. Students who have not completed these courses may be awarded provisional acceptance pending completion of all academic requirements. Confirmed acceptance into the program will not be considered until the courses are completed and grades have been posted.

Nursing program applications will be accepted in the Enrollment Services Office between September 15 and February 15 each year. Applications must include official high school and all college transcripts, GED test scores (if applicable) and TEAS transcript.

The Enrollment Services Office will suspend processing applications if all transcripts are not attached. Once an application is submitted, additional documentation will not be accepted. Transcripts from other Virginia Community Colleges are not required; however, any Virginia Community Colleges attended must be listed on both the Admissions Application and the Nursing Application.

All admission requirements (including English, science and math competencies) must be met and all documents submitted by the February 15 deadline. The Nursing (RN) program application is now available online and further details of the application process may be found at http://www.mecc.edu/forms/.

Although we welcome applications from residents of other jurisdictions, applicants who have lived permanently in and established full ties with the following jurisdictions for twelve consecutive months prior to February 15 will receive priority consideration for admission as long as they meet the minimum admission requirements:

Virginia: Lee, Wise, Scott, and Dickenson Counties, and the City of Norton

Tennessee: Sullivan County and the City of Kingsport

Residents from all other jurisdictions will not be admitted unless space remains available after these have been admitted. If you have a question regarding your jurisdiction status, please contact Enrollment Services immediately upon applying to the program.

The VATNP is dependent on use of local clinical agencies to meet the experiential or clinical learning needs of its students. In order to protect patients and visitors, as well as students, clinical agencies require that each student have proof of completion of the following:

1. Required Student Forms
2. Annual Student Statement of Health form
3. Student Information, Physical and Immunization forms. The VATNP physical examination form must be completed by a medical practitioner, MD, PA or CNP.
   a. Immunizations include Tetanus, Mumps-Measles-Rubella (MMR), Varicella, and Hepatitis B
   b. Current testing for tuberculosis, either Mantoux Tuberculin Skin Test (TB Tine Test is not accepted) or chest X-ray must be provided
   c. Documentation of ability to perform physical demands required in direct patient care activities.
4. Purchase a background check, drug screen, and Medical Document Package
5. Clearance of criminal background check and drug testing

6. Proof of CPR certification, American Heart Association, "Basic Life Support (BLS) for Healthcare Providers" completed during the summer (May 15-August 15) prior to admission to NSG courses and maintained throughout the program
7. Additional annual immunization requirements: Flu immunizations are required by most healthcare agencies and are usually available in fall semester.

Prior to enrollment in any NSG course, the student must provide the required clinical documentation. (For more information see the VATNP website).

The cost of these requirements is the responsibility of the student.

Additional Information

Accreditation and State Approval
The nursing program is approved by the Virginia Board of Nursing and accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326, 404-975-5000, website: www.acenursing.org). ACEN is officially recognized as the national accrediting agency for nursing education by the Council on Post-Secondary Accreditation (COPA) and by the U.S. Department of Education.

Clinical Contracts
The VATNP has contracts with clinical agencies for both student and patient safety. If students cannot comply with these contractual requirements, they will not be able to participate in clinical activities and will be asked to withdraw from the program. General guidelines follow:

1. Clinical agencies reserve the right to dismiss a student from their agency at any time with due cause. This will be done with advance notice except in an emergency.
2. Published policies of the clinical agency must be followed. Each student must successfully complete an orientation program prior to participating in activities at any clinical facility.
3. Clinical facilities require that all students have documentation of ability to perform the physical demands required in direct patient care activities.
4. Immunizations must be current.
5. Student releases clinical agencies, its agents and employees from any liability for any injury or death to himself or damage to his property arising out of agreement or use of the clinical agency's facilities.
6. Proof of HIPAA and CPR Certification must be provided.
7. Clinical facilities require a criminal background check and drug screen clearance as a condition for student placement.
8. Proper uniform must be worn when participating in clinical activities.

Course Requirements
The student is required to complete the sequence of courses as outlined by the curriculum pathway.

- Current Cardiopulmonary Resuscitation (CPR) certification, American Heart Association Basic Life Support for Health Care Providers must be maintained throughout the program.
- All courses, general education and nursing, must be completed in sequence prior to continuing in the program. Exceptions due to unusual circumstances must be approved by the program Dean.
- A student must have a "C" or above in theory plus "satisfactory" in clinical performance in all nursing courses to remain in the program. A grade of "C" or above in any related requirements is a prerequisite for continuing in the nursing program.
- The student is required to complete a sequence of courses and learning experiences provided at the college and selected community agencies such as hospitals, nursing homes, clinics, physicians' offices and comparable facilities. The nursing faculty will observe and evaluate the student's suitability for nursing and direct patient care.
- The nursing program faculty reserves the right to recommend, through appropriate channels, the withdrawal of any student who does not exhibit suitable demeanor/attendance.

Criminal Background Checks/Barrier Crimes
The State Board of Nursing has the authority to deny license to any applicant who has violated any of the provisions of 54.1-3007 of the Code of Virginia. Most healthcare organizations are prohibited from hiring persons who have been convicted of certain criminal acts (For a list of crimes under this category refer to the Virginia Board of Nursing webpage under the heading, Licensure/Applicants: Article 90-55, click on the link "Joint statement of the Department of Health and the Department of Health Professions on Impact of Criminal Convictions on Nursing Licensure or Certification and Employment in Virginia, revised November 2015"). Students with convictions or positive drug tests may be prohibited from clinical practice and may not be able to complete the program requirements.

Financial Requirements
In addition to the usual college tuition and fees, the nursing program requires pre-admission testing and other expenses as identified below. Students are responsible for these costs as well as the cost of transportation to and from the college and health agencies used for clinical experiences.

Pre-Admission Testing (Test of Essential Academic Skills or TEAS)	$58.00
Uniforms/Shoes/Watch/Stethoscope	$300.00
Standardized Progressive Testing Program	$785.00
Textbooks/Electronic Resources	$1600.00
CastleBranch© Criminal Background Check, Drug Screen, Document Manager	$115.00
Physical Exam, Immunizations, TB test	$250.00
CPR Certification	$150.00
Estimated In-state Tuition 67 credit hours @ $153.25 per credit hour	$10,267.75
NCLEX-RN Application Fees	$425.00
VATNP Pin (optional)	$50.00
Transportation (to and from college and clinical agencies)	Variable

These costs are estimates and are subject to change without notification to faculty or students.

Performance Standards for Clinical/Laboratory Assignments
Students must be able to perform all essential job functions or performance standards in clinical settings with reasonable accommodation. The following performance standards are consistent with those identified by the Southern Regional Education Boards and include, but are not limited to:

1. Critical thinking: Critical thinking ability sufficient for clinical judgment and delivery of safe patient care.
2. Interpersonal abilities: Interpersonal abilities sufficient to interact with clients, families and groups from a variety of social, emotional, cultural, and intellectual backgrounds.
3. Communication: Communication abilities sufficient for interaction with others in verbal and written form.
4. Mobility: Physical abilities sufficient to move from room to room and maneuver in small spaces.
5. Motor skills: Gross and fine motor abilities sufficient to provide safe and effective nursing care.
6. Physical demands: Physical demands in this program include duties that frequently require squatting, bending, kneeling, reaching, and stair climbing; lifting and carrying up to 50 pounds; frequent pushing and pulling up to 200 pounds with assistance; occasional lifting up to 200 pounds with assistance and occasional carrying up to 51-74 pounds.
7. Hearing: Auditory ability sufficient to monitor and assess health needs.
8. Visual: Visual ability sufficient for nursing observation and assessment.
9. Tactile: Tactile ability sufficient for physical assessment

These guidelines serve as essential elements basic to eligibility requirements for clinical participation in the VATNP.

Program Description
The Virginia Appalachian Tricollege Nursing Program (VATNP) is a three college consortium serving Mountain Empire Community College, Southwest Virginia Community College, and Virginia Highlands Community College. Beginning Fall 2018, the program curriculum will be consistent with the Virginia Community College System (VCCS) Common

Curriculum for all VCCS nursing programs. The VATNP Track 1 offers an opportunity for recent high school graduates and other eligible adults to complete the nursing degree program after two years of full-time attendance (2 summer sessions and 4 semesters). This is a rigorous and academically challenging program. Students have the option to complete all general education courses required by the nursing curriculum and receive a Health Sciences certificate before beginning nursing classes. This option takes three years or longer depending on the amount of time taken to complete the general education classes. Many students, who have families, work or other responsibilities often choose to complete all general education (non-nursing) courses before entering the program.

Reapplication/Readmission/Program Progression Process

All courses in the curriculum, both general education and nursing, must be completed in sequence prior to progressing to the next semester. Students must earn a minimum grade of "C" (80) in all nursing courses, a minimum grade of "C" in all non-nursing courses and maintain a minimum cumulative GPA of 2.0 to remain eligible for continued enrollment in the nursing program. Clinical performance in a course is graded as Satisfactory/Unsatisfactory. A student who does not meet the clinical learning outcomes will fail the course. In addition, during the NSG 106 course, a Comprehensive Drug Calculation Exam (CDCE) will be administered to verify skills. Students must achieve at least 90 percent of maximum score on the CDCE with no more than three attempts in order to achieve a passing grade in the course.

- A student who has 2 academic failures in nursing courses will be ineligible for reenrollment in the program.
- Any student who drops or withdraws from NSG 106 or NSG 200 must also drop or withdraw from NSG 100 due to the inability to complete clinical requirements.
- A student may continue in NSG 200 regardless of dropping or withdrawing from NSG 100 and/or NSG 106.
- Any student who drops or withdraws from NSG 252 or NSG 270 must withdraw from the other course as they are corequisites.
- Students who are not successful in any first semester nursing (NSG) course must reapply to the nursing program. Re-enrollment must occur no later than three years from successful completion of NSG 100 or 115, otherwise the student will have to repeat all nursing courses.
- A student who wishes to reenter the nursing curriculum at any other level (e.g., NSG 152, 170, 210, 211, 230, 252, 270) must write a letter to the program dean requesting readmission in the semester prior to the semester of enrollment. Each student's application for readmission will be considered by the nursing faculty and the decision to readmit will be based on additional requested data, prior performance in the nursing program, and space availability. Based on the course(s) that must be repeated, the student who is readmitted may be required to complete a skills competency course or demonstrate competency in critical nursing skills before progressing to the next level.
- According to the VCCS Policy 5.7.4, "A student will normally be limited to two enrollments in the same credit course." Any exception to this policy must be approved by the program dean and the vice president of instruction and student services.

A student must obtain permission from the Dean of VATNP to continue in the Nursing Program under the following conditions:

- Repeating a course with a grade below "C";
- Withdrawal from a nursing course;
- Cumulative GPA below 2.0.

Student Accommodations Statement

Students admitted to the VATNP can be expected to complete course requirements that prepare them to perform essential job functions as a registered professional nurse. Those functions or skills that are essential to the profession must be performed with or without accommodations. Any student who thinks he/she does not possess one or more of these functions should contact the Special Needs Counselor in the Office of Student Development Services. Provisions for accommodations will be made in compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990.

Transfer of Nursing Credit

Students seeking to transfer credit from nursing programs at other institutions will be considered on an individual basis. Students must meet the admission requirements identified by the college and the VATNP. The student may be asked to

provide course descriptions, documentation of completed direct patient care clinical time, course syllabi, achievement or progressive testing scores, demonstration of competency in critical nursing skills, and selected data from the course instructor or program director in order to determine placement in the nursing program. Consideration will be subject to availability of space. Since there frequently are differences among nursing programs, students wishing to transfer should be aware that there may be an interruption in program progression. Applicants must be in good standing at their previous college with a "C" average or better and must provide documentation of eligibility to return to that nursing program as well as documentation of the number of hours of clinical experience providing direct patient care supervised by a qualified instructor. Nursing courses which are being transferred must have been completed within three (3) years prior to admission to the nursing program.

Decisions on admission offers to transferring applicants will be determined by the VATNP faculty following official transcript analysis, review of completed nursing course outlines, and space and faculty availability. A transferring student must demonstrate expected level proficiencies by testing including demonstration of competency in critical skills. The transferring applicant may have to repeat courses.

NURSING - TRACK 1: TWO-YEAR PLAN
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR SUMMER			
SDV 100	College Success Skills	1	
MTH 126	Math for Allied Health	2	
ENG 111	College Composition I	3	
ITE 119	Information Literacy	3	
FIRST YEAR FALL			
BIO 141	Human Anatomy & Physiology I	4	
NUR 105	Nursing Skills	2	MTH 126, ITE 119, ENG 111, SDV 100
NUR 108	Nursing Principles & Concepts I	5	MTH 126, ITE 119, ENG 111, SDV 100
OPTION: AFTER SUCCESSFUL COMPLETION OF NUR 108, (WHICH INCLUDES 45 DIRECT PATIENT CARE HOURS), STUDENTS ARE ELIGIBLE TO CHALLENGE THE CERTIFIED NURSE AIDE EXAM			
NUR 136	Principles of Pharmacology I	1	MTH 126, ITE 119, ENG 111, SDV 100
NUR 226	Health Assessment	2	MTH 126, ITE 119, ENG 111, SDV 100
FIRST YEAR SPRING			
BIO 142	Human Anatomy & Physiology II	4	BIO 141
ENG 112	College Composition II	3	ENG 111
NUR 109	Nursing Principles & Concepts II	5	NUR 105, 108; BIO 141
NUR 114	Geriatric Nursing	3	MTH 126, ITE 119, ENG 111, SDV 100
NUR 137	Principles of Pharmacology II	1	MTH 126, ITE 119, ENG 111, SDV 100
SECOND YEAR FALL			
	Humanities Elective	3	
NUR 201	Psychiatric Nursing	3	NUR 109 or 115, 136, 137, 226, PSY 231, BIO 142
NUR 205	Intro to Second Level Nursing	5	NUR 109 or 115, 136, 137, 226, PSY 231, BIO 142
NUR 236	Principles of Pharmacology III	1	NUR 109 or 115, 136, 137, 226, BIO 142
PSY 231	Life Span Human Development I	3	
SECOND YEAR SPRING			
NUR 208	Acute Medical Surgical Nursing	6	NUR 205, PSY 231
NUR 237	Principles of Pharmacology IV	1	NUR 136, NUR 137, NUR 205
NUR 245	Maternal/Newborn Nursing	3	NUR 205, PSY 231
NUR 254	Dimensions of Professional Nursing	2	NUR 205, PSY 231
PSY 232	Life Span Human Development II	3	
GRADUATES ARE ELIGIBLE TO SIT FOR THE NCLEX-RN EXAMINATION AND SUBSEQUENT LICENSURE.			
TOTAL PROGRAM CREDITS		**69**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Associate of Applied Science Degree

NURSING - TRACK 2: LPN TO RN TRANSITION (156)

Purpose

The purpose of the Virginia Appalachian Tricollege Nursing Program (VATNP) and other nursing programs of the Virginia Community College System (VCCS) is to provide affordable, community access to quality nursing education. The VCCS nursing programs prepare qualified students to provide safe, competent, entry-level nursing care in 21st century healthcare environments. Students are prepared to meet the ever-increasing complexity of the healthcare needs of the citizens of Virginia.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Client-Centered Care - Provide client-centered care promoting therapeutic relationships, caring behaviors, and self-determination across the lifespan for diverse populations.
2. Safety - Practice safe nursing care that minimizes risk of harm across systems and client populations.
3. Clinical Judgment - Demonstrate nursing judgment through the use of clinical reasoning, the nursing process, and evidence-based practice in the provision of safe, quality care
4. Professional Behaviors - Practice professional behaviors that encompass the legal/ethical framework while incorporating self-reflection, leadership and a commitment to recognize the value of life-long learning.
5. Quality Improvement - Manage client care through quality improvement processes, information technology, and fiscal responsibility to meet client needs and support organizational outcomes
6. Collaboration - Demonstrate principles of collaborative practice within the nursing and interdisciplinary teams fostering mutual respect and shared decision-making to achieve stated outcomes of care.

Employment Opportunities

Employment opportunities for the Registered Nurse include, but are not limited to, staff positions in hospitals, nursing homes, health departments, physician's offices, clinics, home health agencies, day care centers, public schools, and civil service.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses. Admission to the Virginia Appalachian Tricollege Nursing Program is a selective process. The program is open to applicants who are free of any physical or mental condition that might adversely affect performance as a member of the nursing profession. In addition to the requirements for admission to the college, the applicant must meet the following requirements:

- State recognized high school diploma, home school diploma (at least 18 years of age), or GED
- Demonstrated competency in science as evidenced by completion of high school biology (with laboratory) or high school chemistry (with laboratory) or the college equivalents or completion of BIO 141 and BIO 142 with no grade below a "C" prior to application deadline.
- Demonstrated competency in mathematics as evidenced by placement out of MTE 1-5 on the Virginia Placement Test (VPT). Placement is determined by means and measures identified in the Multiple Measures Placement Policy. For those who do not meet this requirement, all prescribed developmental work must be completed prior to application deadline.
- Demonstrated competency in English as evidenced by placement into ENG 111. Placement is determined by

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means and measures identified in the Multiple Measures Placement Policy. For those who do not meet this requirement, all prescribed developmental work must be completed prior to application deadline

- Satisfactory performance (national percentile score of 45 or higher) on a nursing pre-admission test (ATI TEAS). Nursing pre-admission test scores will be accepted if completed within 5 years of applying to the nursing program.
- A 2.5 grade point average (GPA) for the following five general education courses: BIO 141, PSY 230, ENG 111, SDV 100, and ITE 119. These courses must be completed prior to enrollment in nursing courses.
- Completion of Nursing Application for each academic year interested in being considered for the nursing program.
- In addition to the regular admission requirements, Track 2 LPN to RN students must 1) have current LPN license 2) must have graduated from an LPN program after May 15, 2015 OR provide documentation of one (1) year (2000 hours) of full-time LPN work experience in direct patient care during the past three years with written verification from employer at the time of application 3) complete 25 credits of support (general education) courses: BIO 141, BIO 142, BIO 150, ENG 111, ENG 112, ITE 119, PSY 230 and SDV. Additional required general education courses can be completed after acceptance to the program.
- ceptance into the program will not be considered until the courses are completed and grades have been posted.
- Nursing program applications will be accepted in the Enrollment Services Office between September 15 and February 15 each year. Applications must include official high school and all college transcripts, GED test scores (if applicable) and TEAS transcript. Currently licensed LPN applicants must also include a copy of current LPN license and documentation of graduation from an approved LPN program. LPNs who graduated before May 15, 2015 must provide documentation of 1 year (2000 hours) of full-time LPN work experience in direct patient care during the past three years with written verification from employer.

The Enrollment Services Office will suspend processing applications if all transcripts are not attached. Once an application is submitted, additional documentation will not be accepted. Transcripts from other Virginia Community Colleges are not required; however, any Virginia Community Colleges attended must be listed on both the Admissions Application and the Nursing Application.

All admission requirements (including English, science and math competencies) must be met and all documents submitted by the February 15 deadline. The Nursing (RN) program application is now available online and further details of the application process may be found at http://www.mecc.edu/forms/.

Although we welcome applications from residents of other jurisdictions, applicants who have lived permanently in and established full ties with the following jurisdictions for twelve consecutive months prior to February 15 will receive priority consideration for admission as long as they meet the minimum admission requirements:

Virginia: Lee, Wise, Scott, and Dickenson Counties, and the City of Norton
Tennessee: Sullivan County and the City of Kingsport

Residents from all other jurisdictions will not be admitted unless space remains available after these have been admitted. If you have a question regarding your jurisdiction status, please contact Enrollment Services immediately upon applying to the program.

The VATNP is dependent on use of local clinical agencies to meet the experiential or clinical learning needs of its students. In order to protect patients and visitors, as well as students, clinical agencies require that each student have proof of completion of the following:

1. Required Student Forms
2. Annual Student Statement of Health form
3. Student Information, Physical and Immunization forms. The VATNP physical examination form must be completed by a medical practitioner, MD, PA or CNP.
   a. Immunizations include Tetanus, Mumps-Measles-Rubella (MMR), Varicella, and Hepatitis B
   b. Current testing for tuberculosis, either Mantoux Tuberculin Skin Test (TB Tine Test is not accepted) or chest X-ray must be provided
   c. Documentation of ability to perform physical demands required in direct patient care activities.
4. Purchase a background check, drug screen, and Medical Document Package
5. Clearance of criminal background check and drug testing
6. Proof of CPR certification, American Heart Association, "Basic Life Support (BLS) for Healthcare Providers" com-

pleted during the summer (May 15-August 15) prior to admission to NSG courses and maintained throughout the program
7. Additional annual immunization requirements: Flu immunizations are required by most healthcare agencies and are usually available in fall semester.

Prior to enrollment in any NSG course, the student must provide the required clinical documentation. (For more information see the VATNP website).

The cost of these requirements is the responsibility of the student.

Additional Information

Accreditation and State Approval

The nursing program is approved by the Virginia Board of Nursing and accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326, 404-975-5000, website: www.acenursing.org). ACEN is officially recognized as the national accrediting agency for nursing education by the Council on Post-Secondary Accreditation (COPA) and by the U.S. Department of Education.

Clinical Contracts

The VATNP has contracts with clinical agencies for both student and patient safety. If students cannot comply with these contractual requirements, they will not be able to participate in clinical activities and will be asked to withdraw from the program. General guidelines follow:

1. Clinical agencies reserve the right to dismiss a student from their agency at any time with due cause. This will be done with advance notice except in an emergency.
2. Published policies of the clinical agency must be followed. Each student must successfully complete an orientation program prior to participating in activities at any clinical facility.
3. Clinical facilities require that all students have documentation of ability to perform the physical demands required in direct patient care activities.
4. Immunizations must be current.
5. Student releases clinical agencies, its agents and employees from any liability for any injury or death to himself or damage to his property arising out of agreement or use of the clinical agency's facilities.
6. Proof of HIPAA and CPR Certification must be provided.
7. Clinical facilities require a criminal background check and drug screen clearance as a condition for student placement.
8. Proper uniform must be worn when participating in clinical activities.

Course Requirements

The student is required to complete the sequence of courses as outlined by the curriculum pathway.

- Current Cardiopulmonary Resuscitation (CPR) certification, American Heart Association Basic Life Support for Health Care Providers must be maintained throughout the program.
- All courses, general education and nursing, must be completed in sequence prior to continuing in the program. Exceptions due to unusual circumstances must be approved by the program Dean.
- A student must have a "C" or above in theory plus "satisfactory" in clinical performance in all nursing courses to remain in the program. A grade of "C" or above in any related requirements is a prerequisite for continuing in the nursing program.
- The student is required to complete a sequence of courses and learning experiences provided at the college and selected community agencies such as hospitals, nursing homes, clinics, physicians' offices and comparable facilities. The nursing faculty will observe and evaluate the student's suitability for nursing and direct patient care.
- The nursing program faculty reserves the right to recommend, through appropriate channels, the withdrawal of any student who does not exhibit suitable demeanor/attendance.

Criminal Background Checks/Barrier Crimes

The State Board of Nursing has the authority to deny license to any applicant who has violated any of the provisions of 54.1-3007 of the Code of Virginia. Most healthcare organizations are prohibited from hiring persons who have been

convicted of certain criminal acts (For a list of crimes under this category refer to the Virginia Board of Nursing webpage under the heading, Licensure/Applicants: Article 90-55, click on the link "Joint statement of the Department of Health and the Department of Health Professions on Impact of Criminal Convictions on Nursing Licensure or Certification and Employment in Virginia, revised November 2015"). Students with convictions or positive drug tests may be prohibited from clinical practice and may not be able to complete the program requirements.

Financial Requirements

In addition to the usual college tuition and fees, the nursing program requires pre-admission testing and other expenses as identified below. Students are responsible for these costs as well as the cost of transportation to and from the college and health agencies used for clinical experiences.

Pre-Admission Testing (Test of Essential Academic Skills or TEAS)	$58.00
Uniforms/Shoes/Watch/Stethoscope	$300.00
Standardized Progressive Testing Program	$785.00
Textbooks/Electronic Resources	$1600.00
CastleBranch© Criminal Background Check, Drug Screen, Document Manager	$115.00
Physical Exam, Immunizations, TB test	$250.00
CPR Certification	$150.00
Estimated In-state Tuition 67 credit hours @ $153.25 per credit hour	$10,267.75
NCLEX-RN Application Fees	$425.00
VATNP Pin (optional)	$50.00
Transportation (to and from college and clinical agencies)	Variable

These costs are estimates and are subject to change without notification to faculty or students.

LPN to RN Transition

Currently licensed LPNs who have been accepted to the nursing program may be offered the option of entering a summer LPN to RN Bridge Program providing they have completed all the general education courses required as outlined in the Nursing Track 2: LPN to RN Curriculum or Track 4: Part-time Evening/Weekend LPN to RN curriculum. Applicants must have graduated from an LPN program after May 15, 2015 or provide documentation of 1 year (2000 hours) of full-time LPN work experience in direct patient care during the past three years with written verification from employer at the time of application.

Performance Standards for Clinical/Laboratory Assignments

Students must be able to perform all essential job functions or performance standards in clinical settings with reasonable accommodation. The following performance standards are consistent with those identified by the Southern Regional Education Boards and include, but are not limited to:

1. Critical thinking: Critical thinking ability sufficient for clinical judgment and delivery of safe patient care.
2. Interpersonal abilities: Interpersonal abilities sufficient to interact with clients, families and groups from a variety of social, emotional, cultural, and intellectual backgrounds.
3. Communication: Communication abilities sufficient for interaction with others in verbal and written form.
4. Mobility: Physical abilities sufficient to move from room to room and maneuver in small spaces.
5. Motor skills: Gross and fine motor abilities sufficient to provide safe and effective nursing care.
6. Physical demands: Physical demands in this program include duties that frequently require squatting, bending, kneeling, reaching, and stair climbing; lifting and carrying up to 50 pounds; frequent pushing and pulling up to 200 pounds with assistance; occasional lifting up to 200 pounds with assistance and occasional carrying up to 51-74 pounds.
7. Hearing: Auditory ability sufficient to monitor and assess health needs.
8. Visual: Visual ability sufficient for nursing observation and assessment.
9. Tactile: Tactile ability sufficient for physical assessment

These guidelines serve as essential elements basic to eligibility requirements for clinical participation in the VATNP.

Program Description

The Virginia Appalachian Tricollege Nursing Program (VATNP) is a three college consortium serving Mountain Empire Community College, Southwest Virginia Community College, and Virginia Highlands Community College. The VATNP Track 2 LPN to RN Bridge curriculum is designed to grant advanced placement to LPNs who have been admitted to the VATNP Associate Degree program and meet pre-requisite requirements. If there is sufficient enrollment in the VATNP, students who meet the eligibility requirements for the advanced placement will take "Bridge Courses" in the summer term and then be eligible to take the sophomore level courses and graduate within one (1) academic year with an AAS Degree in Nursing. The length of this track depends on the amount of time needed to complete the general education classes. The nursing classes can be completed in one year. Some LPNs may opt for the part-time/evening weekend program which requires 2 years of nursing classes after completion of general education requirements. This program is designed to recognize the common abilities of nurses and to bridge the difference between LPN and RN knowledge base and to allow these students to finish the AAS program within a two and one-half semester period.

Reapplication/Readmission/Program Progression Process

All courses in the curriculum, both general education and nursing, must be completed in sequence prior to progressing to the next semester. Students must earn a minimum grade of "C" (80) in all nursing courses, a minimum grade of "C" in all non-nursing courses and maintain a minimum cumulative GPA of 2.0 to remain eligible for continued enrollment in the nursing program. Clinical performance in a course is graded as Satisfactory/Unsatisfactory. A student who does not meet the clinical learning outcomes will fail the course. In addition, during the NSG 106 or NSG 115 course, a Comprehensive Drug Calculation Exam (CDCE) will be administered to verify skills. Students must achieve at least 90 percent of maximum score on the CDCE with no more than three attempts in order to achieve a passing grade in the course.

- A student who has 2 academic failures in nursing courses will be ineligible for reenrollment in the program.
- Any student who drops or withdraws from NSG 106 or NSG 200 must also drop or withdraw from NSG 100 due to the inability to complete clinical requirements.
- A student may continue in NSG 200 regardless of dropping or withdrawing from NSG 100 and/or NSG 106.
- Any student who drops or withdraws from NSG 252 or NSG 270 must withdraw from the other course as they are corequisites.
- Students who are not successful in any first semester nursing (NSG) course must reapply to the nursing program. Re-enrollment must occur no later than three years from successful completion of NSG 100 or 115, otherwise the student will have to repeat all nursing courses.
- A student who wishes to reenter the nursing curriculum at any other level (e.g., NSG 152, 170, 210, 211, 230, 252, 270) must write a letter to the program dean requesting readmission in the semester prior to the semester of enrollment. Each student's application for readmission will be considered by the nursing faculty and the decision to readmit will be based on additional requested data, prior performance in the nursing program, and space availability. Based on the course(s) that must be repeated, the student who is readmitted may be required to complete a skills competency course or demonstrate competency in critical nursing skills before progressing to the next level.
- According to the VCCS Policy 5.7.4, "A student will normally be limited to two enrollments in the same credit course." Any exception to this policy must be approved by the program dean and the vice president of instruction and student services.

A student must obtain permission from the Dean of VATNP to continue in the Nursing Program under the following conditions:

- Repeating a course with a grade below "C";
- Withdrawal from a nursing course;
- Cumulative GPA below 2.0.

Student Accommodations Statement

Students admitted to the VATNP can be expected to complete course requirements that prepare them to perform essential job functions as a registered professional nurse. Those functions or skills that are essential to the profession must be performed with or without accommodations. Any student who thinks he/she does not possess one or more of these functions should contact the Special Needs Counselor in the Office of Student Development Services. Provisions

for accommodations will be made in compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990.

Transfer of Nursing Credit

Students seeking to transfer credit from nursing programs at other institutions will be considered on an individual basis. Students must meet the admission requirements identified by the college and the VATNP. The student may be asked to provide course descriptions, documentation of completed direct patient care clinical time, course syllabi, achievement or progressive testing scores, demonstration of competency in critical nursing skills, and selected data from the course instructor or program director in order to determine placement in the nursing program. Consideration will be subject to availability of space. Since there frequently are differences among nursing programs, students wishing to transfer should be aware that there may be an interruption in program progression. Applicants must be in good standing at their previous college with a "C" average or better and must provide documentation of eligibility to return to that nursing program as well as documentation of the number of hours of clinical experience providing direct patient care supervised by a qualified instructor. Nursing courses which are being transferred must have been completed within three (3) years prior to admission to the nursing program.

Decisions on admission offers to transferring applicants will be determined by the VATNP faculty following official transcript analysis, review of completed nursing course outlines, and space and faculty availability. A transferring student must demonstrate expected level proficiencies by testing including demonstration of competency in critical skills. The transferring applicant may have to repeat courses.

NURSING - TRACK 2: LPN TO RN TRANSITION PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR SUMMER			
SDV 100	College Success Skills	1	
ENG 111	College Composition I	3	
PSY 230	Developmental Psychology	3	
FIRST YEAR FALL			
ITE 119	Information Literacy	3	
BIO 141	Human Anatomy & Physiology I	4	
BIO 142	Human Anatomy & Physiology II	4	BIO 141
FIRST YEAR SPRING			
BIO 150	Introductory Microbiology	4	
SECOND YEAR SUMMER			
NSG 115	Health Care Concepts for Transition	5	Acceptance to the LPN-RN Bridge Program
NSG 200	Health Promotion & Assessment	3	BIO 141
SECOND YEAR FALL			
ENG 112	College Composition II	3	ENG 111
NSG 210	Health Concepts I	5	BIO 150, NSG 152, NSG 170
NSG 211	Health Concepts II	5	BIO 150, NSG 152, NSG 170
SECOND YEAR SPRING			
NSG 230	Advanced Professional Nursing Concepts	2	NSG 210, NSG 211
NSG 252	Complex Health Care Concepts	4	NSG 210, NSG 211
NSG 270	Nursing Capstone	4	NSG 210, NSG 211
	Humanities Elective	3	
GRADUATES ARE ELIGIBLE TO SIT FOR THE NCLEX-RN EXAMINATION AND SUBSEQUENT LICENSURE.			
Total Program Credits		**56**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

*Upon completion of NSG 115 credit will be awarded for NSG 100, 106, 130, 152, 170 (16 credits). These credits will appear on the student's official transcript.

Associate of Applied Science Degree

NURSING - TRACK 3: PART-TIME EVENING/WEEKEND (156)

Purpose

The purpose of the Virginia Appalachian Tricollege Nursing Program (VATNP) and other nursing programs of the Virginia Community College System (VCCS) is to provide affordable, community access to quality nursing education. The VCCS nursing programs prepare qualified students to provide safe, competent, entry-level nursing care in 21st century healthcare environments. Students are prepared to meet the ever-increasing complexity of the healthcare needs of the citizens of Virginia.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Client-Centered Care - Provide client-centered care promoting therapeutic relationships, caring behaviors, and self-determination across the lifespan for diverse populations.
2. Safety - Practice safe nursing care that minimizes risk of harm across systems and client populations.
3. Clinical Judgment - Demonstrate nursing judgment through the use of clinical reasoning, the nursing process, and evidence-based practice in the provision of safe, quality care
4. Professional Behaviors - Practice professional behaviors that encompass the legal/ethical framework while incorporating self-reflection, leadership and a commitment to recognize the value of life-long learning.
5. Quality Improvement - Manage client care through quality improvement processes, information technology, and fiscal responsibility to meet client needs and support organizational outcomes
6. Collaboration - Demonstrate principles of collaborative practice within the nursing and interdisciplinary teams fostering mutual respect and shared decision-making to achieve stated outcomes of care.

Employment Opportunities

Employment opportunities for the Registered Nurse include, but are not limited to, staff positions in hospitals, nursing homes, health departments, physician's offices, clinics, home health agencies, day care centers, public schools, and civil service.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses. Admission to the Virginia Appalachian Tricollege Nursing Program is a selective process. The program is open to applicants who are free of any physical or mental condition that might adversely affect performance as a member of the nursing profession. In addition to the requirements for admission to the college, the applicant must meet the following requirements:

- State recognized high school diploma, home school diploma (at least 18 years of age), or GED
- Demonstrated competency in science as evidenced by completion of high school biology (with laboratory) or high school chemistry (with laboratory) or the college equivalents or completion of BIO 141 and BIO 142 with no grade below a "C" prior to application deadline.
- Demonstrated competency in mathematics as evidenced by placement out of MTE 1-5 on the Virginia Placement Test (VPT). Placement is determined by means and measures identified in the Multiple Measures Placement Policy. For those who do not meet this requirement, all prescribed developmental work must be completed prior to application deadline.
- Demonstrated competency in English as evidenced by placement into ENG 111. Placement is determined by

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means and measures identified in the Multiple Measures Placement Policy. For those who do not meet this requirement, all prescribed developmental work must be completed prior to application deadline

- Satisfactory performance (national percentile score of 45 or higher) on a nursing pre-admission test (ATI TEAS). Nursing pre-admission test scores will be accepted if completed within 5 years of applying to the nursing program.
- College students must be in good standing with the most recently attended institution with a minimum GPA of 2.0.
- Completion of Nursing Application for each academic year interested in being considered for the nursing program.
- Students must complete the following five general education courses: BIO 141, ENG 111, SDV 100, PSY 230 and ITE 119 with a minimum 2.5 cumulative GPA on the five courses before enrolling in any nursing (NSG) course.
- NOTE: Applicants who meet the requirements listed above will be ranked for admission using their ATI TEAS National Percentile Rank.
- In addition to the regular admission requirements, Track 3 part-time evening weekend (PTEW) students must complete 18 credits of support (general education) courses: BIO 141, BIO 142, ENG 111, PSY 230, ITE 119, and SDV. Additional required general education courses can be completed after acceptance to the program. General education courses listed in year 1 must be completed before the student will be able to begin year 2 or Semester 4.

Nursing program applications will be accepted in the Enrollment Services Office between September 15 and February 15 each year. Applications must include official high school and all college transcripts, GED test scores (if applicable) and TEAS transcript.

The Enrollment Services Office will suspend processing applications if all transcripts are not attached. Once an application is submitted, additional documentation will not be accepted. Transcripts from other Virginia Community Colleges are not required; however, any Virginia Community Colleges attended must be listed on both the Admissions Application and the Nursing Application.

All admission requirements (including English, science and math competencies) must be met and all documents submitted by the February 15 deadline. The Nursing (RN) program application is now available online and further details of the application process may be found at http://www.mecc.edu/forms/.

Although we welcome applications from residents of other jurisdictions, applicants who have lived permanently in and established full ties with the following jurisdictions for twelve consecutive months prior to February 15 will receive priority consideration for admission as long as they meet the minimum admission requirements:

Virginia: Lee, Wise, Scott, and Dickenson Counties, and the City of Norton
Tennessee: Sullivan County and the City of Kingsport

Residents from all other jurisdictions will not be admitted unless space remains available after these have been admitted. If you have a question regarding your jurisdiction status, please contact Enrollment Services immediately upon applying to the program.

The VATNP is dependent on use of local clinical agencies to meet the experiential or clinical learning needs of its students. In order to protect patients and visitors, as well as students, clinical agencies require that each student have proof of completion of the following:

1. Required Student Forms
2. Annual Student Statement of Health form
3. Student Information, Physical and Immunization forms. The VATNP physical examination form must be completed by a medical practitioner, MD, PA or CNP.
   a. Immunizations include Tetanus, Mumps-Measles-Rubella (MMR), Varicella, and Hepatitis B
   b. Current testing for tuberculosis, either Mantoux Tuberculin Skin Test (TB Tine Test is not accepted) or chest X-ray must be provided
   c. Documentation of ability to perform physical demands required in direct patient care activities.
4. Purchase a background check, drug screen, and Medical Document Package
5. Clearance of criminal background check and drug testing
6. Proof of CPR certification, American Heart Association, "Basic Life Support (BLS) for Healthcare Providers" completed during the summer (May 15-August 15) prior to admission to NSG courses and maintained throughout the program

7. Additional annual immunization requirements: Flu immunizations are required by most healthcare agencies and are usually available in fall semester.

Prior to enrollment in any NSG course, the student must provide the required clinical documentation. (For more information see the VATNP website).

The cost of these requirements is the responsibility of the student.

Additional Information

Accreditation and State Approval

The nursing program is approved by the Virginia Board of Nursing and accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326, 404-975-5000, website: www.acenursing.org). ACEN is officially recognized as the national accrediting agency for nursing education by the Council on Post-Secondary Accreditation (COPA) and by the U.S. Department of Education.

Clinical Contracts

The VATNP has contracts with clinical agencies for both student and patient safety. If students cannot comply with these contractual requirements, they will not be able to participate in clinical activities and will be asked to withdraw from the program. General guidelines follow:

1. Clinical agencies reserve the right to dismiss a student from their agency at any time with due cause. This will be done with advance notice except in an emergency.
2. Published policies of the clinical agency must be followed. Each student must successfully complete an orientation program prior to participating in activities at any clinical facility.
3. Clinical facilities require that all students have documentation of ability to perform the physical demands required in direct patient care activities.
4. Immunizations must be current.
5. Student releases clinical agencies, its agents and employees from any liability for any injury or death to himself or damage to his property arising out of agreement or use of the clinical agency's facilities.
6. Proof of HIPAA and CPR Certification must be provided.
7. Clinical facilities require a criminal background check and drug screen clearance as a condition for student placement.
8. Proper uniform must be worn when participating in clinical activities.

Course Requirements

The student is required to complete the sequence of courses as outlined by the curriculum pathway.

- Current Cardiopulmonary Resuscitation (CPR) certification, American Heart Association Basic Life Support for Health Care Providers must be maintained throughout the program.
- All courses, general education and nursing, must be completed in sequence prior to continuing in the program. Exceptions due to unusual circumstances must be approved by the program Dean.
- A student must have a "C" or above in theory plus "satisfactory" in clinical performance in all nursing courses to remain in the program. A grade of "C" or above in any related requirements is a prerequisite for continuing in the nursing program.
- The student is required to complete a sequence of courses and learning experiences provided at the college and selected community agencies such as hospitals, nursing homes, clinics, physicians' offices and comparable facilities. The nursing faculty will observe and evaluate the student's suitability for nursing and direct patient care.
- The nursing program faculty reserves the right to recommend, through appropriate channels, the withdrawal of any student who does not exhibit suitable demeanor/attendance.

Criminal Background Checks/Barrier Crimes

The State Board of Nursing has the authority to deny license to any applicant who has violated any of the provisions of 54.1-3007 of the Code of Virginia. Most healthcare organizations are prohibited from hiring persons who have been convicted of certain criminal acts (For a list of crimes under this category refer to the Virginia Board of Nursing webpage under the heading, Licensure/Applicants: Article 90-55, click on the link "Joint statement of the Department of Health

and the Department of Health Professions on Impact of Criminal Convictions on Nursing Licensure or Certification and Employment in Virginia, revised November 2015"). Students with convictions or positive drug tests may be prohibited from clinical practice and may not be able to complete the program requirements.

Financial Requirements

In addition to the usual college tuition and fees, the nursing program requires pre-admission testing and other expenses as identified below. Students are responsible for these costs as well as the cost of transportation to and from the college and health agencies used for clinical experiences.

Pre-Admission Testing (Test of Essential Academic Skills or TEAS)	$58.00
Uniforms/Shoes/Watch/Stethoscope	$300.00
Standardized Progressive Testing Program	$785.00
Textbooks/Electronic Resources	$1600.00
CastleBranch© Criminal Background Check, Drug Screen, Document Manager	$115.00
Physical Exam, Immunizations, TB test	$250.00
CPR Certification	$150.00
Estimated In-state Tuition 67 credit hours @ $153.25 per credit hour	$10,267.75
NCLEX-RN Application Fees	$425.00
VATNP Pin (optional)	$50.00
Transportation (to and from college and clinical agencies)	Variable

These costs are estimates and are subject to change without notification to faculty or students.

Performance Standards for Clinical/Laboratory Assignments

Students must be able to perform all essential job functions or performance standards in clinical settings with reasonable accommodation. The following performance standards are consistent with those identified by the Southern Regional Education Boards and include, but are not limited to:

1. Critical thinking: Critical thinking ability sufficient for clinical judgment and delivery of safe patient care.
2. Interpersonal abilities: Interpersonal abilities sufficient to interact with clients, families and groups from a variety of social, emotional, cultural, and intellectual backgrounds.
3. Communication: Communication abilities sufficient for interaction with others in verbal and written form.
4. Mobility: Physical abilities sufficient to move from room to room and maneuver in small spaces.
5. Motor skills: Gross and fine motor abilities sufficient to provide safe and effective nursing care.
6. Physical demands: Physical demands in this program include duties that frequently require squatting, bending, kneeling, reaching, and stair climbing; lifting and carrying up to 50 pounds; frequent pushing and pulling up to 200 pounds with assistance; occasional lifting up to 200 pounds with assistance and occasional carrying up to 51-74 pounds.
7. Hearing: Auditory ability sufficient to monitor and assess health needs.
8. Visual: Visual ability sufficient for nursing observation and assessment.
9. Tactile: Tactile ability sufficient for physical assessment

These guidelines serve as essential elements basic to eligibility requirements for clinical participation in the VATNP.

Program Description

The Virginia Appalachian Tricollege Nursing Program (VATNP) is a three college consortium serving Mountain Empire Community College, Southwest Virginia Community College, and Virginia Highlands Community College. Beginning Fall 2018, the program curriculum will be consistent with the Virginia Community College System (VCCS) Common Curriculum for all VCCS nursing programs. The VATNP Track 3 Part-time Evening Weekend program is specifically designed for working adults or other adults who are interested in becoming RNs but have other responsibilities that interfere with their abilities to attend the rigorous scheduling of Track 1. Classes will be provided in a combination of evening, weekend, and distance learning. The program is designed at a slower pace to be completed in 4 years.

Reapplication/Readmission/Program Progression Process
All courses in the curriculum, both general education and nursing, must be completed in sequence prior to progressing to the next semester. Students must earn a minimum grade of "C" (80) in all nursing courses, a minimum grade of "C" in all non-nursing courses and maintain a minimum cumulative GPA of 2.0 to remain eligible for continued enrollment in the nursing program. Clinical performance in a course is graded as Satisfactory/Unsatisfactory. A student who does not meet the clinical learning outcomes will fail the course. In addition, during the NSG 106 course, a Comprehensive Drug Calculation Exam (CDCE) will be administered to verify skills. Students must achieve at least 90 percent of maximum score on the CDCE with no more than three attempts in order to achieve a passing grade in the course.

- A student who has 2 academic failures in nursing courses will be ineligible for reenrollment in the program.
- Any student who drops or withdraws from NSG 106 or NSG 200 must also drop or withdraw from NSG 100 due to the inability to complete clinical requirements.
- A student may continue in NSG 200 regardless of dropping or withdrawing from NSG 100 and/or NSG 106.
- Any student who drops or withdraws from NSG 252 or NSG 270 must withdraw from the other course as they are corequisites.
- Students who are not successful in any first semester nursing (NSG) course must reapply to the nursing program. Re-enrollment must occur no later than three years from successful completion of NSG 100 or 115, otherwise the student will have to repeat all nursing courses.
- A student who wishes to reenter the nursing curriculum at any other level (e.g., NSG 152, 170, 210, 211, 230, 252, 270) must write a letter to the program dean requesting readmission in the semester prior to the semester of enrollment. Each student's application for readmission will be considered by the nursing faculty and the decision to readmit will be based on additional requested data, prior performance in the nursing program, and space availability. Based on the course(s) that must be repeated, the student who is readmitted may be required to complete a skills competency course or demonstrate competency in critical nursing skills before progressing to the next level.
- According to the VCCS Policy 5.7.4, "A student will normally be limited to two enrollments in the same credit course." Any exception to this policy must be approved by the program dean and the vice president of instruction and student services.

A student must obtain permission from the Dean of VATNP to continue in the Nursing Program under the following conditions:

- Repeating a course with a grade below "C";
- Withdrawal from a nursing course;
- Cumulative GPA below 2.0.

Student Accommodations Statement
Students admitted to the VATNP can be expected to complete course requirements that prepare them to perform essential job functions as a registered professional nurse. Those functions or skills that are essential to the profession must be performed with or without accommodations. Any student who thinks he/she does not possess one or more of these functions should contact the Special Needs Counselor in the Office of Student Development Services. Provisions for accommodations will be made in compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990.

Transfer of Nursing Credit
Students seeking to transfer credit from nursing programs at other institutions will be considered on an individual basis. Students must meet the admission requirements identified by the college and the VATNP. The student may be asked to provide course descriptions, documentation of completed direct patient care clinical time, course syllabi, achievement or progressive testing scores, demonstration of competency in critical nursing skills, and selected data from the course instructor or program director in order to determine placement in the nursing program. Consideration will be subject to availability of space. Since there frequently are differences among nursing programs, students wishing to transfer should be aware that there may be an interruption in program progression. Applicants must be in good standing at their previous college with a "C" average or better and must provide documentation of eligibility to return to that nursing program as well as documentation of the number of hours of clinical experience providing direct patient care super-

vised by a qualified instructor. Nursing courses which are being transferred must have been completed within three (3) years prior to admission to the nursing program.

Decisions on admission offers to transferring applicants will be determined by the VATNP faculty following official transcript analysis, review of completed nursing course outlines, and space and faculty availability. A transferring student must demonstrate expected level proficiencies by testing including demonstration of competency in critical skills. The transferring applicant may have to repeat courses.

NURSING - TRACK 3: PART-TIME EVENING/WEEKEND PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
SDV 100	College Success Skills	1	
ENG 111	College Composition I	3	
BIO 141	Human Anatomy & Physiology I	4	
FIRST YEAR SPRING			
BIO 142	Human Anatomy & Physiology II	4	BIO 141
ITE 119	Information Literacy	3	
FIRST YEAR SUMMER			
BIO 150	Introductory Microbiology	4	
PSY 230	Developmental Psychology	3	
SECOND YEAR FALL			
NSG 106	Competencies for Nursing Practice	2	BIO 141
NSG 130	Professional Nursing Concepts	1	BIO 141
NSG 200	Health Promotion & Assessment	3	BIO 141
SECOND YEAR SPRING			
NSG 100	Intoduction to Nursing Concepts	4	BIO 141
NSG 152	Health Care Participant	3	BIO 142, NSG 100, NSG 106, NSG 130, NSG 200
"OPTION: AFTER SUCCESSFUL COMPLETION OF NSG 100 (WHICH INCLUDES 45 DIRECT PATIENT CARE HOURS), STUDENTS ARE ELIGIBLE TO CHALLENGE THE CERTIFIED NURSE AIDE EXAM"			
THIRD YEAR FALL			
NSG 170	Health\Illness Concepts	6	BIO 142, NSG 100, NSG 106, NSG 130, NSG 200
THIRD YEAR SPRING			
NSG 210	Health Care Concepts I	5	BIO 150, NSG 152, NSG 170
THIRD YEAR SUMMER			
ENG 112	College Composition II	3	ENG 111
	Humanities Elective	3	
FOURTH YEAR FALL			
NSG 211	Health Care Concepts II	5	BIO 150, NSG 152, NSG 170
NSG 230	Advanced Professional Nursing Concepts	2	NSG 210, NSG 211
FOURTH YEAR SPRING			
NSG 252	Complex Health Care Concepts	4	NSG 210, NSG 211
NSG 270	Nursing Capstone	4	NSG 210, NSG 211
GRADUATES ARE ELIGIBLE TO SIT FOR THE NCLEX-RN EXAMINATION AND SUBSEQUENT LICENSURE.			
TOTAL PROGRAM CREDITS		**67**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

*Upon completion of NSG 115 credit will be awarded for NUR 100, 106, 130, 152 and 170 (16 credits). These credits will appear on the student's official transcript.

Associate of Applied Science Degree

NURSING - TRACK 4: PART-TIME EVENING/WEEKEND LPN TO RN TRANSITION (156)

Purpose

The purpose of the Virginia Appalachian Tricollege Nursing Program (VATNP) and other nursing programs of the Virginia Community College System (VCCS) is to provide affordable, community access to quality nursing education. The VCCS nursing programs prepare qualified students to provide safe, competent, entry-level nursing care in 21st century healthcare environments. Students are prepared to meet the ever-increasing complexity of the healthcare needs of the citizens of Virginia.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Client-Centered Care - Provide client-centered care promoting therapeutic relationships, caring behaviors, and self-determination across the lifespan for diverse populations.
2. Safety - Practice safe nursing care that minimizes risk of harm across systems and client populations.
3. Clinical Judgment - Demonstrate nursing judgment through the use of clinical reasoning, the nursing process, and evidence-based practice in the provision of safe, quality care
4. Professional Behaviors - Practice professional behaviors that encompass the legal/ethical framework while incorporating self-reflection, leadership and a commitment to recognize the value of life-long learning.
5. Quality Improvement - Manage client care through quality improvement processes, information technology, and fiscal responsibility to meet client needs and support organizational outcomes
6. Collaboration - Demonstrate principles of collaborative practice within the nursing and interdisciplinary teams fostering mutual respect and shared decision-making to achieve stated outcomes of care.

Employment Opportunities

Employment opportunities for the Registered Nurse include, but are not limited to, staff positions in hospitals, nursing homes, health departments, physician's offices, clinics, home health agencies, day care centers, public schools, and civil service.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses. Admission to the Virginia Appalachian Tricollege Nursing Program is a selective process. The program is open to applicants who are free of any physical or mental condition that might adversely affect performance as a member of the nursing profession. In addition to the requirements for admission to the college, the applicant must meet the following requirements:

- State recognized high school diploma, home school diploma (at least 18 years of age), or GED
- Demonstrated competency in science as evidenced by completion of high school biology (with laboratory) or high school chemistry (with laboratory) or the college equivalents or completion of BIO 141 and BIO 142 with no grade below a "C" prior to application deadline.
- Demonstrated competency in mathematics as evidenced by placement out of MTE 1-5 on the Virginia Placement Test (VPT). Placement is determined by means and measures identified in the Multiple Measures Placement Policy. For those who do not meet this requirement, all prescribed developmental work must be completed prior to application deadline.
- Demonstrated competency in English as evidenced by placement into ENG 111. Placement is determined by means

FOR FURTHER INFORMATION, CONTACT:

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Kim Dorton, Dean, Health Sciences
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Kathy Mitchell, VATNP Director
kmitchell@vhcc.edu
276.739.2440

and measures identified in the Multiple Measures Placement Policy. For those who do not meet this requirement, all prescribed developmental work must be completed prior to application deadline

- Satisfactory performance (national percentile score of 45 or higher) on a nursing pre-admission test (ATI TEAS). Nursing pre-admission test scores will be accepted if completed within 5 years of applying to the nursing program.
- A 2.5 grade point average (GPA) for the following five general education courses: BIO 141, PSY 230, ENG 111, SDV 100, and ITE 119.
- College students must be in good standing with the most recently attended institution with a minimum GPA of 2.0.
- Completion of Nursing Application for each academic year interested in being considered for the nursing program.
- In addition to the regular admission requirements, Track 4 Part-time Evening Weekend LPN to RN students must 1) have current LPN license 2) must have graduated from an LPN program after May 15, 2015 OR provide documentation of one (1) year (2000 hours) of full-time LPN work experience in direct patient care during the past three years with written verification from employer at the time of application 3) complete 18 credits of support (general education) courses: BIO 141, BIO 142, ENG 111, ITE 119, PSY 230 and SDV. Additional required general education courses can be completed after acceptance to the program.
- NOTE: Applicants who meet the requirements listed above will be ranked for admission using their ATI TEAS National Percentile Rank.

Nursing program applications will be accepted in the Enrollment Services Office between September 15 and February 15 each year. Applications must include official high school and all college transcripts, GED test scores (if applicable) and TEAS transcript. Currently licensed LPN applicants must also include a copy of current LPN license and documentation of graduation from an approved LPN program. LPNs who graduated before May 15, 2015 must provide documentation of 1 year (2000 hours) of full-time LPN work experience in direct patient care during the past three years with written verification from employer.

The Enrollment Services Office will suspend processing applications if all transcripts are not attached. Once an application is submitted, additional documentation will not be accepted. Transcripts from other Virginia Community Colleges are not required; however, any Virginia Community Colleges attended must be listed on both the Admissions Application and the Nursing Application.

All admission requirements (including English, science and math competencies) must be met and all documents submitted by the February 15 deadline. The Nursing (RN) program application is now available online and further details of the application process may be found at http://www.mecc.edu/forms/.

Although we welcome applications from residents of other jurisdictions, applicants who have lived permanently in and established full ties with the following jurisdictions for twelve consecutive months prior to February 15 will receive priority consideration for admission as long as they meet the minimum admission requirements:

Virginia: Lee, Wise, Scott, and Dickenson Counties, and the City of Norton
Tennessee: Sullivan County and the City of Kingsport

Residents from all other jurisdictions will not be admitted unless space remains available after these have been admitted. If you have a question regarding your jurisdiction status, please contact Enrollment Services immediately upon applying to the program.

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2. Annual Student Statement of Health form
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   a. Immunizations include Tetanus, Mumps-Measles-Rubella (MMR), Varicella, and Hepatitis B
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4. Purchase a background check, drug screen, and Medical Document Package
5. Clearance of criminal background check and drug testing
6. Proof of CPR certification, American Heart Association, "Basic Life Support (BLS) for Healthcare Providers" completed during the summer (May 15-August 15) prior to admission to NSG courses and maintained throughout the program
7. Additional annual immunization requirements: Flu immunizations are required by most healthcare agencies and are usually available in fall semester.

Prior to enrollment in any NSG course, the student must provide the required clinical documentation. (For more information see the VATNP website).

The cost of these requirements is the responsibility of the student.

Additional Information

Accreditation and State Approval

The nursing program is approved by the Virginia Board of Nursing and accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326, 404-975-5000, website: www.acenursing.org). ACEN is officially recognized as the national accrediting agency for nursing education by the Council on Post-Secondary Accreditation (COPA) and by the U.S. Department of Education.

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2. Published policies of the clinical agency must be followed. Each student must successfully complete an orientation program prior to participating in activities at any clinical facility.
3. Clinical facilities require that all students have documentation of ability to perform the physical demands required in direct patient care activities.
4. Immunizations must be current.
5. Student releases clinical agencies, its agents and employees from any liability for any injury or death to himself or damage to his property arising out of agreement or use of the clinical agency's facilities.
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Course Requirements

The student is required to complete the sequence of courses as outlined by the curriculum pathway.

- Current Cardiopulmonary Resuscitation (CPR) certification, American Heart Association Basic Life Support for Health Care Providers must be maintained throughout the program.
- All courses, general education and nursing, must be completed in sequence prior to continuing in the program. Exceptions due to unusual circumstances must be approved by the program Dean.
- A student must have a "C" or above in theory plus "satisfactory" in clinical performance in all nursing courses to remain in the program. A grade of "C" or above in any related requirements is a prerequisite for continuing in the nursing program.
- The student is required to complete a sequence of courses and learning experiences provided at the college and selected community agencies such as hospitals, nursing homes, clinics, physicians' offices and comparable facilities. The nursing faculty will observe and evaluate the student's suitability for nursing and direct patient care.
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Estimated In-state Tuition 67 credit hours @ $153.25 per credit hour	$10,267.75
NCLEX-RN Application Fees	$425.00
VATNP Pin (optional)	$50.00
Transportation (to and from college and clinical agencies)	Variable

These costs are estimates and are subject to change without notification to faculty or students.

LPN to RN Transition

Currently licensed LPNs who have been accepted to the nursing program may be offered the option of entering a summer LPN to RN Bridge Program providing they have completed all the general education courses required as outlined in the Nursing Track 2: LPN to RN Curriculum or Track 4: Part-time Evening/Weekend LPN to RN curriculum. Applicants must have graduated from an LPN program after May 15, 2015 or provide documentation of 1 year (2000 hours) of full-time LPN work experience in direct patient care during the past three years with written verification from employer at the time of application.

Performance Standards for Clinical/Laboratory Assignments

Students must be able to perform all essential job functions or performance standards in clinical settings with reasonable accommodation. The following performance standards are consistent with those identified by the Southern Regional Education Boards and include, but are not limited to:

1. Critical thinking: Critical thinking ability sufficient for clinical judgment and delivery of safe patient care.
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3. Communication: Communication abilities sufficient for interaction with others in verbal and written form.
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5. Motor skills: Gross and fine motor abilities sufficient to provide safe and effective nursing care.
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7. Hearing: Auditory ability sufficient to monitor and assess health needs.

8. Visual: Visual ability sufficient for nursing observation and assessment.
9. Tactile: Tactile ability sufficient for physical assessment

These guidelines serve as essential elements basic to eligibility requirements for clinical participation in the VATNP.

Program Description

The Virginia Appalachian Tricollege Nursing Program (VATNP) is a three college consortium serving Mountain Empire Community College, Southwest Virginia Community College, and Virginia Highlands Community College. The VATNP Track 4 Part-time Evening Weekend LPN to RN Bridge curriculum is designed to grant advanced placement to LPNs who have been admitted to the VATNP Associate Degree program and meet pre-requisite requirements. This option is available for LPNs who work and/or wish to attend part-time. General education courses can be completed as night classes or by distance education options such as web-based learning. Nursing classes and clinicals are taught on evenings and weekends on an extended plan.

Reapplication/Readmission/Program Progression Process

All courses in the curriculum, both general education and nursing, must be completed in sequence prior to progressing to the next semester. Students must earn a minimum grade of "C" (80) in all nursing courses, a minimum grade of "C" in all non-nursing courses and maintain a minimum cumulative GPA of 2.0 to remain eligible for continued enrollment in the nursing program. Clinical performance in a course is graded as Satisfactory/Unsatisfactory. A student who does not meet the clinical learning outcomes will fail the course. In addition, during the NSG 106 or NSG 115 course, a Comprehensive Drug Calculation Exam (CDCE) will be administered to verify skills. Students must achieve at least 90 percent of maximum score on the CDCE with no more than three attempts in order to achieve a passing grade in the course.

- A student who has 2 academic failures in nursing courses will be ineligible for reenrollment in the program.
- Any student who drops or withdraws from NSG 106 or NSG 200 must also drop or withdraw from NSG 100 due to the inability to complete clinical requirements.
- A student may continue in NSG 200 regardless of dropping or withdrawing from NSG 100 and/or NSG 106.
- Any student who drops or withdraws from NSG 252 or NSG 270 must withdraw from the other course as they are corequisites.
- Students who are not successful in any first semester nursing (NSG) course must reapply to the nursing program. Re-enrollment must occur no later than three years from successful completion of NSG 100 or 115, otherwise the student will have to repeat all nursing courses.
- A student who wishes to reenter the nursing curriculum at any other level (e.g., NSG 152, 170, 210, 211, 230, 252, 270) must write a letter to the program dean requesting readmission in the semester prior to the semester of enrollment. Each student's application for readmission will be considered by the nursing faculty and the decision to readmit will be based on additional requested data, prior performance in the nursing program, and space availability. Based on the course(s) that must be repeated, the student who is readmitted may be required to complete a skills competency course or demonstrate competency in critical nursing skills before progressing to the next level.
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A student must obtain permission from the Dean of VATNP to continue in the Nursing Program under the following conditions:

- Repeating a course with a grade below "C";
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Students admitted to the VATNP can be expected to complete course requirements that prepare them to perform essential job functions as a registered professional nurse. Those functions or skills that are essential to the profession must be performed with or without accommodations. Any student who thinks he/she does not possess one or more of these functions should contact the Special Needs Counselor in the Office of Student Development Services. Provisions for ac-

commodations will be made in compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990.

Transfer of Nursing Credit

Students seeking to transfer credit from nursing programs at other institutions will be considered on an individual basis. Students must meet the admission requirements identified by the college and the VATNP. The student may be asked to provide course descriptions, documentation of completed direct patient care clinical time, course syllabi, achievement or progressive testing scores, demonstration of competency in critical nursing skills, and selected data from the course instructor or program director in order to determine placement in the nursing program. Consideration will be subject to availability of space. Since there frequently are differences among nursing programs, students wishing to transfer should be aware that there may be an interruption in program progression. Applicants must be in good standing at their previous college with a "C" average or better and must provide documentation of eligibility to return to that nursing program as well as documentation of the number of hours of clinical experience providing direct patient care supervised by a qualified instructor. Nursing courses which are being transferred must have been completed within three (3) years prior to admission to the nursing program.

Decisions on admission offers to transferring applicants will be determined by the VATNP faculty following official transcript analysis, review of completed nursing course outlines, and space and faculty availability. A transferring student must demonstrate expected level proficiencies by testing including demonstration of competency in critical skills. The transferring applicant may have to repeat courses.

NURSING - TRACK 4: PART-TIME EVENING/WEEKEND LPN TO RN TRANSITION
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR SUMMER			
SDV 100	College Success Skills	1	
ENG 111	College Composition I	3	
ITE 119	Information Literacy	3	
BIO 150	Introductory Microbiology	4	
FIRST YEAR FALL			
BIO 141	Human Anatomy & Physiology I	4	
PSY 230	Developmental Psychology	3	
FIRST YEAR SPRING			
BIO 142	Human Anatomy & Physiology II	4	BIO 141
SECOND YEAR SUMMER			
NSG 115	Health Care Concepts for Transition	5	Acceptance to the LPN-RN Bridge Program
SECOND YEAR FALL			
NSG 200	Health Promotion & Assessment	3	BIO 141
SECOND YEAR SPRING			
NSG 210	Health Care Concepts I	5	BIO 150, NSG 152, NSG 170
THIRD YEAR SUMMER			
ENG 112	College Composition II	3	ENG 111
	Humanities Elective	3	
THIRD YEAR FALL			
NSG 211	Health Care Concepts II	5	BIO 150, NSG 152, NSG 170
NSG 230	Advanced Professional Nursing Concepts	2	NSG 210, NSG 211
THIRD YEAR SPRING			
NSG 252	Complex Health Care Concepts	4	NSG 210, NSG 211
NSG 270	Nursing Capstone	4	NSG 210, NSG 211
	GRADUATES ARE ELIGIBLE TO SIT FOR THE NCLEX-RN EXAMINATION AND SUBSEQUENT LICENSURE.		
TOTAL PROGRAM CREDITS		**56**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Completion of BIO 231 will substitute for BIO 141. Completion of BIO 232 will substitute for BIO 142. Upon completion of NSG 115 credit will be awarded for NSG 100, 106, 130, 152, 170 (16 credits). These credits will appear on the student's official transcript.

Associate of Applied Science Degree

RESPIRATORY THERAPY (181)

Purpose

The mission of the Mountain Empire Community College Respiratory Therapy Program is to provide competent advanced-level respiratory therapists who demonstrate professionalism while providing excellent care. It will provide the graduates with comprehensive skills to meet the employment needs of the health care providers within the MECC service region, the Commonwealth, and the nation.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Demonstrate the ability to gather, comprehend, evaluate, apply, and problem solve using clinical information relevant to his/her role as a registered respiratory therapist.
2. Demonstrate the ability to perform the clinical technical skills relevant to his/her role as a registered respiratory therapist.
3. Exhibit the personal behaviors consistent with professional standards and employer expectations of a registered respiratory therapist.

Employment Opportunities

Respiratory Therapists have job opportunities in hospitals, home care, rehabilitation agencies, nursing homes, emergency transport teams, sleep centers, pulmonary function laboratories, outpatient clinics, and physician offices. Respiratory Therapists sees a diverse group of patients ranging from newborn and pediatric patients to adults and the elderly. Job opportunities are very good in this region and nationwide. The United States Bureau of Labor Statistics projects a 23 percent growth in jobs from 2016 to 2026. In May 2016 the U.S. Bureau of Labor Statistics reported the national average annual earnings of respiratory therapists were $58,670 and Virginia had an average annual earnings of $59,380.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses. In addition to the general admission requirements of the College, this program requires a high/home school diploma or GED. High/home school courses must include one unit of algebra 1 and one unit of laboratory science with a C or above. If courses were not completed in high/home school with a C or above, they must be completed in college. The student's high/home school and any college work attempted must reflect a minimum of "C" average.

To apply to the program, please complete the Respiratory Therapy Program Application online. If you are a new student or have not attended classes within the past year, you will also need to complete an Application for Admission to the College. Respiratory Therapy classes begin in the summer semester each year. Applications are accepted from August 16th to May 1st for each class starting in June. A selection process is utilized to choose applicants for each year's program as each class is limited to a maximum of 20 students. After the class has been filled, the remaining applicants will be placed on an alternate list. Should an admitted student not accept his/her position, applicants on the alternate list will be admitted into the program through the last day of registration for the summer classes.

Applicants who do not meet all the prerequisites will remain on the pre-respiratory list until all prerequisites are documented. Upon completion of the prerequisites, the applicant will be considered for admission to the program. If all the positions are filled, the applicant will be added to the alternate list.

A new Respiratory Therapy Program Application must be submitted for each year you wish to be considered for admission to the Respiratory Therapy program.

FOR FURTHER INFORMATION, CONTACT:

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Additional Information

Accreditation and State Approval

The Respiratory Therapy Program at Mountain Empire Community College is accredited by the Commission for Accreditation for Respiratory Care (CoARC). Contact CoARC at 1248 Harwood Road, Bedford, TX 76021-4244, www.coarc.com, or call 817-283-2385 for questions about the accreditation of the Mountain Empire Community College Respiratory Therapy program.

About Our Program

The Associate of Applied Science degree in Respiratory Therapy is designed to prepare selected students as competent Registered Respiratory Therapists and to serve as members of the health care team.

As a graduate, you are eligible to take the Therapist Multiple Choice (TMC) examination and the Clinical Simulation examination to be credentialed as a Registered Respiratory Therapist (RRT).

Criminal Background Check/Drug Screening

Background checks for criminal history and sex offender crimes against minors are required for entrance into clinical agencies. Students with convictions may be prohibited from clinical practice and may not complete the program. Clinical agencies may require drug testing prior to placement of students for clinical rotations. Students with positive drug test results may be prohibited from clinical practice and may not complete the program. Cost of criminal background checks and drug testing will be the responsibility of the student. Proper uniform must be worn when participating in clinical activities.

Physical Demands

Physical demands in this program include duties that frequently require walking, bending, reaching and lifting; pushing and pulling with assistance and occasional carrying. Duties also require constant use of acute sense of sight, hearing, touch, and speech.

Financial Requirements

In addition to the usual college tuitions and fees, the Respiratory Therapy program requires: uniforms, books, liability insurance, CPR certification, criminal background check, and miscellaneous equipment. Costs for drug screens, if required by clinical facility, are the responsibility of the student. Students are also responsible for transportation to and from the college and health agencies used for clinical experience.

Opportunities for Advancement

Opportunities for advancement are excellent for those willing to continue their education and training. Individuals who display leadership, team-building skills, self-confidence, motivation, and decisiveness become candidates for promotion.

Program Progression

Students are required to repeat a RTH or NAS course in which a grade lower than "C" is received before progressing to the next course or graduating from the program. All electives must have a grade of "C" or above.

Special Consideration

Students accepted into the program are required to submit a health certificate signed by a duly licensed physician, physician's assistant, or registered nurse practitioner and should include: documentation of measles, mumps and rubella (MMR) exposure or inoculations; TB skin testing or chest x-ray for previously positive TB results; and overall general health of the applicant.

RESPIRATORY THERAPY
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR SUMMER			
SDV 100	College Success Skills	1	
NAS 171	Human Anatomy and Physiology	4	
RTH 102	Integrated Sciences for Respiratory Care	3	
RTH 110	Fund. Theory & Procedures for Respiratory Care	3	
	AHA BLS FOR HEALTHCARE PROVIDER CPR CERTIFICATION EARNED;		
	AHA HEARTSAVER OSHA BLOODBORNE PATHOGEN CERTIFICATION EARNED		
	Social Science/Humanities Elective	3	
FIRST YEAR FALL			
ENG 111	College Composition	3	
RTH 111	Anatomy & Physiology of the Cardiopulmonary System	3	
RTH 131	Respiratory Care Theory & Procedures I	4	
RTH 145	Pharmacology for Respiratory	2	
RTH 151	Fundamental Clinical Procedures	4	
FIRST YEAR SPRING			
RTH 112	Pathology of the Cardiopulmonary System	3	
RTH 121	Cardiopulmonary Science	3	
RTH 132	Respiratory Care Theory & Procedures II	4	
RTH 152	Fundamental Clinical Procedures II	4	
SECOND YEAR SUMMER			
RTH 135	Diagnostic & Therapeutic Procedures I	2	
RTH 224	Integrated Respiratory Therapy Skills I	2	
RTH 253	Advanced Clinical Procedures III	3	
	Social Science Elective	3	
	Humanities/Fine Arts Elective	3	
SECOND YEAR FALL			
ITE 119	Information Literacy	3	
RTH 226	Theory of Neonatal & Ped. Resp. Care	2	
RTH 254	Advanced Clinical Procedures IV	3	
RTH 227	Integrated Respiratory Therapy Skills II	2	
RTH 267	12-Lead EKG	3	
RTH 265	Current Issues in Respiratory Care	2	
	AHA ADVANCED CARDIAC LIFE SUPPORT (ACLS) CERTIFICATION EARNED		
	ELIGIBLE FOR CERTIFICATION TESTING AS A CERTIFIED RESPIRATORY THERAPIST OR A REGISTERED RESPIRATORY THERAPIST		
TOTAL PROGRAM CREDITS		**72**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Career Studies Certificate

3-D DESIGN (221-727-09)

Purpose

Classes offered in the 3D Design Technology program will introduce you to design techniques that will prepare you to work in engineering technology fields. All of the courses taken are in the computer aided drafting and design curriculum. Students will take courses in related areas only. MECC utilizes CADD operations extensively. 3D software programs are available and used extensively. These programs are the most widely used in industry in our service area. 3D Design classes are available to day and evening students.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Practice industry recognized safety practices and guidelines, including the use of personal protective equipment in an industrial operating environment..
2. Demonstrate knowledge of drafting conventions including symbols, linetypes, lineweights, and dimension styles as applicable to the design discipline.
3. Demonstrate the ability to develop and /or interpret 2D and 3D projects to solve common engineering problems.
4. Illustrate the engineering design process from the transformation of an idea or need into a completed project.

3-D DESIGN
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
DRF 160	Blueprint Reading	3	
DRF 200	Survey of Computer-Aided Drafting	4	
GIS 200	Geographic Info. Systems I	4	ITE 115/119 or equiv.
FIRST YEAR SPRING			
DRF 233	Computer-Aided Drafting III	3	
MEC 122	3D Printing for Engineering Design	3	
TOTAL PROGRAM CREDITS		**17**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

FOR FURTHER INFORMATION, CONTACT:

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Career Studies Certificate

CHEMICAL PROCESS OPERATOR (221-845-01)

Purpose

This program is designed to provide basic skills to qualify graduates for entry level jobs as chemical operators.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Practice industry recognized safety practices and guidelines, including the use of personal protective equipment in an industrial operating environment.
2. Use precision measuring equipment.
3. Operate and Troubleshoot electromechanical and electronic equipment and systems.
4. Compute, analyze, and communicate quantitative data using mathematical and logical methods to solve problems.
5. Demonstrate understanding of scientific concepts, theories, and basic scientific reasoning.

Employment Opportunities

A chemical laboratory technician holds a general scientific position whose tasks vary greatly by organization type; this position is typically found at organizations that conduct scientific research or testing. Chemical laboratory technicians typically are responsible for the day-to-day operations performed by the company. Technicians may perform chemical tests on products and compounds, analyze compounds and chemicals for a variety of qualities and concentrations of substances, and maintain quality across all products. In addition to these tasks, most chemical laboratory technician must perform a variety of housekeeping tasks for their laboratory, ensuring that all facilities and instruments are clean and that any hazardous substances have been removed from the premises.

CHEMICAL PROCESS OPERATOR PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
SAF 126	Principals of Industrial Safety	3	
IND 101	Quality Assurance Tech. I	3	
MTH 111	Basic Technical Math	3	
MEC 205	Piping & Auxiliary Systems	3	
FIRST YEAR SPRING			
SDV 107	Career Exploration	1	
CHM 101	General Chemistry I	4	
PHY 131	Applied Physics I	3	
ELE 140	Basic Electricity & Machinery	4	
TOTAL PROGRAM CREDITS		**24**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Associate of Applied Science Degree

COMPUTER-AIDED DRAFTING AND DESIGN TECHNOLOGY (729)

Purpose

Classes offered in the Computer-Aided Drafting & Design Technology major program will introduce you to architectural and mechanical design that will prepare you to work as a drafts person. Approximately one-half of the courses taken are in drafting and design technology. Students will also take courses in related areas and general education. MECC utilizes CADD operations extensively. Micro-Station PC, AutoCADD, and 3D software programs are available. These programs are the most widely used in industry in our service area. Computer-Aided Drafting & Design Technology major classes are available to evening students.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Demonstrate knowledge of drafting conventions including symbols, linetypes, lineweights, and dimension styles as applicable to the design discipline.
2. Perform and support estimating functions including quantity, types, costs, labor requirements, equipment, and scheduling functions.
3. Demonstrate the ability to develop and/or interpret 2D and 3D projects to solve common engineering problems.
4. Illustrate the engineering design process from the transformation of an idea or need into a completed project.
5. Develop quantitative reasoning skills useful in working in industry.
6. Collaborate with team members to identify and evaluate solutions to engineering problems.

Employment Opportunities

Successful completion of the Associate of Applied Science degree in the Computer-Aided Drafting & Design Technology major will prepare you for employment in areas in drafting and design including: mechanical, architectural, structural steel, and civil engineering.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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COMPUTER-AIDED DRAFTING AND DESIGN TECHNOLOGY PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ENG 111	College Composition	3	
	Technical Elective	3	
DRF 160	Machine Blueprint Reading	3	
DRF 200	Surv. of Computer-Aided Drafting (CAD)	4	
MTH 111	Basic Technical Math	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
DRF 233	Computer-Aided Drafting III	3	
	Technical Elective	3	
DRF 201	Computer-Aided Drafting and Design I	3	DRF 200
IND 137	Team Concepts	3	
MEC 113	Materials and Processes of Industry	4	
SECOND YEAR FALL			
CIV 171	Surveying I	3	MTH 105 or Ready for 103
DRF 231	Computer-Aided Drafting I	3	
IND 101	Quality Assurance Technology	3	
PHY 131	Applied Physics	3	
	Social Science Elective	3	See approved Social Science list
	Personal Development Elective	1	
SECOND YEAR SPRING			
CIV 172	Surveying II	3	
DRF 232	Computer-Aided Drafting and Design II	3	DRF 231
DRF 298	Seminar and Project in Drafting		
or DRF 290	or Coordinated Internship	4	
MEC 122	3D Printing for Engineering Design	3	
	Humanities Elective	3	See approved Humanities list
TOTAL PROGRAM CREDITS		**65**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Associate of Applied Science Degree

COMPUTERIZED MANUFACTURING TECHNOLOGY (726)

Purpose

The Manufacturing Technology major is a broad-based curriculum that prepares students for a variety of technical positions within a manufacturing company. The company that hires the graduate, teaches the special skills and knowledge needed to be successful within the company.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Practice industry recognized safety practices and guidelines, including the use of personal protective equipment in an industrial operating environment.
2. Interpret drawings, schematics, and specifications for industrial equipment.
3. Use precision measuring equipment.
4. Troubleshoot and repair mechanical and electronic equipment and systems.
5. Modify, install, maintain, and program automated systems.
6. Work as an effective member of a work group.

Employment Opportunities

This major prepares graduates for growth in the automated manufacturing industry with each graduate expected to receive multiple job offerings.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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COMPUTERIZED MANUFACTURING TECHNOLOGY PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
DRF 160	Machine Blueprint Reading	3	
ELE 140	Basic Electricity & Machinery	4	
SAF 126	Industrial Safety	3	
	STUDENTS ARE ELIGIBLE FOR NCCER CONSTRUCTION CORE & ELECTRICAL LEVEL 1		
MEC 120	Principles of Machines Technology	3	
MTH 111	Basic Technical Math	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
ELE 156	Electrical Control Systems	3	ELE 140
ENG 111	College Composition I	3	
ITE 119	Information Literacy	3	
MEC 113	Materials and Processes of Industry I	4	
MEC 266	Fluid Mechanics	3	
SECOND YEAR FALL			
DRF 200	Survey of Computer-Aided Design	4	
PHY 131	Applied Physics	3	MTH 106 or MTH 103
HLT 105	CPR	1	
IND 101	Quality Assurance Tech	3	
IND 160	Introduction to Robotics	3	
MEC 118	Automated Manufacturing Tech	3	
SECOND YEAR SPRING			
ELE 239	Programmable Controllers	3	ELE 140, ELE 156
	Humanities Elective	3	
IND 137	Team Concepts & Problem Solving	3	
	Social Science Elective	3	
IND 250	Intro to Basic Computer Integrated Manufacturing	3	
TOTAL PROGRAM CREDITS		**65**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Associate of Applied Science Degree

CMT - ELECTROMECHANICAL TECHNOLOGY SPECIALIZATION (726-01)

Purpose

The Electromechanical Technology Specialization of the Computerized Manufacturing Technology program trains students in various electrical, electronic, and mechanical components of systems and upon successful completion, awards the Associate of Applied Science Degree. Emphasis is on programmable logic controllers, motor controls, piping systems, valves, and related components, and process controllers. Computer skills and teamwork are also emphasized.

The electromechanical program will provide students with the knowledge and skills necessary to assume employment as competent electromechanical technicians. The program was developed in cooperation with Eastman Chemical Company. After the first year of the program, students have the opportunity for a one-year internship with Eastman after which they will return to MECC to finish the AAS degree.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Practice industry recognized safety practices and guidelines, including the use of personal protective equipment in an industrial operating environment.
2. Interpret drawings, schematics, and specifications for industrial equipment.
3. Use precision measuring equipment.
4. Troubleshoot and repair electromechanical and electronic equipment and systems.
5. Modify, install, maintain, and program electronic and electromechanical systems.
6. Modify, install, and maintain hydraulic and pneumatic systems.
7. Work as an effective member of a workgroup.

Employment Opportunities

Companies need competent electromechanical technicians. The electromechanical program was designed to meet this increasing need. The skills developed in this program will prepare students for jobs in chemical processing, coal mining, power plants and manufacturing. Jobs are available as electromechanical technicians, quality assurance technicians, and maintenance technicians.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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COMPUTERIZED MANUFACTURING TECHNOLOGY - ELECTROMECHANICAL TECHNOLOGY SPECIALIZATION PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
DRF 160	Machine Blueprint Reading	3	
ELE 140	Basic Electricity & Machinery	4	
SAF 126	Industrial Safety	3	
	ELIGIBLE FOR NCCER CONSTRUCTION CORE & LEVEL 1 ELECTRICAL CERTIFICATION		
MEC 120	Principles of Machines Technology	3	
MTH 111	Basic Technical Math	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
ENG 111	College Composition I	3	
ELE 156	Electrical Control Systems	3	ELE 140
ITE 119	Information Literacy	3	
MEC 113	Materials and Processes of Industry I	4	
	Humanities Elective	3	
SECOND YEAR FALL			
ETR 218	Ind. Electronics Circuits	4	ELE 140 or Div. Approval
HLT 105	CPR	1	
PHY 131	Applied Physics	3	MTH 106 or MTH 103
IND 101	Quality Assurance Tech	3	
IND 125	Installation and Preventive Maintenance	3	
MEC 205	Piping & Auxiliary Systems	3	
SECOND YEAR SPRING			
ELE 239	Programmable Controllers	3	ELE 140, ELE 156
MEC 266	Fluid Mechanics	3	
IND 137	Team Concepts & Problem Solving	3	
	Welding Elective	3	
	Social Science Elective	3	
TOTAL PROGRAM CREDITS		**65**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Associate of Applied Science Degree

CMT - INDUSTRIAL ELECTRONICS SPECIALIZATION (726-02)

Purpose

The Industrial Electronics specialization of the Computerized Manufacturing Technology major is designed to prepare students for employment in a wide variety of settings. While the primary emphasis of the degree focuses on the industrial and manufacturing areas, many graduates find employment in the health and service sectors as electronic or computer technicians. Course work includes a strong emphasis in the computer technology field including how to interface, upgrade and repair computer related equipment and systems. Job titles for graduates include electronic technician, electronic equipment repairer, quality assurance technician, computer repair technician, process control technician, engineering technician and manufacturing technician.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Practice industry recognized safety practices and guidelines, including the use of personal protective equipment in an industrial operating environment.
2. Interpret drawings, schematics, and specifications for industrial equipment.
3. Use precision measuring equipment.
4. Troubleshoot and repair mechanical and electronic equipment and systems.
5. Modify, install, maintain, and program automated systems.
6. Work as an effective member of a work group.

Opportunities for Employment

The Computerized Manufacturing Industrial Electronics Technology graduate can expect to see employment as and Electrical/Electronic Technician, electrical and electronics installer and Repairer.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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COMPUTERIZED MANUFACTURING TECHNOLOGY - INDUSTRIAL ELECTRONICS SPECIALIZATION PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
DRF 160	Machine Blueprint Reading	3	
ELE 140	Basic Electricity & Machinery	4	
SAF 126	Industrial Safety	3	
	STUDENTS ARE ELIGIBLE FOR NCCER CONSTRUCTION CORE AND ELECTRICAL LEVEL 1 CERTIFICATION		
ENG 111	College Composition I	3	
MTH 111	Basicd Technical Math	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
ELE 156	Electrical Control Systems	3	ELE 140
ETR 143	Devices & Applications I	3	
HLT 105	CPR	1	
ETR 168	Digital Circuit Fundamentals	3	
IND 137	Team Concepts and Problem Solving	3	
	Humanities Elective	3	
SECOND YEAR FALL			
PHY 231	Applied Physics	3	MTH 106 or MTH 103
ETR 218	Industrialized Electronics Circuits	4	ELE 140 or Div. Approval
ETR 273	Computer Electronics I	4	
IND 160	Introduction to Robotics	3	
	Technical Elective	3	
SECOND YEAR SPRING			
ELE 239	Programmable Controllers	3	ELE 140, ELE 156
MEC 113	Materials and Processes of Industry	4	
IND 250	Intro to Basic Computer Integrated Manu.	3	
ITE 119	Information Literacy	3	
	Social Science Elective	3	
TOTAL PROGRAM CREDITS		**66**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Certificate

INDUSTRIAL MAINTENANCE (990)

Purpose

The Industrial Maintenance Certificate Program is intended to meet the increasingly sophisticated maintenance needs of institutions, businesses, and industries. As systems become more computerized and complex, new maintenance skills are needed to keep machines at peak performance. With a broad-based approach touching on a cross-section of technical skills, the Industrial Maintenance Certificate Program provides entry level skills for these emerging industry needs. The Certificate Program can also provide significant retraining skills for individuals who have a technical background but want additional employment opportunities.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Practice industry recognized safety practices and guidelines, including the use of personal protective equipment in an industrial operating environment.
2. Interpret drawings, schematics, and specifications for industrial equipment.
3. Use precision measuring equipment.
4. Troubleshoot and repair electromechanical and electronic equipment and systems.
5. Modify, install, and maintain industrial systems.
6. Modify, install, and maintain hydraulic and pneumatic systems.
7. Work as an effective member of a work group.

Employment Opportunities

With the successful completion of the industrial Maintenance Certificate Program, graduates should be prepared for a wide variety of entry level maintenance positions in health care institutions, schools, businesses, mining and manufacturing industries.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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INDUSTRIAL MAINTENANCE PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
DRF 160	Machine Blueprint Reading	3	
ELE 140	Basic Electricity & Machinery	4	
SAF 126	Industrial Safety	3	
	ELIGIBLE FOR NCCER CONSTRUCTION CORE & LEVEL 1 ELECTRICAL CERTIFICATION		
MTH 111	Basic Technical Math	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
WEL 198	Seminar & Project	3	
ELE 156	Electrical Control Systems	3	ELE 140
MEC 266	Fluid Mechanics	3	
IND 137	Team Concepts & Problem Solving	3	
FIRST YEAR SUMMER/FALL			
ELE 239	Programmable Controllers	3	ELE 140, ELE 156
MEC 205	Piping & Auxiliary Systems	3	
IND 125	Installation & Preventive Maint.	3	
	Social Science Elective	3	
ENG 111	College Composition I	3	
TOTAL PROGRAM CREDITS		**41**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Career Studies Certificate

MACHINERY MAINTENANCE (221-985-52)

Purpose

The Machinery Maintenance career studies program is designed to provide the job skills necessary for employment as an entry level industrial Maintenance.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Practice industry recognized safety practices and guidelines, including the use of personal protective equipment in an industrial operating environment.
2. Interpret drawings, schematics, and specifications for industrial equipment.
3. Modify, install, and maintain, Mechanical systems.
4. Modify, install, and maintain hydraulic and pneumatic systems.
5. Work as an effective member of a work group.

Employment Opportunities

This program is designed to be flexible and meet industry needs as they arise.

MACHINERY MAINTENANCE PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ELE 140	Basic Electricity and Machinery	4	
MEC 205	Piping and Auxiliary Systems	3	
	ELIGIBLE FOR NCCER CONSTRUCTION CORE & LEVEL 1 ELECTRICAL CERTIFICATION		
SAF 126	Industrial Safety	3	
IND 125	Installation & Preventative Maintenance	3	
FIRST YEAR SPRING			
ELE 156	Electrical Control Systems	3	ELE 140
DRF 160	Machine Blueprint Reading	3	ELE 156
MEC 266	Fluid Mechanics	3	
WEL 100	Fundamentals of Welding	3	
TOTAL PROGRAM CREDITS		**25**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Associate of Applied Science Degree

WELDING (718-02)

Purpose

Graduates of the Technical Studies Welding program are trained in the job skills necessary to enter employment as apprentice welders immediately upon completion of the curriculum. Course work includes a strong emphasis in welding technology with related courses in computer applications, quality control, teamwork, and communication.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Follow industry safety practices.
2. Cut metals using oxyfuel and plasma arc cutting processes.
3. Weld in flat, horizontal, vertical and overhead positions using the basic welding processes of SMAW, GMAW, FCAW and GTAW.
4. Apply basic math and measurement.
5. Read and interpret basic blueprints and welding symbols to fabricate components.

Employment Opportunities

Graduates can expect to find employment as welders in a variety of industries including mining, manufacturing and construction.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

Additional Information

Up to 15 hours credit may be given for documented previous work experience and certifications. Although the program is designed to educate and train welders entering the industry, the program offers increased skill levels and knowledge for experienced welders as well. Welders seeking a degree or desiring promotion to upper level managerial positions should also take advantage of this excellent opportunity.

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WELDING
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
	Math/Science Elective	3	
WEL 100	Fundamentals of Welding	3	
WEL 115	Arc and Gas Welding	3	
WEL 123	Arc Welding I	3	
DRF 160	Machine Blueprint Reading	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
IND 137	Team Concepts	3	
ENG 111	College Composition I	3	
	Humanities Elective	3	
	Social Science Elective	3	
WEL 124	Arc Welding II	3	
FIRST YEAR SUMMER			
WEL 129	Pipefitting & Fabrication	3	
WEL 126	Pipe Welding	3	
SECOND YEAR FALL			
ITE 119	Information Literacy	3	
IND 101	Quality Assurance Tech	3	
DRF 200	Survey of Computer-Aided Drafting	4	
	Social Science Elective	3	
ENG 115	Technical Writing	3	
SECOND YEAR SUMMER			
	Personal Development Elective	1	
	Welding Elective or Equivalent Experience	3	
	Welding Elective or Equivalent Experience	3	
	Welding Elective or Equivalent Experience	3	
	Welding Elective or Equivalent Experience	3	
	ELIGIBLE FOR NCCER WELDING LEVEL 1 CERTIFICATION		
TOTAL PROGRAM CREDITS		**66**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Certificate

WELDING (995)

Purpose

Certificate in Welding is designed to prepare students for employment as apprentice welders immediately upon completion of the curriculum. Technical courses and shop experience comprise the majority of the program. The remaining courses are in related subjects and general education.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Follow industry safety practices.
2. Cut metals using oxyfuel and plasma arc cutting processes.
3. Weld in flat, horizontal, vertical and overhead positions using the basic welding processes of SMAW, GMAW, FCAW and GTAW.
4. Apply basic math and measurement.
5. Read and interpret basic blueprints and welding symbols to fabricate components.

Opportunities for Employment

The Certificate in Welding will prepare students for the occupational goal of welder.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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WELDING
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
MTH 111	Basic Technical Math	3	
SDV 100	College Success Skills	1	
WEL 100	Fundamentals of Welding	3	
WEL 110	Welding Process	3	
WEL 115	Arc and Gas Welding	3	
WEL 123	Arc Welding I	3	
FIRST YEAR SPRING			
ENG 111	College Composition I	3	
WEL 124	Arc Welding II	3	
WEL 130	Inert Gas Welding	3	
WEL 141	Welder Qualification Tests	3	
WEL 198	Seminar and Project	3	
	Social Science Elective	3	
FIRST YEAR SUMMER			
WEL 126	Pipe Welding I	3	
WEL 160	Semi-Automatic Welding	3	
WEL 129	Pipefitting & Fabrication	3	
STUDENTS ARE ELIGIBLE FOR NCCER CONSTRUCTION CORE AND WELDING LEVEL ONE CERTIFICATION			
TOTAL PROGRAM CREDITS		**43**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Career Studies Certificate

WELDING OPERATOR (221-995-01)

Purpose

The Welding operator career studies certificate in Welding is designed to prepare students for employment as apprentice welders immediately upon completion of the curriculum. Technical courses and shop experience comprise the program.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Follow industry safety practices.
2. Cut metals using oxyfuel and plasma arc cutting processes.
3. Weld in flat, horizontal, vertical and overhead positions using the basic welding processes of SMAW,GMAW, FCAW and GTAW.
4. Read and interpret basic blueprints and welding symbols to fabricate components .

Employment Opportunities

The Career Studies Certificate in Welding will prepare students for the occupational goal of an entry level welder.

Program Requirements

Articulation course credits may be earned by the validation of welding skills learned in a vocational school or on-the-job experience.

WELDING OPERATOR PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
WEL 110	Welding Processes	3	
WEL 115	Arc and Gas Welding	3	
WEL 100	Fundamentals of Welding	3	
WEL 123	Arc Welding I	3	
FIRST YEAR SPRING			
WEL 124	Arc Welding II	3	
WEL 141	Welder Qualification Tests	3	
WEL 130	Inert Gas Welding	3	
WEL 198	Seminar and Project	3	
	ELIGIBLE FOR NCCER CORE AND WELDING LEVEL ONE CERTIFICATION		
TOTAL PROGRAM CREDITS		**24**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Certificate

ADMINISTRATION OF JUSTICE - CORRECTIONS OPTION (406-01)

Purpose:
The Administration of Justice Certificate is to prepare individuals for carers in the criminal justice and related occupations. It is not designed to train for any specialty, but rather to provide a broad foundation, which will prepare students to enter any of the many criminal justice fields.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Demonstrate proficiency in discussing current Criminal Justice Issues.
2. Perform job within the legal/constitutional framework.
3. Demonstrate proficiency in proper procedures of Criminal Investigation techniques.
4. Identify, exhibit and apply ethical behavior on the job.
5. Demonstrate appropriate workplace behavior and exhibit appropriate interpersonal communication skills.

Employment Opportunities
Areas of employment enhanced by this curriculum are commercial and industrial security officer, local, state, and federal law enforcement officer, or corrections personnel.

Program Requirements
Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

ADMINISTRATION OF JUSTICE - CORRECTIONS OPTION PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ADJ 100	Survey of Criminal Justice	3	
ADJ 105	Juvenile Justice	3	
ADJ 140	Introduction to Corrections	3	
ADJ 107	Survey of Criminology	3	
ENG 111	College Composition I	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
ADJ 146	Adult Correction Institutions	3	
ITE 119	Information Literacy	3	
	Social Science Elective	3	
SECOND YEAR FALL			
ADJ 296	On-Site Training Criminal Justice	3	
ADJ 241	Correctional Law I	3	
ADJ 246	Correctional Counseling	3	
TOTAL PROGRAM CREDITS		**34**	

Notes and Additional Curriculum Options
Course substitutions may be available. Please see your advisor.

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Certificate

ADMINISTRATION OF JUSTICE - LAW ENFORCEMENT OPTION (406-02)

Purpose:
The Administration of Justice Certificate is to prepare individuals for carers in the criminal justice and related occupations. It is not designed to train for any specialty, but rather to provide a broad foundation, which will prepare students to enter any of the many criminal justice fields.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Demonstrate proficiency in discussing current Criminal Justice Issues.
2. Perform job within the legal/constitutional framework.
3. Demonstrate proficiency in proper procedures of Criminal Investigation techniques.
4. Identify, exhibit and apply ethical behavior on the job.
5. Demonstrate appropriate workplace behavior and exhibit appropriate interpersonal communication skills.

Employment Opportunities
Areas of employment enhanced by this curriculum are commercial and industrial security officer, local, state, and federal law enforcement officer, or corrections personnel.

Program Requirements
Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

ADMINISTRATION OF JUSTICE - LAW ENFORCEMENT OPTION PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ADJ 100	Survey of Criminal Justice	3	
ADJ 131	Legal Evidence	3	
ADJ 107	Survey of Criminology	3	
ENG 111	College Composition I	3	
SDV 100	College Success Skills	1	
ADJ 130	Introduction to Criminal Law	3	
FIRST YEAR SPRING			
ITE 119	Information Literacy	3	
ADJ 111	Law Enforcement Organization and Administration	3	
ADJ 236	Principles of Criminal Investigation	3	
	Social Science Elective	3	
ADJ 227	Constitutional Law for Justice Personnel	3	
ADJ 296	On-Site Training Crim. Justice	3	
TOTAL PROGRAM CREDITS		**34**	

Notes and Additional Curriculum Options
Course substitutions may be available. Please see your advisor.

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Associate of Applied Science Degree

CORRECTIONAL SERVICES (462)

Purpose

The Associate of Applied Science degree in Correctional Services is to prepare individuals for carers in the criminal justice and Corrections occupations. It is not designed to train for any specialty, but rather to provide a broad foundation, which will prepare students to enter any of the many criminal justice fields.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Demonstrate proficiency in discussing current Criminal Justice Issues.
2. Perform job within the legal/constitutional framework.
3. Demonstrate proficiency in proper procedures of Criminal Investigation techniques.
4. Identify, exhibit and apply ethical behavior on the job.
5. Demonstrate appropriate workplace behavior and exhibit appropriate interpersonal communication skills.

Employment Opportunities

Job openings are available in the law enforcement and the protective services fields with positions open in public law enforcement agencies, private security firms, as well as state and federal agencies.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

Each applicant must meet with the College's Protective Services faculty for a personal interview. Applicants not already employed in criminal justice are cautioned as to the qualifications usually required for criminal justice agency employment: 1) Excellent moral character, no felony convictions or any crime involving moral turpitude, nor an excessive number of traffic citations. 2) A background investigation is normally conducted by the employing agency to confirm these conditions.

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CORRECTIONAL SERVICES PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ADJ 100	Survey of Criminal Justice	3	
ADJ 140	Introduction to Corrections	3	
ADJ 171	Forensic Science I or Science Elective	4	
ENG 111	College Composition	3	
	HLT, PED, ADJ 127, or ADJ 138	1	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
ADJ 146	Adult Corrections Institutions	3	
ADJ 172	Forensic Science II or Science Elective	4	
	Humanities Elective	3	
ADJ 245	Management of Correctional Facilities		
or ADJ 248	or Probation, Parole, and Treatment	3	
ADJ 107	Survey of Criminology	3	
SECOND YEAR FALL			
ADJ 241	Correctional Law	3	
ADJ 246	Correctional Counseling	3	
ITE 119	Information Literacy	3	
MTH 154	Quantitative Reasoning	3	
SOC 200	Principles of Sociology		
or PSY 200	or Principles of Psychology	3	
	Elective	3	
SECOND YEAR SPRING			
ADJ 296	On-Site Training in Criminal Justice		
or ADJ 295	or Seminar and Project	3	
ADJ 227	Constitutional Law for Justice Personnel	3	
ADJ 105	Juvenile Justice	3	
SOC 200	Principles of Sociology		
or PSY 200	or Principles of Psychology	3	
CST 105	Oral Communication	3	
	Elective	3	
TOTAL PROGRAM CREDITS		**67**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Career Studies Certificate

CORRECTIONS MANAGEMENT AND SUPERVISION (221-462-88)

Purpose

The career studies certificate in Corrections Management and Supervision is designed for individuals in management and leadership positions in criminal justice and Corrections occupations. It focuses on critical problem solving and ethics and leadership skills.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Identifies and analyzes problems; weighs relevance and accuracy of information; generates and evaluates alternative solutions; makes recommendations.
2. Treats others with courtesy, and respect. Considers and responds appropriately to the needs and feelings of different people in different situations.
3. Identify, exhibit and apply ethical behavior on the job.
4. Demonstrate appropriate workplace behavior and exhibit appropriate interpersonal communication skills.

Program Requirements

Division approval is required for admission

CORRECTIONS MANAGEMENT AND SUPERVISION PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ADJ 133	Ethics and the Criminal Justice Professional	3	
ADJ 198	Seminar and Project in Corrections	4	
ADJ 241	Correctional law	3	
ADJ 245	Management of Correctional Facilities	3	
ADJ 246	Correctional Counseling	3	
TOTAL PROGRAM CREDITS		**16**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Career Studies Certificate

LAW ENFORCEMENT MANAGEMENT AND SUPERVISION (221-463-89)

Purpose

The career studies certificate in Law Enforcement Management and Supervision is designed for individuals in management and leadership positions in criminal justice and Law Enforcement occupations. It focuses on critical problem solving and ethics and leadership skills.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Identifies and analyzes problems; weighs relevance and accuracy of information; generates and evaluates alternative solutions; makes recommendations.
2. Treats others with courtesy, and respect. Considers and responds appropriately to the needs and feelings of different people in different situations.
3. Identify, exhibit and apply ethical behavior on the job.
4. Demonstrate appropriate workplace behavior and exhibit appropriate interpersonal communication skills.

Program Requirements

Division approval is required for admission

CORRECTIONS MANAGEMENT AND SUPERVISION PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ADJ 111	Law Enforcement Organization	3	
ADJ 112	Law Enforcement Organization & Administration II	3	
ADJ 133	Ethics and the Criminal Justice Professional	3	
ADJ 198	Seminar and Project in Law Enforcement	4	
ADJ 227	Constitutional Law for Justice Personnel	3	
TOTAL PROGRAM CREDITS		**16**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Associate of Applied Science Degree

POLICE SCIENCE (464)

Purpose

The Police Science degree is to prepare individuals for carers in the criminal justice and related occupations. It is not designed to train for any specialty, but rather to provide a broad foundation, which will prepare students to enter any of the many criminal justice fields.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Demonstrate proficiency in discussing current Criminal Justice Issues.
2. Perform job within the legal/constitutional framework.
3. Demonstrate proficiency in proper procedures of Criminal Investigation techniques.
4. Identify, exhibit and apply ethical behavior on the job.
5. Demonstrate appropriate workplace behavior and exhibit appropriate interpersonal communication skills.

Employment Opportunities

Job openings are available in the law enforcement and the protective services fields with positions open in public law enforcement agencies, private security firms, as well as state and federal agencies.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

Each applicant must meet with the College's Protective Services faculty for a personal interview. Applicants not already employed in criminal justice are cautioned as to the qualifications usually required for criminal justice agency employment: 1) Excellent moral character, no felony convictions or any crime involving moral turpitude, nor an excessive number of traffic citations. 2) A background investigation is normally conducted by the employing agency to confirm these conditions.

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POLICE SCIENCE
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ADJ 100	Survey of Criminal Justice	3	
ADJ 131	Legal Evidence	3	
ADJ 171	Forensic Science I or Science Elective	4	
ENG 111	College Composition	3	
ITE 119	Information Literacy	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
ADJ 107	Survey of Criminology	3	
ADJ 130	Intro to Criminal Law	3	
ADJ 236	Principles of Criminal Investigation	3	
	HLT, PED, or ADJ 138/127	1	
ADJ 172	Forensic Science II or Science Elective	4	
	Elective	3	
SECOND YEAR FALL			
ADJ 105	Juvenile Justice System	3	
ADJ 111	Law Enforcement Organization	3	
ADJ 133	Ethics and Criminal Justice Professional	3	
	Humanities Elective	3	
MTH 154	Quantitative Reasoning	3	
SOC 200	Principles of Sociology		
or PSY 200	Principles of Psychology	3	
SECOND YEAR SPRING			
ADJ 296	On-Site Training in Criminal Justice		
or ADJ 295	or Seminar and Project	3	
ADJ 227	Constitutional Law for Justice Personnel	3	
SOC 200	Principles of Sociology		
or PSY 200	Principles of Psychology	3	
CST 105	Oral Communication	3	
	Elective	3	
TOTAL PROGRAM CREDITS		**67**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Associate of Applied Science Degree

COMPUTER NETWORKING TECHNOLOGY (732)

Purpose

The Computer Networking Technology student will take coursework in network infrastructure and Internetworking devices, network operating systems and network management.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Analyze, design and document computer network specifications to meet client needs.
2. Install and troubleshoot desktop, server, and infrastructure hardware.
3. Install, configure, and troubleshoot desktop, server, and infrastructure operating systems.
4. Use proper computer system and networking terminology; perform help desk functions to address end user needs.
5. Troubleshoot/debug, maintain, and upgrade server, client, and infrastructure systems.
6. Implement Local Area Networks using both static and dynamic IP addressing & sub-netting.
7. Install, configure, and maintain domain-based Local Area Network hardware and software.
9. Use computer systems and networks in a responsible and ethical manner.
10. Work as an effective member of a work group.

Employment Opportunities

The Associate of Applied Science degree program in Computer Network Technology is designed to prepare students to work in a wide range of employment areas as network installers, network technicians, network administrators, network planners, and network managers.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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COMPUTER NETWORKING TECHNOLOGY
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ITN 154	Network Fundamentals, Routers Basics, and Configuration (ICDN1)-Cisco	4	
ITN 110	Client Operating Systems	3	
ITN 107	Personal Computer Hardware & Troubleshooting	3	
	ELIGIBLE FOR COMPTIA A+ CERTIFICATION UPON COMPLETION OF ITN 107		
ITE 119	Information Literacy	3	
MTH 111	Basic Technical Math	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
ITN 155	Switching, Wireless, and WAN Technologies (ICDN2)-Cisco	4	ITN 154
ITN 111	Server Administration	3	
IND 137	Team Concepts and Problem Solving	3	
ENG 111 or ENG 115	English Composition I or Technical Writing	3	
	Humanities Elective	3	
	ELIGIBLE FOR CISCO CCENT/ICND1 (CISCO CERTIFIED ENTRY NETWORKING TECHNICIAN 640-822)		
SECOND YEAR FALL			
ITN 156	Basic Switching and Routing-Cisco III	4	ITN 155
ITN 113	Active Directory	3	ITN 111
ITN 260	Network Security Basics	3	ITN 111
	ELIGIBLE FOR COMPTIA SECURITY+ CERTIFICATION		
	Social Science Elective	3	
ITN 171	UNIX I	3	
SDV 106	Preparation for Employment	1	
	ELIGIBLE FOR MCSA (MICROSOFT CERTIFIED SOLUTIONS ASSOCIATE) 410 INSTALLING AND CONFIGURING WINDOWS SERVER 2012		
SECOND YEAR SPRING			
ITN 157	WAN Technologies-Cisco	4	ITN 156
ITN 112	Networking Infrastructure	3	ITN 111; and ITN 154 or 101
ITN 214	Messaging Server Administration	3	ITN 111, ITN 113
ITE 290	Coordinated Internship	3	
	ELIGIBLE FOR CAREER READINESS CERTIFICATIONS WHILE ENROLLED IN ITE 290		
	Social Science or Humanities Elective	3	
	ELIGIBLE FOR CISCO CCNA (CERTIFIED NETWORK ASSOCIATE) 640-802 AND 640-816		
TOTAL PROGRAM CREDITS		**66**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Associate of Applied Science Degree

COMPUTER SOFTWARE SPECIALIST (222)

Purpose

The Associate of Applied Science degree program in Computer Software Specialist is designed to prepare students to enter the workforce as computer professionals trained in a variety of cutting-edge software packages. General and specialized computer courses with an emphasis in programming and database applications are complemented by general education courses. Students will participate in a comprehensive program that includes both classroom and lab instruction, along with a work-based learning experience or a comprehensive computer project.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Write application software that makes efficient and secure use of operating system services.
2. Develop an information system using accepted software development processes.
3. Produce user applications using a specialized technology that builds upon fundamental software development practices.
4. Analyze a problem and identify the appropriate data, hardware components and/or software requirements to develop a feasible solution.
5. Use current tools and practices that support the software documentation process.
6. Document system requirements and/or develop materials for clients in the proper use of hardware or software.
7. Work cooperatively and effectively in teams to accomplish a shared goal.
8. Analyze local and global information technology (IT) trends, while recognizing the influences of IT on cultural, economic, ethical, and legal issues and responsibilities.
9. Support the management of information systems.
10. Use logical and mathematical reasoning to analyze, organize, and interpret data.

Employment Opportunities

Job opportunities in the immediate area and throughout the nation abound for students trained in computers. According to the Bureau of Labor Statistics' website, employment of software developers is projected to grow 24% from 2016 to 2026, which is much faster than the average for all occupations. Software developers will be needed to respond to an increased demand for computer software. Students completing the Computer Software Specialist AAS will be qualified for the following positions: Computer Software Specialist, Software Developer, Computer Lab Assistant, Help-Desk Technician, Database Operator/Manager, Software Consultant, Programmer, Software Tester/Analyst.

Opportunities for advancement are excellent for those students willing to continue their education and training. Students may wish to enhance their advancement opportunities by pursuing certifications available from various software vendors. Students also may want to couple their degree with the Cybersecurity Career Studies Certificate or the Mobile Applications Development Career Studies Certificate.

Program Requirements

Students should have English and Mathematics skills assessed. Deficiencies in these areas may be corrected by completing the appropriate developmental studies courses.

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COMPUTER SOFTWARE SPECIALIST
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ITE 131	Survey of Internet Services	1	
ITD 110	Web Page Design I	3	
ITE 119	Information Literacy	3	
ITN 171	UNIX I	3	
ITN 101	Introduction to Network Concepts	3	
SDV 100	College Success Skills	1	
FIRST YEAR SPRING			
ENG 111	College Composition I	3	
ITP 100	Software Design	3	
ITP 120	Java Programming I	3	ITP 100
ITP 140	Client Side Scripting	3	ITD 110 co-requisite
IND 137	Team Concepts & Problem Solving	3	
SDV 106	Preparation for Employment	1	
	ELIGIBLE FOR CAREER READINESS CERTIFICATIONS WHILE ENROLLED IN SDV 106		
SECOND YEAR FALL			
ITE 150	Desktop Database Software	3	ITE 119
ITP 132	C++ Programming I	3	ITP 100 or MTH 163
	Social Science or Humanities Elective	3	
MTH 111	Basic Technical Math	3	
ITP 193	Studies in PHP/MySQL	3	ITD 110 co-requisite
	ELIGIBLE FOR HTML5 APPLICATION DEVELOPMENT FUNDAMENTALS CERTIFICATION, DATABASE FUNDAMENTALS CERTIFICATION, AND SOFTWARE DEVELOPMENT I CAREER STUDIES CERTIFICATE		
ITP 220	Java Programming II	3	ITP 120
SECOND YEAR SPRING			
ITP 232	C++ Programming II	3	ITP 132
ITP 214	Windows Mobile Development	3	ITP 220
	ELIGIBLE FOR COMPUTER SOFTWARE SPECIALIST - MOBILE APPLICATION DEVELOPMENT CAREER STUDIES CERTIFICATE WITH ENROLLMENT IN ITD 210 (WEB PAGE DESIGN II)		
ITP 251	Systems Analysis & Design	3	
ITP 298	Capstone/Project Integration	3	
	ELIGIBLE FOR SOFTWARE DEVELOPMENT II CAREER STUDIES CERTIFICATE		
	Social Science Elective	3	
	Humanities Elective	3	
TOTAL PROGRAM CREDITS		**66**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Career Studies Certificate

CSS - MOBILE APPLICATION DEVELOPMENT (221-299-00)

Purpose

The Computer Software Specialist - Mobile Application Development Career Studies Certificate is designed to prepare students to enter the workforce as mobile application developers who can create and test business-oriented software applications. The curriculum consists of general and specialized computer courses with an emphasis in mobile applications programming.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Write application software that makes efficient and secure use of operating system services.
2. Develop an information system using accepted software development processes.
3. Produce user applications using a specialized technology that builds upon fundamental software development practices.
4. Analyze a problem and identify the appropriate data, hardware components and/or software requirements to develop a feasible solution.
5. Use current tools and practices that support the software documentation process.
6. Document system requirements and/or develop materials for clients in the proper use of hardware or software.
7. Work cooperatively and effectively in teams to accomplish a shared goal.
8. Analyze local and global information technology (IT) trends, while recognizing the influences of IT on cultural, economic, ethical, and legal issues and responsibilities.
9. Support the management of information systems.
10. Use logical and mathematical reasoning to analyze, organize, and interpret data.

Employment Opportunities

Job opportunities in the immediate area and throughout the nation abound for students trained in computers. According to the Bureau of Labor Statistics' website, employment of software developers is projected to grow 24% from 2016 to 2026, which is much faster than the average for all occupations. Software developers will be needed to respond to an increased demand for computer software.

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COMPUTER SOFTWARE SPECIALIST - MOBILE APPLICATION DEVELOPMENT PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ITD 110	Web Page Design I	3	
ITP 193	Studies in PHP/MySQL	3	ITD 110 Co-requisite
FIRST YEAR SPRING			
ITP 100	Software Design	3	
ITP 120	Java Programming I	3	ITP 100
FIRST YEAR FALL			
ITD 210	Web Page Design II	3	ITD 110
ITP 220	Java Programming II	3	ITP 120
FIRST YEAR SPRING			
ITP 140	Client Side Scripting	3	ITD 110 co-requisite
ITP 214	Windows Mobile Development	3	ITP 220
TOTAL PROGRAM CREDITS		**24**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Career Studies Certificate

CYBERSECURITY (221-732-09)

Purpose

The Cybersecurity Career Studies Certificate is designed to prepare students to enter the workforce with essential cybersecurity training to help plan and implement an organization's information security, install security hardware and software, monitor networks for security breaches, respond to cyber-attacks, and gather evidence to be used in prosecuting cyber-crime. The training focuses on the strategies, techniques, and defense mechanisms required to mitigate global cyber threats. This certificate includes both classroom and lab instruction.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Analyze, design and document computer network specifications to meet client needs.
2. Understand computer systems, networking, and information security terminology.
3. Install, configure, and troubleshoot workstations, servers, and network infrastructure.
4. Use computer systems and network security in a responsible and ethical manner.
5. Ensure the implementation of the five security keys: confidentiality, integrity, availability, accountability and auditability when creating security policies and procedures.
6. Understand different hacking attacks and defense methodologies.
7. Analyze local and global information technology (IT) and security trends, while recognizing the influences of IT on culture, economic, ethical, and legal issues and responsibilities.
8. Gain the ability for computer forensic investigation by collecting computer-related evidence at the physical layer from a variety of digital media.
9. Secure communication protocols from hacking attacks by highlighting protocol weaknesses that include Internet architecture, routing, addressing, topology, fragmentation and protocol analysis.

Employment Opportunities

The Cybersecurity Career Studies Certificate program will prepare students for a wide range of careers in fields such as computer forensics, information security, and systems administration. As cybersecurity job growth in Virginia continues to trend upwards, the certificate will enable students to be a part of this trend and remain competitive as the region's economy continues to evolve.

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CYBERSECURITY
PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ITE 105	Careers and Cyber Ethics	2	
ITN 101	Intro. to Network Concepts	3	
ITN 260	Network Security Basics	3	ITN 101 or ITN 154
ITN 171	Unix I	3	
BUS 106	Sec. Awareness for Managers	3	
FIRST YEAR SPRING			
ITN 111	Server Administration	3	
ITN 112	Network Infrastructure	3	ITN 101 or ITN 154
ITN 261	Network Attacks, Computer Crime and Hacking	3	ITN 101 or ITN 154
ITN 275	Incident Response and Computer Forensics	3	ITN 260; ITN 101 or ITN 154
ITN 262	Network Communication, Security and Authentication	3	ITN 101 or ITN 154
TOTAL PROGRAM CREDITS		**29**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

Career Studies Certificate

HELP DESK SUPPORT (221-299-09)

Purpose

The Help Desk Support Career Studies Certificate prepares students to fill entry-level information technology positions which require the employee to provide technical assistance and support related to computer systems, software, and hardware in person, over the web, and/or over the phone.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Perform help desk functions to address end-user needs.
2. Use proper computer system and networking terminology. Install, configure, and deploy desktop operating systems.
3. Troubleshoot/debug, maintain, repair and upgrade client desktop systems.
4. Use proper help desk support principles and practices while interacting with customers.
5. Document actions taken to resolve customer problems and or issues.
6. Use computer systems and networks in a responsible and ethical manner.
7. Work as an effective member of a work group.

Employment Opportunities

Opportunities for employment in the immediate area and throughout the nation abound for students trained in computers. Students who complete the certificate will be qualified to work as Help Desk Technicians in a variety of businesses and organizations.

HELP DESK SUPPORT PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR			
ITE 140	Spreadsheet Software	3	
ITN 110	Client Operating System	3	
ITN 171	Unix	3	
ITE 150	Desktop Database Software	3	
ITN 101	Intro. to Network Concepts	3	
BUS 106	Sec. Awareness for Managers	3	
ITN 107	Personal Computer Hardware & Troubleshooting	3	
ITE 182	User Support/Help Desk Principles	3	
TOTAL PROGRAM CREDITS		**24**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Career Studies Certificate

INFORMATION TECHNOLOGY READINESS (221-299-08)

Purpose

This Information Technology Readiness Career Studies Certificate equips students with the essential technology skills required in today's workplace. The curriculum addresses specific workforce needs and is offered in a cohort format as demand warrants.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Demonstrate basic keyboarding skills.
2. Demonstrate a working knowledge of basic computer skills.
3. Utilize word processing software to create documents.
4. Work as an effective member of a work group.

Employment Opportunities

The Information Technology Readiness Career Studies Certificate prepares students to enter the workforce equipped with the basic computer skills necessary to successfully function in today's business environment.

INFORMATION TECHNOLOGY READINESS PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR			
AST 101	Keyboarding I	3	
AST 132	Word Processing I	1	
AST 133	Word Processing II	1	
ITE 100	Intro. to Information Systems	3	
SDV 100	College Success Skills	1	
SDV 107	Career Education	3	
ENG 100	Basic Occupational Communication	3	
BUS 121	Business Mathematics I	3	
ITD 110	Web Page Design I	3	
ITE 298	Seminar & Project	3	
TOTAL PROGRAM CREDITS		**24**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Career Studies Certificate

SOFTWARE DEVELOPMENT I (221-299-01)

Purpose

The Software Development I Career Studies Certificate is designed to prepare students to enter the workforce as software developers who can create and test business-oriented software applications. The curriculum includes general and specialized computer courses focusing on programming and database applications. This certificate includes both classroom and lab instruction.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Write application software that makes efficient and secure use of operating system services.
2. Analyze a problem and identify the appropriate data, hardware components and/or software requirements to develop a feasible solution.
3. Use current tools and practices that support the software documentation process.
4. Document system requirements and/or develop materials for clients in the proper use of hardware or software.
5. Work cooperatively and effectively in teams to accomplish a shared goal.
6. Analyze local and global information technology (IT) trends, while recognizing the influences of IT on cultural, economic, ethical, and legal issues and responsibilities.
7. Use logical and mathematical reasoning to analyze, organize, and interpret data.

Employment Opportunities

Job opportunities in the immediate area and throughout the nation abound for students trained in computers. According to the Bureau of Labor Statistics' website, employment of software developers is projected to grow 24% from 2016 to 2026, which is much faster than the average for all occupations. Software developers will be needed to respond to an increased demand for computer software.

SOFTWARE DEVELOPMENT I PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ITD 110	Web Page Design I	3	
ITN 171	UNIX I	3	
FIRST YEAR SPRING			
ITP 140	Client Side Scripting	3	ITD 110 co-requisite
ITP 100	Software Design	3	
ITP 120	Java Programming I	3	
SECOND YEAR FALL			
ITP 132	C++ Programming I	3	ITP 100 or MTH 163
TOTAL PROGRAM CREDITS		**18**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Career Studies Certificate

SOFTWARE DEVELOPMENT II (221-299-02)

Purpose

The Software Development II Career Studies Certificate is designed to prepare students to enter the workforce as software developers who can create and test business-oriented software applications. The curriculum includes general and specialized computer courses in advanced level programming with an emphasis on systems analysis and project integration. This certificate includes both classroom and lab instruction.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Write application software that makes efficient and secure use of operating system services.
2. Develop an information system using accepted software development processes.
3. Produce user applications using a specialized technology that builds upon fundamental software development practices.
4. Analyze a problem and identify the appropriate data, hardware components and/or software requirements to develop a feasible solution.
5. Use current tools and practices that support the software documentation process.
6. Document system requirements and/or develop materials for clients in the proper use of hardware or software.

Employment Opportunities

Job opportunities in the immediate area and throughout the nation abound for students trained in computers. According to the Bureau of Labor Statistics' website, employment of software developers is projected to grow 24% from 2016 to 2026, which is much faster than the average for all occupations. Software developers will be needed to respond to an increased demand for computer software.

SOFTWARE DEVELOPMENT II PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
IITP 193	Studies in PHP/MySQL	3	ITD 110 co-requisite
ITP 220	Java Programming II	3	ITP 120
FIRST YEAR SPRING			
ITP 214	Windows Mobile Development	3	ITP 220
ITP 232	C++ Programming II	3	ITP 132
ITP 251	Systems Analysis & Design	3	
ITP 298	Capstone/Project Integration	3	
TOTAL PROGRAM CREDITS		**18**	

Notes and Additional Curriculum Options

Course substitutions may be available. Please see your advisor.

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Associate of Applied Science Degree

sUAS OPERATIONS TECHNICIAN TECHNICAL STUDIES (TBA)

Purpose

Develop a highly trained and skilled drone-operator workforce to support the emerging drone industry in the counties served by Mountain Empire Community College by providing industry driven and developed Unmanned System's training targeted directly toward the nascent industry adopters: Police, EMS, Agriculture, Infrastructure Inspection, Emergency Response, Real Estate, Tourism/Videography, and Delivery.

Program Learning Outcomes (PLO): Upon successful completion, students will be able to:

1. Obtain FAA Remote Pilot Certification
2. Properly apply FAA operations and safety regulations to UAS Ops
3. Choose proper UAS for a specific task/mission/data collection
4. Build, configure, maintain, troubleshoot, and repair small Unmanned Systems
5. Properly inspect UAS and Ground Systems/Radios before flight
6. Plan and carry out safe and successful live flight UMS missions
7. Plan and carry out safe and successful autonomous UMS missions
8. Supervise a UMS flight crew in accomplishing a mission
9. Understand controlled airspace and obtain the necessary authorization to fly there
10. Understand weather and its effects on flight
11. Choose, mount, and configure the proper sensor(s) for mission data collection and retrieval
12. Understand and implement data security for all customer data
13. Process collected data to produce meaningful reports for customers
14. Properly inspect UAS and Ground Systems/Radios after mission
15. Maintain all flight and maintenance logs for UMS equipment

Employment Opportunities

By 2021 the FAA estimates there could be as many as 1.6 million small drones in commercial use. FAA Administrator Michael Huerta said in a recent speech at AUVSI Xponential Dallas Texas, "The only limitation seems to be: How quickly we - all of us, across the industry - can make it happen, safely." The MECC region boasts 94 aviation related companies focusing on aerospace product, manufacturing, air transportation, and aviation support activities located within 100 miles; 32 within 50 miles; and three companies within 25 miles of Wise County. Currently Glassdoor (www.glassdoor.com) lists 1056 open jobs for UAV pilots. The U.S. Military (all branches) are currently in desperate need of qualified UAV pilots, all branches are reporting 100's of open positions. The Bureau of Labor Statistics predicts 11% - 20% growth each year for the next 10 years. The FAA estimates small, hobbyist UAS purchases may grow from 1.9 million in 2016 to as many as 4.3 million by 2020. Sales of UAS for commercial purposes are expected to grow from 600,000 in 2016 to 2.7 million by 2020. Combined total hobbyist and commercial UAS sales are expected to rise from 2.5 million in 2016 to 7 million in 2020. Industries already being transformed by drone piloting skills:

*Utilities: Using drones to inspect power lines, telephone towers and wind turbines without needing to employ several people, cranes and cherry pickers.

*Mining: Drones are already commonplace and are used to measure stock piles of minerals in hours, rather than days. Also used for surveying work and environmental impact research.

*Fast Food Delivery: Big companies such as Domino's Pizza will be looking to invest in drones for pizza delivery in the future.

*Package Delivery: Australia Post and Amazon are already investing in drone technology as a way of delivering packages.

*Trades: Being able to inspect things from a height, such as a solar panel output, leaking roofs and guttering.

*Real Estate: Panoramic aerial footage of properties to show investors new opportunities or create marketing videos.

*Wedding photography: Aerial videography of weddings is set to become the next big thing and will allow couples to capture diverse and creative footage of their special day.

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Program Requirements
Students should have English and Mathematics skills assessed. Deficiencies in these area may be corrected by completed the appropriate developmental studies courses.

sUAS OPERATIONS TECHNICIAN TECHNICAL STUDIES PROGRAM OF STUDY

Course #	Course Title	Credit	Pre-Requisite Courses (if applicable)
FIRST YEAR FALL			
ENG 111	College Composition I	3	
SDV 100	College Success Skills	1	
IND 101	Quality Assurance Technology I	3	
ITN 101	Introduction to Network Concepts	3	
MEC 120	Principles of Machine Technology	3	
UMS 107	sUAS Remote Pilot School	3	
	ELIGIBLE FOR FAA PART 107 REMOTE DRONE PILOT LICENSE CERTIFICATION		
FIRST YEAR SPRING			
PSY 120	Human Relations	3	
ENG 115	Technical Writing	3	
NAS 125	Meterology	4	
UMS 111	Small Unmanned Aircraft Systems I	3	
ITE 119	Information Literacy	3	
SECOND YEAR FALL			
ETR 218	Industrial Electronics Circuits	4	
GIS 200	Geographic Information Systems	4	
DRF 200	Survey of Computer Aided Drafting	4	
UMS 177	sUAS Components and Maintenance	3	
PLS 211	U.S. Government I	3	
SECOND YEAR SPRING			
	PED or HLT Elective	2 or 3	
	Humanities Elective	3	
IND 137	Team Concepts & Problem Solving	3	
UMS 211	Small Unmanned Aircraft Systems II	3	UMS 111
UMS 290	Internship in sUAS	3	Should be completed during student's last semester
UMS 296	sUAS On-Site Training	3	Should be completed during student's last semester
TOTAL PROGRAM CREDITS		**67/68**	

Notes and Additional Curriculum Options
Course substitutions may be available. Please see your advisor.

Course Descriptions

Course Numbers

Courses numbered 1-9 are Developmental courses. The credits earned in these courses are not applicable toward associate degree programs. Courses numbered 10-99 are applicable toward certificate programs but are not applicable toward an associate degree. Courses numbered 100-199 are freshman courses which may be applicable toward an associate degree or certificate program. Courses numbered 200-299 are sophomore courses which may be applicable toward an associate degree or certificate program.

Course Credits

The credit for each course must be indicated after the title in the course description. One credit is equivalent to one collegiate semester-hour credit. Each semester hour of credit given for a course is based on the "academic hour," which is 50 minutes of formalized, structured instructional time in a particular course weekly for fifteen weeks. This is a total of 750 minutes of instruction. In addition to this instructional time, appropriate evaluation will be required. If this evaluation is a final examination, a minimum of 50 minutes of evaluation time shall be scheduled for each course, not to exceed a total of 150 minutes per course. Any exception must have prior approval by the requestor's Chief Academic Officer or designee. Credits may be assigned to the activities as follows:

- Lecture – One academic hour of lecture (including lecture, seminar, discussion, or other similar activities) per week, generally for 15 weeks, plus the evaluation or examination period, equals one collegiate semester-hour credit.
- Laboratory – Two to five academic hours, depending on the discipline, of laboratory, clinical training, supervised work experience, coordinated internship, or other similar activities per week, generally for 15 weeks, plus the evaluation or examination period, equals one collegiate semester-hour credit.
- Asynchronous Distance Learning Courses – In the case of asynchronous distance learning course offerings or hybrid courses that employ a mix of traditional contact hours and learning activities with students and faculty separated by time and place, colleges must demonstrate through faculty peer review that content and competency coverage and student outcomes are equivalent to those of traditional sections of the same class. In the event the only section of the course being taught in the VCCS is an asynchronous or hybrid course, faculty peer review will be employed to confirm that content and competency coverage and student outcomes are appropriate for the course credits awarded.
- General Usage Courses – Variable academic hours from one to five credits for general usage courses.
- Variable Credits – A college may request that a course vary from the existing credit value, but by no more than one credit. Existing variable credit ranges may not be extended. Credit variability will not be approved for purposes of deleting laboratory hours or of making laboratory hours optional.

Course Hours

The number of lecture hours in class each week (including lecture, seminar, discussion, and other similar activities) and/or the number of laboratory, supervised study, coordinated internship, and other similar activities are indicated for each course in the course description. The numbers of lecture and laboratory hours required each week are called "contact" hours. Distance learning courses must include the same content and deliver the same student outcomes as do the same courses taught in the classroom. Although contact hours for distance learning courses may not refer to seat time, they do still indicate the amount of course time devoted to lecture and laboratory instruction.

Course Prerequisites and Co-requisites

If any prerequisites are required before enrolling in a course, these prerequisites will be identified in the course description. The prerequisites or their equivalent must be completed satisfactorily before enrolling in a course. Courses in special sequences (usually identified by the numerals I-II) require that prior courses or their equivalent be completed before enrolling in the advanced courses in the sequence unless otherwise specified. When co-requisites are required for a course, usually the co-requisite must be taken at the same time. Students who register for a class without meeting prerequisites may be dropped from the class during the first two weeks of classes.

Reading and Writing Level Requisites

If a course requires an English Composition or English Fundamentals requisite level, see below to determine how this requirement may be satisfied:

- ENF 1: VPT placement of ENF 1(XEN1) or ENF 2 (XEN2) or ENF 3 (XEN3) or ENG 111 (XE11)
- ENF 2: ENF 1 completion or VPT placement of ENF 2 (XEN2) or ENF 3 (XEN3) or ENG 111 (XE11)
- ENF 3: ENF 1 completion or ENF 2 completion or VPT placement of ENF 3 (XEN3) or ENG 111 (XE11)
- ENG 111: ENF 1 completion or ENF 2 completion or ENF 3 (XEN3) completion or VPT Placement of ENG 111 (XE11)
- ENG DVS test credit based on SAT or ACT test scores satisfies all reading and writing level requisites.

Test credit may be viewed on the Degree Progress Report at MECC Online, www.mecc.edu.

General Usage Courses

90, 190 & 290 Coordinated Practice (1-5 CR.)
Includes supervised practice in selected health agencies coordinated by the College. Credit/Practice ratio maximum 1:5 hours. May be repeated for credit. Variable hours.

90, 190, & 290 Coordinated Internship (1-5 CR.)
Supervises on-the-job training in selected business, industrial, or service firms coordinated by the College. Credit/Practice ratio maximum 1:5 hours. May be repeated for credit. Variable hours.

95, 195, & 295 Topics in (1-5 CR.)
Provides an opportunity to explore topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

96, 196, & 296 On-Site Training (1-5 CR.)
Specializes in career orientation and training program without pay in selected businesses and industry, supervised and coordinated by the College. Credit/Work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

97, 197 & 297 Cooperative Education (1-5 CR.)
Supervises in on-the-job training for pay in approved business, industrial and service firms coordinated by the College's cooperative education office. Is applicable to all occupational-technical curricula at the discretion of the College. Credit/Work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

98, 198 & 298 Seminar and Project (1-5 CR.)
Requires completion of a project or research report related to the student's occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours.

Accounting (ACC)

ACC 105 Office Accounting (3 CR.)
Presents practical accounting for secretaries. Covers the accounting cycle—journals, ledgers, working papers, closing of books—payrolls, financial statements, accounting forms and practical procedures. ENF 2 requisite level. Lecture 3 hours per week.

ACC 111-112 Accounting I-II (3-4 CR.) (3-4 CR.)
Presents fundamental accounting concepts and principles governing the accounting cycle, journals, ledgers, working papers, and preparation of financial statements for sole proprietorships, partnerships, and corporations. Must be taken in sequence. ENF 3 requisite level. Lecture 3-4 hours. Total 3-4 hours per week.

ACC 115 Applied Accounting (3 CR.)
Presents practical accounting procedures for retail stores, professional individuals in firms, and personal service occupations. Covers the accounting cycle, journals, ledgers, preparation of financial statements and payrolls, and checking account management. Lecture 3-4 hours per week.

ACC 124 Payroll Accounting (3 CR.)
Presents accounting systems and methods used in computing and recording payroll to include payroll taxes and compliance with federal and state legislation. Prerequisite: ACC 105, 111, or 211. Lecture 3 hours per week.

ACC 134 Small Business Taxes (3 CR.)
Introduces taxes most frequently encountered in business. Includes payroll, sales, property, and income tax. Studies the fundamentals of income tax preparation of business taxes for small businesses organized as proprietorships, partnerships, limited liability companies, and S-corporations. Includes income tax preparation related to business assets; business of the home; employment taxes; withholding and estimated taxes; Schedule C, SE and 1040; self-employed retirement plans, tip reporting and allocation rules, etc. Also includes discussion and practice in recording of payroll for a small business. Lecture 3 hours per week.

ACC 211-212 Principles of Accounting I-II (3 CR.) (3 CR.)
Presents accounting principles and their application to various businesses. Covers the accounting cycle, income determination, asset valuation, and financial reporting. Studies services, merchandising, and includes internal controls. Must be taken in sequence. ENF 3 requisite level. Lecture 3-4 hours per week.

ACC 215 Computerized Accounting (3-4 CR.)
Introduces the computer in solving accounting problems. Focuses on operation of computers. Presents the accounting cycle and financial statement preparation in a computerized system and other applications for financial and managerial accounting. Prerequisite ACC 105, 111, or 211. Lecture 3-4 hours per week.

ACC 219 Governmental and Not-For-Profit Accounting (3 CR.)
Introduces fund accounting as used by governmental and nonprofit entities. Stresses differences between accounting principles for for-profit and not-for-profit organizations. Corequisite ACC 112 or 212. Lecture 3 hours per week.

ACC 221 Intermediate Accounting I (3-4 CR.)
Covers accounting principles and theory, including a review of the accounting cycle and accounting for current assets, current liabilities, and investments. Introduces various accounting approaches and demonstrates the effect of these approaches on the financial statement users. Corequisite ACC 112 or 212. Lecture 3-4 hours per week.

ACC 222 Intermediate Accounting II (3-4 CR.)
Continues accounting principles and theory with emphasis on accounting for fixed assets, intangibles, corporate capital structure, long-term liabilities, and investments. Prerequisite ACC 221. Lecture 3-4 hours per week.

ACC 231-232 Cost Accounting I-II (3 CR.) (3 CR.)
Studies cost accounting methods and reporting as applied to job order, process, and standard cost accounting systems. Includes cost control, profit analysis, and other topics. Corequisite ACC 112 or 212. Must be taken in sequence. Lecture 3 hours per week.

ACC 261-262 Principles of Federal Taxation I-II (3 CR.) (3 CR.)
Presents the study of federal taxation as it relates to individuals and other related entities. Includes tax planning, compliance and reporting. Must be taken in sequence. ENF 3 requisite level. Lecture 3 hours per week.

ACC 290 Internship in Accounting (3 CR.)
Supervised on-the-job training in selected business, industrial, or service firms and coordinated by the college. Credit/practice ratio maximum 1 to 5. Variable hours.

ACC 298 Seminar and Project (3 CR.)
Requires completion of a project or research report related to the student's occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Corequisite ACC 222. Variable hours.

Administration of Justice (ADJ)

ADJ 100 Survey of Criminal Justice (3 CR.)
Presents an overview of the United States criminal justice system; introduces the major system components—law enforcement, judiciary, and corrections. ENF 2 requisite level. Lecture 3 hours per week.

ADJ 105 The Juvenile Justice System (3 CR.)
Presents the evolution, philosophy, structures and processes of the American juvenile delinquency system; surveys the rights of juveniles, dispositional alternatives, rehabilitation methods and current trends. ENF 2 requisite level. Lecture 3 hours per week.

ADJ 107 Survey of Criminology (3 CR.)
Surveys the volume and scope of crime; considers a variety of theories developed to explain the causation of crime and criminality. ENF 2 requisite level. Lecture 3 hours per week.

ADJ 111 Law Enforcement Organization & Administration I (3 CR.)
Teaches the principles of organization and administration of law enforcement agencies. Studies the management of line operations, staff and auxiliary services, investigative and juvenile units. Introduces the concept of data processing; examines policies, procedures, rules, and regulations pertaining to crime prevention. Surveys concepts of protection of life and property, detection of offenses, and apprehension

of offenders. Prerequisite for ADJ 112, divisional approval or ADJ 111. ENF 2 requisite level. May be taken out of sequence. Lecture 3 hours per week.

ADJ 112 Law Enforcement Organization & Administration II (3 CR.)
Teaches the principles of organization and administration of law enforcement agencies. Studies the management of line operations, staff and auxiliary services, investigative and juvenile units. Introduces the concept of data processing; examines policies, procedures, rules, and regulations pertaining to crime prevention. Surveys concepts of protection of life and property, detection of offenses, and apprehension of offenders. Prerequisite for ADJ 112, divisional approval or ADJ 111. ENF 2 requisite level. May be taken out of sequence. Lecture 3 hours per week.

ADJ 127 Firearms and Marksmanship (3 CR.)
Surveys lethal weapons in current usage and current views on weapon types and ammunition design. Examines the legal guidelines as to use of deadly force, safety in handling of weaponry, and weapon care and cleaning; marksmanship instruction under standard range conditions. Prerequisite permission of instructor. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

ADJ 130 Introduction to Criminal Law (3 CR.)
Surveys the general principles of American criminal law, the elements of major crimes, and the basic steps of prosecution procedure. ENF 2 requisite level. Lecture 3 hours per week.

ADJ 131 Legal Evidence I (3 CR.)
Surveys the identification, degrees, and admissibility of evidence for criminal prosecution; examines pretrial and trial procedures as they pertain to the rules of evidence. ENF 2 requisite level. Must be completed in sequence. Lecture 3 hours per week.

ADJ 133 Ethics and the Criminal Justice Professional (3 CR.)
Examines ethical dilemmas pertaining to the criminal justice system, including those in policing, courts, and corrections. Focuses on some of the specific ethical choices that must be made by the criminal justice professional. ENF 2 requisite level. Lecture 3 hours per week.

ADJ 138 Defensive Tactics (2 CR.)
Surveys and demonstrates the various types of non-lethal force tools and tactics for use by criminal justice personnel in self- defense, arrest, search, restraint and transport of those in custody. Lecture 2 hours per week.

ADJ 139 Private Detectives/Investigators (3-5 CR.)
Instructs the student in investigative techniques, criminal law and procedure, rules of evidence, the techniques and mechanics of arrest. Meets state certification requirements for private investigators licensing. ENF 2 requisite level. Lecture 3-5 hours per week.

ADJ 140 Introduction to Corrections (3 CR.)
Focuses on societal responses to the offender. Traces the evolution of practices based on philosophies of retribution, deterrence, and rehabilitation. Reviews contemporary correctional activities and their relationships to other aspects of the criminal justice system. ENF 2 requisite level. Lecture 3 hours per week.

ADJ 146 Adult Correctional Institutions (3 CR.)
Describes the structures, functions, and goals of state and federal correctional institutions (prisons, farms, community-based units, etc.) for adult inmates. ENF 2 requisite level. Lecture 3 hours per week.

ADJ 152 Unarmed Security Officers – Duties and Responsibilities (1 CR.)
Surveys the theory and practice of unarmed private security personnel duties and responsibilities. Prepares student for licensing and professionalism. Lecture 1 hour per week.

ADJ 153 Armed Security Officers – Duties and Responsibilities (1 CR.)
Surveys the theory and practice of armed private security personnel duties and responsibilities; prepares student for licensing and professionalism. Lecture 1 hour per week.

ADJ 168 Computer Applications in Administration of Justice (3 CR.)
Provides instruction in the techniques and practices used to identify the automation needs of criminal justice agencies: covers the use of computer applications in the processing of operational and administrative records and standardized reports; discusses the use of rational data base applications to develop specialized reports. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

ADJ 171-172 Forensic Science I-II (4 CR.) (4 CR.)
Introduces students to crime scene technology, procedures for sketching, diagramming and using casting materials. Surveys the concepts of forensic chemistry, fingerprint classification/identification and latent techniques, drug identification, hair and fiber evidence, death investigation techniques, thin-layer chromatographic methods, and arson materials examination. ENF 2 requisite level. May be completed out of sequence. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ADJ 195 Concealed Weapons Permit (1 CR.)
Discusses and explores safe firearms handling, laws, and procedures to acquire a concealed weapons permit.

ADJ 198 Seminar and Project (3 CR.)
This course is an independent study for criminal justice students who do not take ADJ 296 - On-site training in Criminal Justice. The student will complete a major research project in any area relative to the criminal justice field. ENF 2 requisite level. Variable hours per week.

ADJ 198 Seminar and Project in Criminal Justice Agency Management (3 CR.)
The course will consist of an independent study in the comparison of Criminal Justice Agency Missions and Management. ENF 2 requisite level.

ADJ 227 Constitutional Law for Justice Personnel (3 CR.)
Surveys the basic guarantees of liberty described in the U. S. Constitution and the historical development of these restrictions on government power, primarily through U. S. Supreme Court decisions. Reviews rights of free speech, press, assembly, as well as criminal procedure guarantees (to counsel, jury trial, habeas corpus, etc.) as they apply to the activities of those in the criminal justice system. ENF 2 requisite level. Lecture 3 hours per week.

ADJ 234 Terrorism and Counter-Terrorism (3 CR.)
Surveys the historical and current practices of terrorism that are national, transnational, or domestic in origin. Includes biological, chemical, nuclear, and cyber-terrorism. Teaches the identification and classification of terrorist organizations, violent political groups and issue-oriented militant movements. Examines investigative methods and procedures utilized in counter terrorist efforts domestically and internationally. ENF 2 requisite level. Lecture 3 hours per week.

ADJ 236 Principles of Criminal Investigation (3 CR.)
Surveys the fundamentals of criminal investigation procedures and techniques. Examines crime scene search, collecting, handling, and preserving of evidence. ENF 2 requisite level. Lecture 3 hours per week.

ADJ 241 Correctional Law I (3 CR.)
Studies the legal rights & obligations of the convict-probationer, inmate, and parolee. Surveys methods of enforcing both rights & obligations & the responsibilities of corrections agencies & personnel under correctional law (constitutional, statutory, and regulatory provisions). ENF 2 requisite level. Lecture 3 hours per week.

ADJ 245 Management of Correctional Facilities (3 CR.)
Describes management options and operational implications for staffing, security, safety, and treatment. Considers impact of changes in public policy on corrections. ENF 3 requisite level. Lecture 3 hours per week.

ADJ 246 Correctional Counseling (3 CR.)
Presents concepts and principles of interviewing and counseling as applied in the correctional setting. ENF 2 requisite level. Lecture 3 hours per week.

ADJ 248 Probation, Parole, and Treatment (3 CR.)
Surveys the philosophy, history, organization, personnel and functioning of traditional and innovative probation and parole programs; considers major treatment models for clients. ENF 2 requisite level. Lecture 3 hours per week.

ADJ 275 Forensic Pathology (3 CR.)
Introduces the pathology and physiology of the human body with emphasis on scientific name and technique used in medicolegal investigations of death. Studies types of death, the mechanisms of death and death reflex, and the determining of the cause of death by postmortem examination. Writing level requisite ENF 3. Lecture 3 hours per week.

ADJ 295 Comparative Studies in Criminal Justice (3 CR.)
In order to apply criminal justice theory to practice, and to explore the mission and goals of agencies within the Criminal Justice System, this course will allow the student to participate in an on-site criminal justice learning experience in a variety of criminal justice agencies. Appropriate tours will be with police departments, sheriff's departments, juvenile and adult probation departments, correctional institutions, and departments of social services. Variable hours per week.

ADJ 295 Legal Terminology (3 CR.)
Provides an understanding of legal terminology with emphasis on developing an understanding of legal terminology through the study of law itself and on using the terminology in different ways rather than relying solely on learning through rote memorization. ENF 2 requisite level. Lecture 3 hours per week.

ADJ 296 On-Site Training in Criminal Justice (3 CR.)
In order to apply criminal justice theory to practice, this course will allow the student to participate in an on-site criminal justice learning experience in a variety of criminal justice agencies. Appropriate placements will be with police departments, sheriff's departments, juvenile and adult probation departments, correctional institutions, and departments of social services. Other placements will be evaluated on a case by case basis. Variable hours per week. ENF 2 requisite level.

Administrative Support Technology (AST)

AST 100 Office Skills Review (3 CR.)
Reviews office skills such as keyboarding typewriting, shorthand, machine transcription and other selected office topics based on individual needs. ENF 1 requisite level. Lecture 3-4 hours per week.

AST 101 Keyboarding I (3 CR.)
Teaches the alpha/ numeric keyboard with emphasis on correct techniques, speed, and accuracy. Teaches formatting of basic personal and business correspondence, reports and tabulation. A laboratory corequisite (AST 103) may be required. ENF 1 requisite level. Lecture 2-4 hours per week.

AST 107 Editing/Proofreading Skills (3 CR.)
Develops skills essential to creating and editing business documents. Covers spelling, grammar, dictation and punctuation, capitalization, and other usage problems. ENF 1 requisite level. Lecture 3 hours per week.

AST 108 Telephone Techniques (1 CR.)
Provides guidelines and techniques for communicating effectively on the telephone and for handling telephone problems efficiently, pleasantly, and constructively. ENF 1 requisite level. Lecture 1 hour per week.

AST 112 Keyboarding Skills (3 CR.)
Emphasizes speed and accuracy to attain skills for job employment and job promotion. Prerequisite: AST 101 or AST 114 or equivalent. Lecture 3 hours per week.

AST 114 Keyboarding for Information Processing (1-2 CR.)
Teaches the alphabetic and numeric keys; develops correct techniques and competency in the use of computer keyboards. May include basic correspondence and report formats. A laboratory corequisite (AST 115) may be required. Lecture 1-2 hours per week.

AST 117 Keyboarding for Computer Usage (1 CR.)
Teaches the alphabetic keyboard and 10-key pad. Develops correct keying techniques. ENF 1 requisite level. Lecture 1 hour per week.

AST 132 Word Processing I (Microsoft Word) (1 CR.)
Introduces students to a word processing program to create, edit, save and print documents. ENF 1requisite level. Lecture 1 hour per week.

AST 133 Word Processing II (Microsoft Word) (1 CR.)
Presents formatting and editing features of a word processing program. ENF 1 requisite level. Lecture 1 hour per week.

AST 137 Records Management (3 CR.)
Teaches filing procedures for hard copy, electronic, and micrographic systems. Identifies equipment, supplies, and solutions to records management problems. ENF 3 requisite level. Lecture 3 hours per week.

AST 141 Word Processing I (WP For Windows) (3 CR.)
Teaches creating and editing documents, including line and page layouts, columns, fonts, search/ replace, cut/paste, spell/thesaurus, and advanced editing and formatting features of word processing software. Pre-requisite AST 101 or equivalent. A laboratory corequisite (AST 144) may be required. Lecture 3 hours per week.

AST 147 Introduction to Presentation Software (1-2 CR.)
Introduces presentation options including slides, transparencies, and other forms of presentations. Lecture 1-2 hours per week.

AST 150 Desktop Publishing I (1 CR.)
Presents desktop publishing features including page layout and design, font selection, and use of graphic images. Lecture 1 hour per week.

AST 151 Desktop Publishing II (1 CR.)
Presents software features for refining page layout and design, includes scaling and cropping graphics, and creating styles. Lecture 1 hour per week.

AST 154 Voice Recognition Application (1-2 CR.)
Teaches the computer user to use the voice as an input device to compose documents and to give commands directly to the computer. Lecture 1-2 hours per week.

AST 155 Introduction to Desktop Information Management (1 CR.)
Teaches desktop information management to organize schedules through the calendar. Students learn how to manage electronic messages, appointments, contacts, tasks, and files. Students prepare or Core Microsoft Outlook MOUS Exam. ENF 2 requisite level. Lecture 1 hour per week.

AST 160 Learning the Internet for Business (1 CR.)
Introduces students to basic internet terminology and services including email, www browsing, search engines, and other services. Provides an introduction to electronic commerce in an office environment. ENF 2 requisite level. Lecture 1 hour per week.

AST 171 Introduction to Call Center Services (3 CR.)
Introduces concepts and skills needed to be an effective customer service representative for a telephone service operation. Covers call center theory and technology, interpersonal communication skills, customer relations attitudes, telecommunications techniques, and professional procedures to handle a variety of customer service sales requests. Lecture 3 hours per week.

AST 205 Business Communications (3 CR.)
Teaches techniques of oral and written communications. Emphasizes writing and presenting business-related materials. ENF 2 requisite level. Lecture 3 hours per week. Prerequisites: AST 109 and AST 141.

AST 206 Professional Development (3 CR.)
Develops professional awareness in handling business and social situations. Emphasis on goal setting and decision making. ENF 3 requisite level. Lecture 3 hours per week.

AST 215 Medical Keyboarding (3 CR.)
Develops decision making skills, speed, and accuracy in preparation of medical documents with emphasis on meeting office requirements. Prerequisite AST 141. A laboratory corequisite (AST 216) may be required. Lecture 2-4 hours per week.

AST 236 Specialized Software Applications (3 CR.)
Teaches specialized integrated software applications on the microcomputer. Emphasizes document production to meet business and industry standards. Prerequisite: AST 101 or equivalent. A laboratory corequisite (AST 237) may be required. ENF 2 requisite level. Lecture 3 hours per week.

AST 238 Word Processing Advanced Operations (3 CR.)
Teaches advanced word processing features including working with merge files, macros, and graphics; develops competence in the production of complex documents. A laboratory corequisite (AST 239) may be required. Prerequisite: AST 141. Lecture 3 hours per week.

AST 240 Machine Transcription (3 CR.)
Develops proficiency in the use of transcribing equipment to produce business documents. Emphasizes listening techniques, business English, and proper formatting. Includes production rate and mailable copy requirements. A laboratory corequisite (AST 241) may be required. Corequisite AST 112 or equivalent. ENF 3 requisite level. Lecture 3 hours per week.

AST 243 Office Administration I (3 CR.)
Develops an understanding of the administrative support role and the skills necessary to provide organizational and technical support in a contemporary office setting. Emphasizes the development of critical thinking, problem solving, and job performance skills in a business office environment. Prerequisite AST 141. Lecture 3 hours per week.

AST 244 Office Administration II (3 CR.)
Enhances skills necessary to provide organizational and technical support in a contemporary office setting. Emphasizes administrative and supervisory role of the office professional. Includes travel and meeting planning, office budgeting and financial procedures, international issues, and career development. Prerequisite AST 243. Lecture 3 hours per week.

AST 245 Medical Machine Transcription (3 CR.)
Develops machine transcription skills, integrating operation of transcribing equipment with understanding of medical terminology. Emphasizes dictation techniques and accurate transcription of medical documents in prescribed formats. A laboratory corequisite (AST 246) may be required. ENF 3 requisite level. Lecture 3 hours per week.

AST 247 Legal Machine Transcription (3 CR.)
Develops machine transcription skills, integrating operation of transcribing equipment with understanding of legal terminology. Emphasizes dictation techniques and accurate transcription of legal documents in prescribed formats. A laboratory corequisite (AST 248) may be required. ENF 3 requisite level. Lecture 2-4 hours per week.

AST 253 Advanced Desktop Publishing I (2-4 CR.)
Introduces specific desktop publishing software. Teaches document layout and design, fonts, type styles, style sheets, and graphics. A laboratory corequisite (AST 255) may be required. ENF 2 requisite level. Lecture 2-4 hours per week.

AST 257 WP Desktop Publishing (3 CR.)
Uses word processing software to teach advanced document preparation. Prerequisite AST 101 or equivalent and experience in using the specified word processing software. A laboratory corequisite (AST 258) may be required. Lecture 3 hours per week.

AST 260 Presentation Software (3 CR.)
Teaches creation of slides including use of text, clip art, and graphs. Includes techniques for enhancing presentations with onscreen slide show as well as printing to transparencies and handouts. Incorporates use of sound and video clips. A laboratory corequisite (AST 261) may be required. ENF 2 requisite level. Lecture 3 hours per week.

AST 265 Legal Office Procedures (3 CR.)
Introduces general office procedures used in law office and courts. Prerequisites: ENG 111 and AST 141. Lecture 3 hours per week.

AST 271 Medical Office Procedures I (3 CR.)
Covers medical office procedures, records management, preparation of medical reports, and other medical documents. ENF 2 requisite level. Corequisite AST 102 or equivalent. Lecture 3 hours per week.

AST 272 Medical Office Procedures II (3 CR.)
Develops skills in the performance of administrative and support services in a medical setting. Covers professional ethics, medical legal issues, and interaction with patients. Prerequisite AST 271 or equivalent. Lecture 3 hours per week.

AST 290 Internship in Administrative Support Technology (1-5 CR.)
Supervises on-the-job training in selected business, industrial, or service firms coordinated by the college. Credit/practice ratio maximum 1-5. ENF 3 requisite level. Variable hours.

AST 298 Seminar and Project in Administrative Support Technology (1-5 CR.)
Completion of an office simulation package, a research report related to the manner the students' objectives were accomplished and an employment portfolio. ENF 2 requisite level. Variable hours.

Agriculture (AGR)

AGR 205 Soil Fertility and Management (3 CR.)
Studies the factors influencing soil productivity with emphasis upon fertilizer materials from production to application. Discusses time, sources, and soil acidity. Presents soil testing techniques, interpretation of soil tests, and the addition of nutrients to correct or prevent deficiencies. ENF 2 requisite level. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

AGR 208 Insect Control (3 CR.)
Examines principles and current trends in insect control. Studies biology and identification of economically important insects and related pests. ENF 2 requisite level. Lecture 2-3 hours. Laboratory 2 hours. Total 4-5 hours per week.

Air Conditioning and Refrigeration (AIR)

AIR 111-112 Air Conditioning and Refrigeration Controls I-II (3 CR.) (3 CR.)
Presents electron theory, magnetism, Ohm's Law, resistance, current flow, instruments for electrical measurement, A.C. motors, power distribution controls and their application. May be completed out of sequence. Lecture 2 hours.

AIR 116 Duct Construction and Maintenance (2 CR.)
Presents duct materials including sheet metal, aluminum, and fiber glass. Explains development of duct systems, layout methods, hand-tools, cutting and shaping machines, fasteners, and fabrication practices. Includes duct fittings, dampers and regulators, diffusers, heater and air washers, fans, insulation, and ventilating hoods. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.

AIR 121 Air Conditioning and Refrigeration I-II (4 CR.)
Studies refrigeration theory, characteristics of refrigerants, temperature, and pressure, tools and equipment, soldering, brazing, refrigeration systems, system components, compressors, evaporators, metering devices. Presents charging and evaluation of systems and leak detection. Explores servicing the basic system. Explains use and care of oils and additives and troubleshooting of small commercial systems. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

AIR 154 Heating Systems I (3 CR.)
Introduces types of fuels and their characteristics of combustion; types, components and characteristics of burners, and burner efficiency analyzers. Studies forced air heating systems including troubleshooting, preventive maintenance and servicing. Lecture 2 hour. Laboratory 2 hours. Total 4 hours per week.

AIR 205 Hydronics and Zoning (4 CR.)
Presents installation, servicing, troubleshooting, and repair of hydronic systems for heating and cooling. Includes hot water and chilled water systems using forced circulation as the transfer medium. ENF 2 requisite level. Lecture 2-3 hours. Laboratory 2-3 hours. Total 4-6 hours per week.

AIR 235Heat Pumps (3 CR.)
Studies theory and operation of reverse cycle refrigeration systems as applied to air conditioning, including service, installation and maintenance. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

AIR 281 Energy Management I (3 CR.)
Introduces methodology for residential audits covering heat flow analysis, construction methods and materials. Discusses effects of life styles on energy consumption, conservation and practices, renewable energy sources, calculating cost and savings, interviewing and education techniques. Introduces commercial and industrial energy audits, methodology for the performance of audits covering heat flow analysis, construction methods and materials. Part I of II. ENF 2 requisite level. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

AIR 282 Energy Management II (2 CR)
Introduces methodology for residential audits covering heat flow analysis, construc-

tion methods, and materials. Discusses effects of life styles on energy consumption, conservation and practices, renewable energy sources, calculating cost and savings, interviewing and education techniques. Introduces commercial and industrial energy audits, methodology for the performance of audits covering heat flow analysis, construction methods and materials. Part II or II. Lecture 1 hour. Laboratory 3 hours per week. Total four hours per week.

AIR 298 Seminar and Project (3 CR.)
Requires completion of a project or research report related to the student's occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. Variable hours per week.

Architecture (ARC)

ARC 121 Architectural Drafting I (3 CR.)
Introduces techniques of architectural drafting, including lettering, dimensioning, and symbols. Requires production of plans, sections, and elevations of a simple building. Studies use of common reference material and the organization of architectural working drawings. ENF 3 requisite level. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

ARC 122 Architectural Drafting II (3 CR.)
A continuation of Architectural Drafting I. Requires development of a limited set of working drawings, including a site plan and related details, and pictorial drawings. Prerequisite ARC 121 or equivalent. ENF 3 requisite level. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

Arts (ART)

ART 100 Art Appreciation (3 CR.)
Introduces art from prehistoric times to the present day. Describes architectural styles, sculpture, photography, printmaking, and painting techniques. ENF 3 requisite level. Lecture 3 hours per week.

ART 101-102 History and Appreciation of Art I-II (3 CR.) (3 CR.)
Presents the history and interpretation of architecture, sculpture, and painting. Begins with prehistoric art and follows the development of western civilization to the present. ENF 3 requisite level. May be taken out of sequence. Lecture 3 hours per week.

ART 121-122 Drawing I-II (3 CR.) (3 CR.)
Develops basic drawing skills and understanding of visual language through studio instruction/lecture. Introduces concepts such as proportion, space, perspective, tone and composition as applied to still life, landscape and the figure. Uses drawing media such as pencil, charcoal, ink wash and color media. Includes field trips and gallery assignments as appropriate. ENF 2 requisite level. Variable hours per week. Prerequisite for ART 122 is ART 121.

ART 125 Introduction to Painting (3 CR.)
Introduces study of color, composition and painting techniques. Places emphasis on experimentation and enjoyment of oil and/or acrylic paints and the fundamentals of tools and materials. ENF 2 requisite level. Lecture 2 hours. Studio instruction 3 hours. Total 5 hours per week.

ART 131-132 Fundamentals of Design I-II (3 CR.) (3 CR.)
Explores the concepts of two and three-dimensional design and color. May include field trips. ENF 2 requisite level. Variable hours per week. May be taken out of sequence.

ART 180 Introduction to Computer Graphics (3 CR.)
Provides a working introduction to computer-based electronic technology used by visual artists and designers. Presents the basics of operating platforms and standard industry software. Introduces problems in which students can explore creative potential of the new electronic media environment. ENF 3 requisite level. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

ART 198 Introduction to Animation (4 CR.)
This course offers the student an introduction to animation. The Student will become familiar with the 12 basic principles of 2D and 3D animation through the use of both traditional and computer assisted techniques. Also, basic cinematic composition, basic color theory, and basic studio practices will be introduced and used to create a 3-minute final animation project. ENF 3 requisite level.

ART 203 Animation I (3 CR.)
Introduces the student to the basic techniques of animation, combining traditional and computer-generated skills. Teaches theoretical elements of the aesthetics of sequential imagery. Provides practical experience in two-dimensional and/or three-dimensional animation. Exposes the student to a variety of animation techniques. ENF 3 requisite level. Lecture 2 hours, Lab 2-4 hours. Total 4-6 hours per week.

ART 207 3D Model Rendering (4 CR.)
Introduces the student to the basic principles of three-dimensional objects and environments with both traditional methods and materials and those inherent in the microcomputer-based system. ENF 3 requisite level. Lecture 2 hours. Laboratory 4 hours. Total 6 hours per week.

ART 221-222 Drawing III-IV (3CR.) (3CR.)
Introduces advanced concepts and techniques of drawing as applied to the figure, still life and landscape. Gives additional instruction in composition, modeling, space and perspective. Encourages individual approaches to drawing. ENF 3 requisite level. Variable hours per week. Prerequisite for ART 222 is ART 221.

ART 241-242 Painting I-II (3 CR.) (3 CR.)
Introduces abstract and representational painting in acrylic and/or oil with emphasis on color composition and value. Prerequisites ART 122 or divisional approval. ENF 3 requisite level. Variable hours per week. Prerequisite for ART 242 is ART 241.

ART 275 Relief Printmaking (4 CR.)
Introduces relief printmaking techniques including woodcut, linocut, and collograph. Includes field trips when applicable. ENF 3 requisite level. Lecture 2 hours. Studio instruction 4 hours. Total 6 hours per week.

ART 283-284 Computer Graphics I-II (4 CR.) (4 CR.)
Introduces microcomputers and software used to produce computer graphics. Employs techniques learned to solve studio projects which reinforce instruction and are appropriate for portfolio use. ENF 3 requisite level. Lecture 2 hours. Studio instruction 4 hours. Total 6 hours per week. May not be taken out of sequence. Prerequisite for ART 284 is ART 283.

American Sign Language (ASL)

ASL 101 American Sign Language I (3-4 CR.)
Introduces the fundamentals of American Sign Language (ASL) used by the deaf community, including basic vocabulary, syntax, fingerspelling, and grammatical non-manual signals. Focuses on communicative competence. Develops gestural skills as a foundation for ASL enhancement. Introduces cultural knowledge and increases understanding of the deaf community. Lecture 3-4 hours. Laboratory 0-2 hours. Total 3-5 hours per week. ENF 3 requisite level.

ASL 102 American Sign Language II (3-4 CR.)
Introduces the fundamentals of American Sign Language (ASL) used by the Deaf Community, including basic vocabulary, syntax, fingerspelling, and grammatical non-manual signals. Focuses on communicative competence. Develops gestural skills as a foundation for ASL enhancement. Introduces cultural knowledge and increases understanding of the Deaf Community. Prerequisite: ASL 101. Lecture 3-4 hours. Laboratory 0-2 hours. Total 3-5 hours per week. ENF 2 requisite level.

ASL 115 Fingerspelling and Number Use in ASL (2 CR.)
Provides intensive practice in comprehension and production of finger-spelled words and numbers with emphasis on clarity and accuracy. Focuses on lexicalized fingerspelling and numeral incorporation as used by native users of American Sign Language. Prerequisite: ASL 101 or permission of instructor. Lecture 2 hours per week. ENF 3 requisite level.

ASL 125 History and Culture of The Deaf Community (3 CR.)
Presents an overview of various aspects of Deaf Culture, including educational and legal issues. ENF 3 requisite level. Lecture 3 hours per week.

ASL 150 Working with Deaf and Hard of Hearing People (2 CR.)
Explores career options for serving deaf/hard-of-hearing people and/or for using American Sign Language skills in a career. Examines interests, skills, and educational assessments. Investigates job market viability via the Internet and professional periodicals. Develops opportunities for students to network with professionals in the field of deafness. ENF 3 requisite level. Lecture 2 hours per week.

ASL 201 American Sign Language III (3-4 CR.)
Develops vocabulary, conversational competence, and grammatical knowledge with a total immersion approach. Introduces increasingly complex grammatical aspects including those unique to ASL. Discusses culture and literature. Contact with the Deaf Community is encouraged to enhance linguistic and cultural knowledge. Lecture 3-4 hours. Laboratory hours 0-2 hours. Total 3-5 hours per week. ENF 3 requisite level.

Biology (BIO)

BIO 01 Foundations of Biology (4 CR.) (4 CR.)
Develops a basic understanding of plant and animal form, function, and relationships. Prepares students who have a deficiency in high school biology. Lecture 3 hours. Laboratory 3 hours per week. Total 6 hours per week.

BIO 101-102 General Biology I-II (4 CR.) (4 CR.)
Explores fundamental characteristics of living matter from the molecular level to the ecological community with emphasis on general biological principles. Introduces the diversity of living organisms, their structure, function and evolution. Readiness to enroll in ENG 111 plus completion of developmental math unit 3 required, or placement in math unit 4 or above. Prerequisite for BIO 102 is BIO 101. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week.

BIO 141-142 Human Anatomy and Physiology I-II (4 CR.) (4 CR.)
Integrates anatomy and physiology of cells, tissues, organs, and systems of the human body. Integrates concepts of chemistry, physics, and pathology. ENF 3 requisite level. Must be taken in sequence. Lecture 3 hours. Laboratory 3 hours per week. Total 6 hours per week.

BIO 145 Human Anatomy and Physiology for The Health Sciences (4 CR.)
Introduces human anatomy and physiology primarily to those planning to pursue an AAS degree in nursing. Covers basic chemical concepts, cellular physiology, as well as the anatomy and physiology of human organ systems. ENF 3 requisite level. Lecture 3-4 hours. Laboratory 3 hours. Total 6-7 hours per week.

BIO 150 Introduction to Microbiology (4 CR.)
Studies the general characteristics of microorganisms. Emphasizes their relationships to individual and community health. ENF 3 requisite level. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week.

BIO 205 General Microbiology (4 CR.)
Examines morphology, genetics, physiology, ecology, and control of microorganisms. Emphasizes application of microbiological techniques to selected fields. Prerequisites: BIO 102 and CHM 112, or Divisional Approval. ENF 3 requisite level. Must be taken in sequence. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week.

BIO 231-232 Human Anatomy and Physiology I-II (4 CR.) (4 CR.)
Integrates the study of gross and microscopic anatomy with physiology, emphasizing the analysis and interpretation of physiological data. Prerequisites one year of college biology and one year of college chemistry or divisional approval. BIO 102 and ENF 3 requisite level. Must be taken in sequence. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week.

Building (BLD)

BLD 105 Shop Practices and Procedures (2-3 CR.)
Introduces basic hand and power tools with emphasis on proper care and safety practices. Introduces materials used in building trades including metals, plastics, and woods with stress placed on the processing techniques of each. Emphasizes fasteners such as screws, rivets, and glues as well as brazed, soldered, and welded joints. ENF 2 requisite level. Lecture 1-2 hours. Laboratory 2-3 hours. Total 3-5 hours per week.

BLD 110 Introduction to Construction (3 CR.)
Covers basic knowledge and requirements needed in the construction trades. Introduces use of tools and equipment, with emphasis on construction safety, including personal and tool safety. Provides a working introduction to basic blueprint reading and fundamentals of construction mathematics. ENF 2 requisite level. Lecture 3 hours per week.

BLD 149 Carpentry I (3 CR.)
Presents an introduction to carpentry, with an emphasis on residential/light construction. Introduces basic carpentry terminology. Covers identification and proper use of hand and power tools common to the industry, construction materials, construction techniques, safety precautions, working drawings and the team approach to construction. ENF 2 requisite level. Lecture 3 hours per week.

BLD 184 Interior and Exterior Finishes (3 CR.)
Introduces the student to interior wall framing with wood and/or metal studs, layout of walls, and the steps required to successfully complete interior framing. Also covers the steps used for exterior finishes, such as siding, cornice work, and gutters. ENF 2 requisite level. Lecture 3 hours per week.

BLD 187 Structure Completion (3 CR.)
Introduces the finishing techniques required in new construction, such as wall finishes, floor finishes, ceiling systems, interior trim, cabinet installation, and stairs. Also includes types of tools used for these techniques. ENF 2 requisite level. Lecture 3 hours per week.

BLD 249 Carpentry II (3 CR.)
Presents advanced concepts of carpentry as they relate to residential/light construction, including theoretical and practical applications. Covers advanced framing techniques, finish and trim systems, and calculations commonly required in all phases of light construction. Prerequisite: BLD 149. ENF 2 requisite level. Lecture 3 hours per week.

Business Administration and Management (BUS)

BUS 100 Introduction to Business (3 CR.)
Presents a broad introduction to the functioning of business enterprise within the U.S. economic framework. Introduces economic systems, essential elements of business organization, finance, marketing, production, and risk and human resource management. ENF 2 requisite level. Lecture 3 hours per week.

BUS 106 Security Awareness for Managers (3 CR.)
Covers concepts and terminology related to information security and risk assessment. Topics cover perspective from a manager and end-user's point of view and will include the identification of security threats, types of hardware/software solutions available and identifying policies and procedures to reduce the severity of security attacks. Includes the completion of a risk assessment and security plan for an organization and/or department. ENF 3 requisite level. Lecture 3 hours per week.

BUS 111 Principles of Supervision I (3-4 CR.)
Teaches the fundamentals of supervision, including the primary responsibilities of the supervisor. Introduces factors relating to the work of supervisor and subordinates. Covers aspects of leadership, job management, work improvement, training and orientation, performance evaluation, and effective employee/supervisor relationships. ENF 2 requisite level. Lecture 3-4 hours per week.

BUS 116 Entrepreneurship (3 CR.)
Presents the various steps considered necessary when going into business. Includes areas such as product-service analysis, market research evaluation, setting up books, ways to finance start-up, operations of the business, development of business plans, buyouts versus starting from scratch, and franchising. Uses problems and cases to demonstrate implementation of these techniques. Lecture 3 hours per week.

BUS 117 - Leadership Development (3 CR.)
Covers interpersonal relations in hierarchical structures. Examines the dynamics of teamwork, motivation, handling change and conflict and how to achieve positive results through others. Lecture 3 hours per week.

BUS 121 Business Mathematics I (3 CR.)
Applies mathematics to business processes and problems such as checkbook records and bank reconciliation, simple interest notes, present value, bank discount notes,

wage and payroll computation, depreciation, sales and property taxes, commercial discounts, markup and markdown, and inventory turnovers and valuation. ENF 3 requisite level. Lecture 3 hours per week.

BUS 165 Small Business Management (3 CR.)
Identifies management concerns unique to small businesses. Introduces the requirements necessary to initiate a small business, and identifies the elements comprising a business plan. Presents information establishing financial and administrative controls, developing a marketing strategy, managing business operations, and the legal and government relationships specific to small businesses. ENF 3 requisite level. Lecture 3 hours per week.

BUS 200 Principles of Management (3 CR.)
Teaches management and the management functions of planning, organizing, directing and controlling. Focuses on application of management principles to realistic situations managers encounter as they attempt to achieve organizational objectives. ENF 3 requisite level. Lecture 3 hours per week.

BUS 202 Applied Management Principles (3 CR.)
Focuses on management practices and issues. May use case studies and/or management decision models to analyze and develop solutions to management problems. ENF 3 requisite level. Lecture 3 hours per week. Prerequisite is BUS 200.

BUS 205 Human Resource Management (3 CR.)
Introduces employment, selection, and placement of personnel, usage levels and methods, job descriptions, training methods and programs, and employee evaluation systems, compensation and labor relations. Includes procedures for management of human resources and uses case studies and problems to demonstrate implementation of these techniques. ENF 3 requisite level. Lecture 3 hours per week.

BUS 211 Managing Technology Resources (3 CR.)
Covers basic technology concepts, selection of vendors, evaluation of hardware/software solutions, identification and establishment of technology standards, and basic project management. Emphasizes development of policies and procedures to effectively and efficiently manage information technology. Provides techniques to enable the student to leverage technology to benefit the organization. Includes the completion of a detailed technology plan for an organization and/or department. ENF 3 requisite level. Lecture 3 hours per week.

BUS 235 Business Letter Writing (3 CR.)
Applies composition principles to business correspondence, employment documents, and reports (including presentation of data in various chart formats). Focuses on preparing effective communications with customers, suppliers, employees, the public, and other business contacts. Lecture 3 hours per week.

BUS 236 Communication in Management (3 CR.)
Introduces the functions of communication in management with emphasis on gathering, organizing, and transmitting facts and ideas. Teaches the basic techniques of effective oral and written communication. Lecture 3 hours per week. ENF 3 requisite level.

BUS 241 Business Law I (3 CR.)
Presents a broad introduction to legal environment of U.S. business. Develops a basic understanding of contract law and agency and government regulation. ENF 2 requisite level. Lecture 3 hours per week.

BUS 242 Business Law II (3 CR.)
Develops a basic understanding of the uniform commercial code relating to business organization, bankruptcy, and personal and real property. Prerequisite BUS 241. Lecture 3 hours per week.

BUS 265 - Ethical Issues in Management (3 CR.)
Examines the legal, ethical, and social responsibilities of management. May use cases to develop the ability to think and act responsibly. Lecture 3 hours per week.

BUS 280 Introduction to International Business (3 CR.)
Studies the problems, challenges, and opportunities which arise when business operations or organizations transcend national boundaries. Examines the functions of international business in the economy, international and transnational marketing, production, and financial operations. ENF 3 requisite level. Lecture 3 hours per week.

BUS 285 Current Issues in Management (3 CR.)
Designed as a capstone course for Management majors, the course is designed to provide an integrated perspective of the current issues and trends in business management. Contemporary issues will be explored in a highly participatory class environment. ENF 3 requisite level. Lecture 3 hours per week.

Chemistry (CHM)

CHM 5 Developmental Chemistry for Allied Health Sciences (4 CR.)
Introduces basic principles of inorganic, organic, and biological chemistry. Emphasizes applications to the health sciences. ENF 3 requisite level. Lecture 3 hours per week. Laboratory 3 hours per week.

CHM 101-102 General Chemistry I-II (4 CR.) (4 CR.)
Emphasizes experimental and theoretical aspects of inorganic, organic, and biological chemistry. Discusses general chemistry concepts as they apply to issues within our society and environment. Designed for the non-science major and must be completed in sequence. ENF 3 requisite level. Test credit or completion of MTE 1, 2, and 3. Lecture 3 hours per week. Laboratory 3 hours per week. Total 6 hours per week.

CHM 111-112 College Chemistry I-II (4 CR.) (4 CR.)
Explores the fundamental laws, theories, and mathematical concepts of chemistry. Designed primarily for science and engineering majors. Requires a strong background in mathematics. ENF 3 requisite level. MTE requisite: Test credit or completion of MTE 1, 2, and 3. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. Prerequisite for CHM 112 is CHM 111.

CHM 241-242 Organic Chemistry I-II (3 CR.) (3 CR.)
Introduces fundamental chemistry of carbon compounds, including structures, physical properties, syntheses, and typical reactions. Emphasizes reaction mechanisms. Corequisite is CHM 245-246. ENF 3 requisite level. Lecture 3 hours per week. Prerequisite is CHM 112.

CHM 245-246 Organic Chemistry Laboratory I-II (2 CR.) (2 CR.)
Is taken concurrently with CHM 241 and CHM 242 by chemistry and chemical engineering majors. Includes qualitative organic analysis. ENF 3 requisite level. Laboratory 6 hours per week.

Child Development (CHD)

CHD 118 Methods and Materials in The Language Arts for Children (3 CR.)
Presents techniques and methods for encouraging the development of language and perceptional skills in young children. Stresses improvement of vocabulary, speech and methods to stimulate discussion. Surveys children's literature, examines elements of quality story-telling and story reading, and stresses the use of audiovisual materials. Reading Level Requisite ENF 2. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

CHD 120 Introduction to Early Childhood Education (3 CR.)
Introduces early childhood development through activities and experiences in nursery, pre-kindergarten, kindergarten, and primary programs. Investigates classroom organization and procedures, and use of classroom time and materials, approaches to education for young children, professionalism, and curricular procedures. ENF 2 requisite. Lecture 2 hours per week.

CHD 125 Creative Activities for Children (3 CR.)
Prepares individuals to work with young children in the arts and other creative age-appropriate activities. Investigates affective classroom experiences and open-ended activities. ENF 2 requisite. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

CHD 126 Science and Math Concepts for Children (3 CR.)
Covers the selection of appropriate developmental learning materials for developing activities to stimulate the logical thinking skills in children. ENF 2 requisite. Lecture 2-3 hours. Laboratory 0-3 hours. Total 3-4 hours per week.

CHD 145 Teaching Art, Music and Movement to Children (3 CR.)
Focuses on children's exploration, play, and creative expression in the areas of art, music, and movement. Emphasis will be on developing strategies for using various open-ended media representing a range of approaches in creative thinking. Address-

es strategies for intervention and support for exceptional children and English Language Learners. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

CHD 164 Working with Infants and Toddlers in Inclusive Settings (3 CR.)
Examines developmental and behavioral principles and practices and how these provide the most developmentally suitable curriculum and learning environment for very young children. Includes working with very young children with typical development, as well as those who are gifted, or have developmental delays or disabilities. Lecture 3 hours per week.

CHD 165 Observation and Participation in Early Childhood/Primary Settings (3 CR.)
Observes and participates in early childhood settings such as child care centers, preschools, Montessori schools or public schools in Kindergarten through 3rd grade levels. Students spend one hour each week in a seminar session in addition to 60 clock hours in the field. May be taken again for credit. ENF 2 requisite. Lecture 1 hour. Laboratory 6 hours. Total 7 hours per week.

CHD 166 Infant and Toddler Programs (3 CR.)
Examines the fundamentals of infant and toddler development, including planning and implementing programs in group care. Emphasizes meeting physical, social, emotional, and cognitive needs: scheduling, preparing age-appropriate activities, health and safety policies, record keeping, and reporting to parents. ENF 2 requisite. Lecture 3 hours per week.

CHD 205 Guiding the Behavior of Children (3 CR.)
Explores positive ways to build self-esteem in children and help them develop self-control. Presents practical ideas for encouraging pro-social behavior in children and emphasizes basic skills and techniques in classroom management. ENF 2 requisite. Lecture 3 hours per week.

CHD 215 Models of Childhood Education Programs (3 CR.)
Studies and discusses the various models and theories of early childhood education programs including current trends and issues. Presents state licensing and staff requirements. ENF 2 requisite. Lecture 3 hours per week.

Chinese (CHI)

CHI 101 Beginning Chinese I (5 CR.)
Introduces understanding, speaking, reading, and writing skills; emphasizes basic Chinese sentence structure. Prerequisite: CHI 101 for CHI 102. Part I of II. Lecture 5 hours per week.

CHI 102 Beginning Chinese II (5 CR.)
Introduces understanding, speaking, reading, and writing skills; emphasizes basic Chinese sentence structure. Prerequisite: CHI 101 for CHI 102. Part II of II. Lecture 5 hours per week.

Civil Engineering Technology (CIV)

CIV 116 Topographic Drafting (3 CR.)
Focuses on the development of techniques for topographic data computation, topographic map preparation and interpretation. Includes preparation of maps from survey field data, terrestrial and aerial photography, and techniques for the use of color in topographic presentations. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

CIV 171 Surveying I (3 CR.)
Introduces surveying equipment, procedures, and computations including adjustment of instruments, distance measurement, leveling, angle measurement, traversing, traverse adjustments, area computation and introduction to topography. ENF 3 requisite level. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

CIV 172 Surveying II (3 CR.)
Introduces surveys for transportation systems including the preparation and analysis of topographic maps, horizontal and vertical curves, earthwork and other topics related to transportation construction. ENF 3 requisite level. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

CIV 240 Fluid Mechanics and Hydraulics (3 CR.)
Introduces the principles of fluid flow and development of practical hydraulics resulting from study of fluid statics, flow of real fluid in pipes, multiple pipe lines, liquid flow in open channels, and fluid measurement techniques. Prerequisite: Statics or divisional approval. ENF 2 requisite level. Lecture 3 hours per week.

CIV 246 Water Resources Technology (3 CR.)
This course introduces the elements of hydrology and hydraulic systems. ENF 2 requisite level. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

Communication Studies and Theater (CST)

CST 100 Principles of Public Speaking (3 CR.)
Applies theory and principles of public address with emphasis on preparation and delivery. ENF 3 requisite level. Lecture 3 hours per week.

CST 105 Oral Communication (3 CR.)
Studies effective communication with emphasis on speaking and listening. ENF 3 requisite level. Lecture 3 hours per week.

CST 110 Introduction to Speech Communication (3 CR.)
Examines the elements affecting speech communication at the individual, small group, and public communication levels with emphasis on practice of communication at each level. ENF 3 requisite level. Lecture 3 hours per week.

CST 130 Introduction to The Theatre (3 CR.)
Surveys the principles of drama, the development of theatre production, and selected plays to acquaint the student with various types of theatrical presentations. ENF 3 requisite level. Lecture 3 hours per week.

CST 131-132 Acting I-II (3 CR.) (3 CR.)
Develops personal resources and explores performance skills through such activities as theatre games, role playing, improvisation, work on basic script units, and performance of scenes. ENF 3 requisite level. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. Must be taken in sequence.

CST 141-142 Theatre Appreciation I-II (3 CR.) (3 CR.)
Aims to increase knowledge and enjoyment of theatre. Considers process, style, organization, written drama, and performed drama. ENF 3 requisite level. Lecture 3 hours per week.

CST 151-152 Film Appreciation I-II (3 CR.) (3 CR.)
Aims to increase the student's knowledge and enjoyment of film and film criticism through discussion and viewing of movies. ENF 3 requisite level. Lecture 3 hours per week. Must be taken in sequence.

CST 229 Intercultural Communication (3 CR.)
Emphasizes the influence of culture on the communication process including differences in values, message systems, and communication rules. ENF 3 requisite level. Lecture 3 hours per week.

CST 250 The Art of The Film (3 CR.)
Introduces the art of the film through a survey of film history; viewing, discussion, and analysis of selected films. Studies film techniques such as composition, shot sequence, lighting, visual symbolism, sound effects, and editing. ENF 3 requisite level. Lecture 3 hours per week.

CST 266 Outdoor Drama (3 CR.)
Enables students to study production techniques through participation as actors or technicians in outdoor drama. Prerequisite: divisional approval. Variable hours per week.

Drafting (DRF)

DRF 127 Introduction to Geometric Dimensioning & Tolerancing (1 CR.)
Presents an overview of a positional tolerance system, its relationship to coordinate tolerance systems, and other aspects of industry standard drafting practices. ENF 2 requisite level. Lecture 1 hour per week.

DRF 135 Electrical/Electronics Blueprint Reading (2 CR.)
Presents an interpretation of basic shop drawings, conventional symbols, terminology, and principles used by the mechanical draftsman. Explains common electrical and electronic symbols, wiring diagrams, schematic drawings, and application of wiring diagrams. Lecture 2 hours per week.

DRF 151-152 Engineering Drawing Fundamentals I-II (3 CR.) (3 CR.)
Introduces technical drafting from the fundamentals through advanced drafting practices. Includes lettering, geometric construction, technical sketching, orthographic projection, sections, intersections, development, and fasteners. Teaches theory and application of dimensioning and tolerances, pictorial drawing, and preparation of drawings. ENF 2 requisite level. Must be taken in sequence. Lecture 1 hour. Laboratory 4 hours. Total 5 hours per week.

DRF 160 Machine Blueprint Reading (3 CR.)
Introduces interpreting of various blueprints and working drawings. Applies basic principles and techniques such as visualization of an object, orthographic projection, technical sketching and drafting terminology. Requires outside preparation. ENF 2 requisite level. Lecture 3 hours per week.

DRF 165 Architectural Blue Print Reading (3 CR.)
Emphasizes reading, understanding and interpreting standard types of architectural drawings including plans, elevation, sections and details. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

DRF 166 Welding Blueprint Reading (2 CR.)
Teaches welding procedures and applications. Stresses structural steel, design, and layout. Explains industrial symbols. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

DRF 175 Schematics and Mechanical Diagrams (2 CR.)
Covers interpretation of basic shop drawings, conventional symbols, and common electrical and electronics symbols, wiring diagrams, hydraulic and pneumatic symbols, schematic drawings, and piping diagrams. Lecture 2 hours per week.

DRF 200 Survey of Computer-Aided Drafting (3-4 CR.)
Surveys computer-aided drafting equipment and concepts. Develops general understanding of components, operations and use of a typical CADD system. Variable hours per week. ENF 2 requisite level.

DRF 201 Computer-Aided Drafting and Design I (3 CR.)
Teaches computer-aided drafting concepts and equipment designed to develop a general understanding of components of a typical CAD system and its operation. ENF 2 requisite level. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

DRF 231 Computer-Aided Drafting I (2-3 CR.)
Teaches computer aided drafting concepts and equipment designed to develop a general understanding of components and operate a typical CAD system. Prerequisite DRF 111 or DRF 160 or divisional approval. Lecture 1-2 hours. Laboratory 2-3 hours. Total 3-5 hours per week.

DRF 232 Computer-Aided Drafting II (2-3 CR.)
Teaches advanced operation in computer-aided drafting. Prerequisite DRF 231. Lecture 1-2 hours. Laboratory 2-3 hours. Total 3-5 hours per week.

DRF 233 Computer-Aided Drafting III (2 CR.)
Exposes a student to 3-D and modeling. Focuses on proficiency in Production drawing using a CAD system. ENF 2 requisite level. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

DRF 290 Coordinated Internship (4 CR.)
In order to apply drafting design and technology theory to practice, this cooperative venture will allow students to participate in on-site training in actual industrial setting. Appropriate placement will be with local industries which have drafting and design departments. Variable hours per week. ENF 2 requisite level.

DRF 298 Seminar and Project in Drafting (4 CR.)
Requires completion of a project or research report related to the student's occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. ENF 2 requisite level. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week.

Economics (ECO)

ECO 110 Consumer Economics (3 CR.)
Fosters understanding of American economic system and the individual's role as a consumer. Emphasizes application of economic principles to practical problems encountered. Alerts students to opportunities, dangers, and alternatives of consumers. ENF 3 requisite level. Lecture 3 hours per week.

ECO 120 Survey of Economics (3 CR.)
Presents a broad overview of economic theory, history, development, and application. Introduces terms, definitions, policies, and philosophies of market economies. Provides some comparison with other economic systems. Includes some degree of exposure to microeconomic and macroeconomic concepts. ENF 3 requisite level. Lecture 3 hours per week.

ECO 201 Principles of Economics I Macroeconomics (3 CR.)
Introduces macroeconomics including the study of Keynesian, classical, monetarist principles and theories, the study of national economic growth, inflation, recession, unemployment, financial markets, money and banking, the role of government spending and taxation, along with international trade and investments. ENF 3 requisite level. Lecture 3 hours per week.

ECO 202 Principles of Economics II- Microeconomics (3 CR.)
Introduces the basic concepts of microeconomics. Explores the free market concepts with coverage of economic models and graphs, scarcity and choices, supply and demand, elasticity, marginal benefits and costs, profits, and production and distribution. ENF 3 requisite level. Lecture 3 hours per week.

Education (EDU)

EDU 200 Introduction to Teaching as a Profession (3 CR.)
Provides an orientation to the teaching profession in Virginia, including historical perspectives, current issues, and future trends in education on the national and state levels. Emphasizes information about teacher licensure examinations, steps to certification, teacher preparation and induction programs, and attention to critical shortage areas in Virginia. Includes supervised field placement (recommended: 40 clock hours) in a K-12 school. Prerequisite: successful completion of 24 credits of transfer courses. ENG 111 requisite level. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

EDU 280 Technology Standards for Teachers (3 CR.)
Provides K-12 classroom teachers with the knowledge and skills needed to fulfill the Commonwealth of Virginia's Technology Standards for Instructional Personnel. Certification is dependent on the supervisor's or employer's approval. Pre-requisite of ITE 119 or instructor approval. Lecture 3 hours per week.

Electrical Technology (ELE)

ELE 110 Home Electric Power (3 CR.)
Covers the fundamentals of residential power distribution, circuits, panels, fuse boxes, breakers, and transformers. Includes study of the National Electrical Code, purpose, and interpretation. ENF 1 requisite level. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

ELE 131-132 National Electrical Code I-II (3-4 CR.) (3-4 CR.)
Provides comprehensive study of the purpose and interpretations of the National Electric Code as well as familiarization and implementation of various charts, code rulings and wiring methods including state and local regulations. Must be taken in sequence. ENF 2 requisite level. Lecture 2-3 hours. Laboratory 0-3 hours. Total 3-6 hours per week.

ELE 133-134 Practical Electricity I-II (3 CR.) (3 CR.)
Teaches the fundamentals of electricity, terminology, symbols, and diagrams. Includes the principles essential to the understanding of general practices, safety and the practical aspects of residential and nonresidential wiring and electrical installation. May require preparation of a report as an out-of-class activity. ENF 1 requisite level. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

ELE 135 National Electrical Code – Residential (4 CR.)
Studies purposes and interpretations of the National Electrical Code that deals with single and multifamily dwellings, including state and local regulations. ENF 1 requisite level. Lecture 2 hours. Laboratory 4 hours. Total 6 hours per week.

ELE 136 –National Electrical Code -- Commercial (3 CR.)
Provides comprehensive study of the purposes and interpretation of national electrical wiring methods, including state and local regulations. ENF 2 requisite level. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

ELE 137 National Electrical Code – Industrial (3 CR.)
Provides comprehensive study of the purposes and interpretations of the National Electrical Code that deal primarily with industrial wiring methods, including state and local regulations. ENF 2 requisite level. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

ELE 140 Basic Electricity and Machinery (4 CR.)
Studies direct and alternating current principles, resistors, magnetism, capacitors, protection systems, switches, controls and power distribution for industrial machine shops. Emphasizes test procedures and safety. ENF 2 requisite level. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

ELE 150 A.C. And D.C. Circuit Fundamentals (3-4 CR.)
Provides an intensive study of the fundamentals of direct and alternating current, resistance, magnetism, inductance and capacitance, with emphasis on practical applications. ENF 1 requisite level. Lecture 2-3 hours. Laboratory 2 hours. Total 4-5 hours per week.

ELE 151 Electrical Troubleshooting (3 CR.)
Teaches troubleshooting as applied to residential wiring and/or electrical appliances. ENF 2 requisite level. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

ELE 156 Electrical Control Systems (3 CR.)
Includes troubleshooting and servicing electrical controls, electric motors, motor controls, motor starters, relays, overloads, instruments and control circuits. May include preparation of a report as an out-of-class activity. Prerequisite ELE 140. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

ELE 160 Power Controls (3 CR.)
Introduces basic electrical and other controls used in home and industry. Includes application of panels, fuse boxes, breakers, and transformers, experiments to develop testing and trouble- shooting techniques. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

ELE 173 Commercial Wiring Methods (3 CR.)
Covers electrical wiring methods and standards used for commercial buildings and provides a comprehensive study of the national electrical code that deals with commercial wiring installations including state and local regulations. Includes building wiring as well as the wiring of electrical equipment and appliances in a commercial environment. ENF 2 requisite level. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

ELE 178 Wind Turbine Technology (3 CR.)
Introduces many facets of the wind industry. Introduces the history and development of the wind systems as well as the future of the wind industry as the desire for alternative energy grows. Presents the terminology used in the application of wind systems. Identifies the various types of wind energy turbines and other topics as appropriate. Includes safety training. ENF 2 requisite level. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

ELE 217 Electric Power Utilities (2 CR.)
Provides an introduction to the electric power utilities field. Examines the generation, transmission and distribution of electrical energy. Lecture 2 hours per week.

ELE 238 Control Circuits (3 CR.)
Deals with the principles and applications of electrical devices for differentiation, integration and proportioning. Includes hardware and circuitry for AC and DC control devices as well as contractors, starters, speed controllers, time delays, limit switches, and pilot devices. Applies in the control of industrial equipment motors, servo units, and motor-driven actuators. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

ELE 239 Programmable Controllers (2-3 CR.)
Deals with installation, programming, interfacing, and concepts of troubleshooting programmable controllers. ENF 2 requisite level. Prerequisite ELE 140 or equivalent. Lecture 2-3 hours. Laboratory 0-3 hours per week. Total 2-6 hours per week.

ELE 290 Coordinated Internship (3 CR.)
Supervises on-the-job training in selected business, industrial, or service firms, coordinated by the college. Credit/practice ration not to exceed 1:5 hours. May be repeated for credit.

ELE 298 Seminar and Project (3 CR.)
Requires completion of a project related to the student's occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field. Lecture 2 hours. Laboratory 4 hours. Total 4 hours per week.

Electronics Servicing (ESR)

ESR 150 Software Configuration and Diagnostics (3-4 CR.)
Teaches use and configuration of personal computer operating systems and applications programs, with emphasis on solving software-induced problems. Includes use of system utilities and selected diagnostic software. Includes use of a programming language. Lecture 2-3 hours. Laboratory 3 hours. Total 5-6 hours per week.

ESR 228 Computer Troubleshooting and Repair (3-4 CR.)
Teaches procedures for isolating and correcting problems in computers and computer-related hardware. Emphasizes operational concepts, use of diagnostic software and troubleshooting equipment. ENF 3 requisite level. Lecture 1-3 hours. Laboratory 3-6 hours. Total 6-7 hours per week.

Electronics Technology (ETR)

ETR 100 Electronic Problem Solving Laboratory (1 CR.)
Focuses on enabling the student to improve skills in various areas of study. May include electronic measurements, circuit assembly, troubleshooting circuits, and computer applications to problem solving. Laboratory 3 hours per week.

ETR 113-114 D.C. and A.C. Fundamentals (4 CR.) (4 CR.)
Studies D.C. and A. C. circuits, basic electrical components, instruments, network theorems, and techniques used to predict, analyze and measure electrical quantities. Must be taken in sequence. ENF 3 requisite level. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ETR 143 Devices and Applications I (3 CR.)
Teaches theory of active devices and circuits such as diodes, power supplies, transistors (BJT'S), amplifiers and their parameters, fets, and op amps. May include UJT'S, oscillators, RF amplifiers, thermionic devices, and others. ENF 3 requisite level. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

ETR 166 Fundamentals of Computer Technology (4 CR.)
Introduces computer use and literacy. May include operating systems, high level language programming, word processors, spreadsheets, and other generic software. ENF 3 requisite level. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ETR 167 Logic Circuits and Systems I (4 CR.)
Studies digital switching and logic circuits, number systems, Boolean algebra, logic gates and families. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ETR 168 Digital Circuit Fundamentals (3 CR.)
Covers the fundamentals of digital logic and the study of digital circuits and their applications. ENF 3 requisite level. Lecture 3 hours per week.

ETR 218 Industrial Electronics Circuits (4 CR.)
Introduces the principles of industrial measurements and control: electrical, electronic, mechanical, thermal, and optical measuring and records, and actuators, electronic instrumentation control devices and circuits. ENF 3 requisite level. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ETR 228 Computer Troubleshooting and Repair (4 CR.)
Teaches procedures for isolating and correcting problems in computers and computer-related hardware. Emphasizes operational concepts, use of diagnostic software and troubleshooting equipment. ENF 3 requisite level. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ETR 231 Principles of Lasers and Fiber Optics (4 CR.)
Teaches the theory and application of lasers and fiber optics. Includes optics, fiber optic cables and connectors, photo detectors, optical pulse generation, sensors, multiplexers, lasers, gas lasers, semiconductor lasers, laser safety and laser test instruments. May include preparation of a report as an out-of-class activity. ENF 3 requisite level. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

ETR 232 Principles of Lasers and Fiber Optics II (3-4 CR)
Continues to study the theory and application of lasers and fiber optics. Includes optics, fiber optic cables and connectors, photo detectors, optical pulse generation, sensors, multiplexers, and laser safety. ENF 3 requisite level. Lecture 2-3 hours. Laboratory 2-4 hours. Total 4-6 hours per week.

ETR 241 Electronic Communications I (3-4 CR.)
Studies noise, information and bandwidth, modulation and demodulation, transmitters and receivers, wave propagation, antennas and transmission lines. May include broad band communication systems, microwave, both terrestrial and satellite, fiber optics, multiplexing and associated hardware. ENF 3 requisite. Lecture 2-3 hours. Laboratory 3 hours. Total 5-6 hours per week.

ETR 248 Instruments and Measurements (2 CR.)
Studies circuits used in electronics measurement and application of these circuits to test instruments such as oscilloscopes, electronic meters, and bridges. Stresses the accuracy of measurements, how instruments work, proper use of instruments, and calibration techniques. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

ETR 250 Intermediate Electronics (4 CR.)
Teaches theory and application of amplifiers and oscillators. Includes amplifier circuit configurations, amplifier classes, operational amplifiers, power amplifiers, bandwidth distortion, and principles of feedback. ENF 2 requisite. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ETR 256-257-258 Devices and Circuit Design I-II-III (4 CR.) (4 CR.) (4 CR.)
Studies devices, applications and design of circuits incorporating these devices. Utilizes accepted design and analysis techniques using appropriate device and circuit modes. May include diodes, transistors, thermistors, thermionic devices, op amps, power supplies, amplifiers, oscillators, filters and switching circuits. ENF 3 requisite level. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ETR 259 Linear Integrated Circuits (4 CR.)
Studies linear integrated devices, circuits and applications. May include analysis of linear IC's, op amps, op amp circuits, regulator circuits, oscillatory circuits, wave shaping circuits, active filter, signal processing; A/D and D/A conversion, modulation and demodulation, timers, special analog circuits, new topics and troubleshooting methods. ENF 3 requisite. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ETR 273-274-275 Computer Electronics I-II-III (4 CR.) (4 CR.) (4 CR.)
Applies principles of digital electronics and microprocessors to familiarize the student with typical circuits used to interface computer and/or controllers with various I/O devices. May include exposure to high level programming as well as assembly language routines. Must be taken in sequence. ENF 3 requisite level. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ETR 294 Technical Certification (2 CR.)
Reviews materials on various options of certification exams to prepare students for certification. May address any one option of certification. Course may be repeated for credit. Reading Level Requisite ENG 4. Writing level requisite ENG 3. Variable hours per week.

Emergency Medical Services Technology (EMS)

EMS 100 CPR for Healthcare Providers (1 CR.)
Provides instruction in Cardiopulmonary Resuscitation that meets current Emergency Cardiac Care (ECC) guidelines for Cardiopulmonary Resuscitation education for Healthcare Providers. Lecture: 1 hour per week. Total 1 hour per week.

EMS 101 EMS First Responder (3 CR.)
Provides education in the provision of emergency medical care for persons such as Police, non-EMS Fire personnel, industrial personnel and the general public who are likely to be the first medically trained personnel on the scene of an injury or illness. Meets current Virginia Office of Emergency Medical Services curriculum for First Responder. Lecture: 3 hours. Total 3 hours per week.

EMS 111 Emergency Medical Technician – Basic (7 CR.)
Prepares student for certification as a Virginia and National Registry EMT-Basic. Includes all aspects of pre-hospital basic life support as defined by the Virginia Office of Emergency Medical Services curriculum for Emergency Medicine Technician Basic. Corequisite: EMS 120. Prerequisite: CPR certification at the Health Care Provider level. ENF 1 requisite level. Lecture: 5 hours. Lab: 4 hours. Total 9 hours per week.

EMS 112 Emergency Medical Technician – Basic I (4 CR.)
The first of a two semester paired course that prepares student for certification as a Virginia and/ or National Registry EMT-Basic. Includes all aspects of pre-hospital basic life support as defined by the Virginia Office of Emergency Medical Services curriculum for Emergency Medicine Technician Basic. Lecture: 2 hours. Lab: 2 hours. Total 4 hours per week.

EMS 113 Emergency Medical Technician – Basic II (3 CR.)
The second of a two semester paired course that prepares student for certification as a Virginia and/or National Registry EMT-Basic. Includes all aspects of pre-hospital basic life support as defined by the Virginia Office of Emergency Medical Services curriculum for Emergency Medicine Technician Basic. Lecture: 2 hours. Lecture: 2 hours. Lab: 2 hours. Total 4 hours per week.

EMS 115 Emergency Medical Technician – Basic Refresher (2 CR.)
Meets Virginia Office of Emergency Medical Services requirements for recertification at the EMT-Basic level. This course will meet for 4 additional clock hours of lab over and above the didactic portion. ENF 1 requisite level. Lecture: 2 hours per week. Total 2 hours per week.

EMS 120 Emergency Medical Technician - Basic Clinical (1 CR.)
This course is a corequisite of either EMS 111 or EMS 113, dependent upon the program in which the student is participating. The time spent observing in a program approved clinical/ field settings. ENF 1 requisite level. Lab: 2 hours.

EMS 121 Preparatory Foundations (2 CR.)
Description: Introduces fundamental concepts established by the National Emergency Medical Service Education Standards (NEMSES) for Advanced EMT and Paramedic curricula. Includes EMS systems, introduction to research, workforce safety and wellness, EMS system communications, introduction to public health, legal and ethical issues. Prerequisite(s): Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS. Lecture 2 hours. Total 2 hours per week.

EMS 123 EMS Clinical Preparation (1 CR.)
Description: Introduces the student to local clinical agencies and prepares the student for clinical activities above the level of EMT. Includes prerequisites required by clinical affiliates, therapeutic communication, primary assessment, history taking, secondary assessment, reassessment, monitoring devices and documentation. Prerequisite(s): Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS. Laboratory 2 hours. Total 2 hours per week.

EMS 125 Basic Pharmacology (1 CR.)
Description: Prepares students to demonstrate competency concerning basic principles of pharmacology, drug dosage calculations and medication administration. Introduces medications listed in the Advanced EMT (AEMT) scope of practice. Corequisite: EMS 126. Prerequisite: Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS. Lecture 1 hour. Total 1 hour per week.

EMS 126 Basic Pharmacology Lab (1 CR.)
Description: Focuses on the safe administration of medications in the emergency setting. Includes drug dose calculation and covers multiple routes of administration including oral, intramuscular, subcutaneous, intravenous, and intraosseous and other

methods within the scope of practice for the emergency care provider. Corequisite: EMS 125. Prerequisite: Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS. Laboratory 2 hours. Total 2 hours per week.

EMS 127 Airway, Shock and Resuscitation (1 CR.)
Description: Introduces concepts associated with pre-hospital emergency care of the individual experiencing airway difficulty or in need of resuscitation or shock management. Corequisite: EMS 128. Prerequisite: Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS. Lecture 1 hour per week. Total 1 hour per week.

EMS 128 Airway, Shock and Resuscitation Lab (1 CR.)
Description: Focuses on specific skills related to airway, resuscitation and shock management. Corequisite: EMS 127. Prerequisite: Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS. Laboratory 2 hour per week. Total 2 hours per week.

EMS 135 Emergency Medical Care (2 CR.)
Description: Prepares the student to assess and manage patients with common medical emergencies. Corequisite: EMS 136. Prerequisite: EMS 121, EMS 123, EMS 125, EMS 126, EMS 127, EMS 128. Lecture 2 hours. Total 2 hours per week

EMS 136 Emergency Medical Care Lab (1 CR.)
Description: Focuses on specific skills related to the assessment and management of common medical emergencies. Corequisite: EMS 135. Prerequisite: EMS 121, EMS 123, EMS 125, EMS 126, EMS 127, EMS 128. Laboratory 2 hours. Total 2 hours per week.

EMS 137 Trauma Care (1 CR.)
Description: Prepares the student to assess and manage injured patients, developing his/her problem-solving ability in the treatment of trauma involving various body systems. Corequisite: EMS 138. Prerequisite: EMS 121, EMS 123, EMS 125, EMS 126, EMS 127, EMS 128. Lecture 1 hour. Total 1 hour per week.

EMS 138 Trauma Care Lab (1 CR.)
Description: Focuses on the skills required for the assessment and management of patients with traumatic injury. Corequisite: EMS 137. Prerequisite: EMS 121, EMS 123, EMS 125, EMS 126, EMS 127, EMS 128. Laboratory 2 hours. Total 2 hours per week.

EMS 139 Special Populations (1 CR.)
Description: Focuses on the pre-hospital assessment and management of patients in a specific population including pediatrics, geriatrics, obstetrics/gynecology (OB/GYN), bariatric, abuse, sexual assault and special needs. Corequisite: EMS 140. Prerequisite: EMS 121, EMS 123, EMS 125, EMS 126, EMS 127, EMS 128. Lecture 1 hour. Total 1 hour per week.

EMS 140 Special Populations Lab (1 CR.)
Description: Develops skills related to the assessment and management of patients in a specific population including pediatrics, geriatrics, obstetrics/gynecology (OB/GYN), bariatric, abuse, sexual assault and special needs. Corequisite(s): EMS 139. Prerequisite(s): EMS 121, EMS 123, EMS 125, EMS 126, EMS 127, EMS 128. Laboratory 2 hours. Total 2 hours per week.

EMS 141 Cardiovascular Care (2 CR.)
Description: Focuses on assessment and management of cardiac-related emergencies. Covers basic dysrhythmia recognition and relates it to overall cardiac patient care. Corequisite: EMS 142. Prerequisite: EMS 121, EMS 123, EMS 125, EMS 126, EMS 127, EMS 128. Lecture 2 hours. Total 2 hours per week.

EMS 142 Cardiovascular Care Lab (1 CR.)
Description: Focuses on skills involved in the assessment and management of cardiac-related emergencies. Develops competency in basic dysrhythmia recognition and overall cardiac patient care. Corequisite: EMS 141. Prerequisite: EMS 121, EMS 123, EMS 125, EMS 126, EMS 127, EMS 128. Laboratory 2 hours. Total 2 hours per week.

EMS 150 Advanced Emergency Medical Technician (AEMT) (4 CR.)
Description: Prepares students to build upon content in the Emergency Medical Technician (EMT) curriculum and demonstrate competency in specific advanced skills and knowledge. Corequisite: EMS 170. Prerequisite: Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS. Lecture 5 hours. Laboratory 4 hours. Total 9 hours per week.

EMS 161 Basic Trauma Life Support (BTLS) (1 CR.)
Offers instruction for students in current topics of care for trauma patients and offers certification as a Basic Trauma Life Support Provider (BTLS) as defined by the American College of Emergency Physicians. Prerequisites: Current certification/ licensure as an EMS provider or other allied healthcare provider. Lecture: 16 hours. Total 16 hours.

EMS 163 Pre-Hospital Trauma Life Support (PHTLS) (1 CR.)
Prepares for certification as a Pre-Hospital Trauma Life Support provider as defined by the American College of Surgeons. Prerequisites: EMS 111 or equivalent. Lecture: 1 hour. Total 1 hour.

EMS 164 Advanced Medical Life Support (AMLS) (1 CR.)
Covers current topics of care for adult patients suffering extensive medical conditions and emergencies, and offers certification as an Advanced Medical Life Support (AMLS) as defined by the National Association of Emergency Medical Technicians (NAEMT).

EMS 165 Advanced Cardiac Life Support (ACLS) (1 CR.)
Prepares for certification as an Advanced Cardiac Life provider. Follows course as defined by the American Heart Association. Prerequisites: EMS 100, 153 or equivalent. Lecture: 1 hour. Total 1 hour.

EMS 167 Neonatal Resuscitation Program (NRP) (1 CR.)
Provides the student information in current topics in the care of newborn patients to current AAP/ American Heart Association- Neonatal Resuscitation Program guidelines. Prerequisite-Current certification/ licensure as an advanced EMS provider or other allied healthcare provider. Lecture: 1 hour. Total 1 hour.

EMS 168 Emergency Pediatric Care (PEPP) (1 CR.)
Prepares the student for certification as a pre-hospital pediatric care provider as defined by the American Academy of Pediatrics. Covers primary assessment and emergency care of infants and children. ENF 1 requisite level. Lecture: 1 hour per week. Total 1 hour per week.

EMS 169 Pediatric Advanced Life Support (PALS) (1 CR.)
Prepares the student for certification as a pediatric advanced life support provider as defined by the American Heart Association. Covers primary assessment and emergency care of infants and children. Lecture: 1 hour per week. Total 1 hour per week.

EMS 170 ALS Internship (1 CR.)
The first in a series of clinical experiences providing supervised direct patient contact in appropriate patient care facilities in and out of hospitals. Includes but not limited to patient care units such as the Emergency Department, Critical Care units, Pediatric, Labor and Delivery, Operating Room, Trauma Centers and various advanced life support units. ENF 1 requisite level. Lab: 3 hours per week. Total 48 hours.

EMS 175 Paramedic Clinical Experience I (2 CR.)
Description: Introduces students to live patient assessment and management in the clinical setting. Begins a continuum of learning involving live patients that leads to entry-level competence at the paramedic level. Prerequisite: EMS 121, EMS 123, EMS 125, EMS 126, EMS 127, EMS 128. Internship 6 hours. Total 6 hours per week.

EMS 201 EMS Professional Development (3 CR.)
Prepares students for Paramedic certification at the National Registry Level by fulfilling community activism, personal wellness, resource management, ethical considerations in leadership and research objectives in the Virginia Office of Emergency Medical Services Paramedic curriculum. ENF 1 requisite level. Lecture: 3 hours per week. Total 3 hours per week.

EMS 202 Paramedic Pharmacology (2 CR.)
Description: Focuses on advanced pharmacological interventions, medications and their effects. Prerequisite: EMS 125, EMS 126, EMS 135, EMS 136, EMS 137, EMS 138, EMS 139, EMS 140, EMS 141, EMS 142. Lecture 2 hours. Total 2 hours per week.

EMS 203 Advanced Patient Care (2 CR.)
Description: Focuses on the comprehensive assessment and management of patients in out-of-hospital and inter-facility scenarios. Content is centered on problem-solving through integration of didactic, psychomotor and affective curricula. Corequisite: EMS 204. Prerequisite: EMS 135, EMS 136, EMS 137, EMS 138, EMS 139, EMS 140, EMS 141, EMS 142. Lecture 2 hours. Total 2 hours per week.

EMS 204 Advanced Patient Care Lab (2 CR.)
Description: Focuses on the comprehensive assessment and management of out-of-hospital and inter-facility patients using scenario-based learning. Corequisite: EMS 203. Prerequisite: EMS 135, EMS 136, EMS 137, EMS 138, EMS 139, EMS 140, EMS 141, EMS 142. Laboratory 4 hours. Total 4 hour per week.

EMS 205 Advanced Pathophysiology (4 CR.)
Focuses on the pathological processes of disease with emphasis on the anatomical and physiological alterations of the human body by systems. Includes diagnosis and management appropriate to the advanced health care provider in and out of the hospital environment. ENF 1 requisite level. Lecture: 4 hours per week. Total 4 hours per week.

EMS 206 Pathophysiology for the Health Professions (3 CR.)
Description: Focuses on the pathological processes of disease with emphasis on the anatomical and physiological alterations of the human body systems. Includes diagnosis and management appropriate to the advanced health care provider in and out of the hospital environment. Prerequisite: BIO 145 or BIO 141-142 combination. Lecture 3 hours. Total 3 hours per week.

EMS 207 Advanced Patient Assessment (3 CR.)
Focuses on the principles of normal and abnormal physical exam. Emphasizes the analysis and interpretation of physiological data to assist in patient assessment and management. Applies principles during the assessment and management of trauma, medical, and specialty patients in laboratory environment. ENF 1 requisite level. Lecture: 2 hours per week. Lab: 2 hours per week. Total 4 hours per week.

EMS 209 Advanced Pharmacology (4 CR.)
Focuses on the principles of pharmacokinetics, pharmacodynamics and drug administration. Includes drug legislation, techniques of medication administration, and principles of math calculations. Emphasizes drugs used to manage respiratory, cardiac, neurological, gastrointestinal, fluid and electrolyte and endocrine disorders and includes classification, mechanism of action, indications, contra-indications, precautions, and patient education. Incorporates principles related to substance abuse and hazardous materials. Applies principles during the assessment and management of trauma, medical, and specialty patients in laboratory environment. ENF 1 requisite level. Lecture: 3 hours per week. Lab: 2 hours per week. Total 5 hours per week.

EMS 210 EMS Operations (1 CR.)
Description: Focuses on matters related to Emergency Medical Services (EMS) operations, incident and scene safety and awareness, triage, multiple and mass casualty incident operations and medical incident management (command and control of EMS incidents). Prerequisite: EMS 135, EMS 136, EMS 137, EMS 138, EMS 139, EMS 140, EMS 141, EMS 142. Laboratory 2 hours. Total 2 hours per week.

EMS 211 Operations (2 CR.)
Prepares the student in the theory and application of the following: medical incident command, rescue awareness and operations, hazardous materials incidents, and crime scene awareness. (Conforms to the current Virginia Office of Emergency Medical Services curriculum for EMT-Paramedics.) Lecture: 1 hour per week. Lab: 2 hours per week. Total 3 hours per week.

EMS 212 Leadership and Professional Development (1 CR.)
Description: Focuses on the development of leadership within the field of Emergency Medical Services (EMS), topics include civic engagement, personal wellness, resource management, ethical considerations in leadership and research. Prerequisite: EMS 135, EMS 136, EMS 137, EMS 138, EMS 139, EMS 140, EMS 141, EMS 142. Lecture 1 hour. Total 1 hour per week.

EMS 213 ALS Skills Development (1-2 CR.)
This course may be utilized to reinforce and remediate additional advanced life support skills, as needed. Lab: 2-4 hours per week. Total 2-4 hours per week.

EMS 215 Paramedic Review (1-2 CR.)
Reviews material covered in the intermediate/paramedic program. Prepares the student for National Registry testing. Lecture: 1 hour per week. Lab: 0-2 hours per week. Total 1-3 hours per week.

EMS 216 Paramedic Review (1 CR.)
Description: Provides the student with intensive review for the practical and written portions of the National Registry Paramedic exam. May be repeated once, for credit. Laboratory 2 hours. Total 2 hour per week.

EMS 242 ALS Clinical Internship III (1 CR.)
This is the third in a series of clinical experiences providing supervised direct patient contact in appropriate patient care facilities in and out of hospitals. Includes but not limited to patient care units such as the Emergency Department, Critical Care units, Pediatric, Labor and Delivery, Operating Room, Trauma Centers and various advanced life support units. ENF 1 requisite level. Lab: 3 hours per week. Total 48 hours.

EMS 243 ALS Field Internship III (1 CR.)
The third in a series of field experiences providing supervised direct patient care in out-of-hospital advanced life sup- port units. ENF 1 requisite level. Lab: 3 hours per week. Total 48 hours.

EMS 244 ALS Clinical Internship IV (1 CR.)
The fourth in a series of clinical experiences providing supervised direct patient contact in appropriate patient care facilities in and out of hospitals. Includes but not limited to patient care units such as the Emergency Department, Critical Care units, Pediatric, Labor and Delivery, Operating Room and Trauma Centers. One credit course, may be repeated as necessary. ENF 1 requisite level. Lab: 3 hours per week. Total 48 hours.

EMS 245 ALS Field Internship IV (1 CR.)
The fourth in a series of field experiences providing supervised direct patient care in out-of-hospital advanced life support units. One credit course, may be repeated as necessary. ENF 1 requisite level. Lab: 3 hours per week. Total 48 hours.

EMS 247 Paramedic Clinical Experience II (1 CR.)
Description: Continues the student experience with live patient assessment and management in the clinical setting. It is the second step in a continuum of learning involving live patients that leads to entry-level competence at the paramedic level. Prerequisite: EMS 135, EMS 136, EMS 137, EMS 138, EMS 139, EMS 140, EMS 141, EMS 142, EMS 175. Internship 6 hours per week.

EMS 248 Paramedic Comprehensive Field Experience (2 CR.)
Description: Expands the student experience with live patient assessment and management into the field setting. It is the third step in a continuum of learning involving live patients that leads to entry-level competence at the paramedic level. Prerequisite: EMS 135, EMS 136, EMS 137, EMS 138, EMS 139, EMS 140, EMS 141, EMS 142, EMS 175. Internship 6 hours. Total 6 hours per week.

EMS 249 Paramedic Capstone Internship (2 CR.)
Description: Provides summative evaluation of the Paramedic student in the cognitive, psychomotor, and affective domains. Prerequisite: EMS 202, EMS 203, EMS 204, EMS 206, EMS 247, EMS 248. Internship 6 hours per week.

EMS 298 Project and Seminar Paramedic Upgrade/Refresher (5 CR.)
Covers didactic and practical skill material found in the 1998 Federal DOT Paramedic Curriculum that was not part of the 1985 curriculum. Emphasis is placed on injury prevention, wellness, in-depth anatomy, pathophysiology, and pharmacology. The course also includes techniques of advanced patient exam and assessment, trauma and airway skills. Neonatology, Pediatrics, and Gerontology are also covered. National Registry Recertification requirements will be met with this course. Lecture: 5 hours per week. Total 5 hours per week.

Engineering (EGR)

EGR 120 Introduction to Engineering (1-2 CR.)
Introduces the engineering profession, professional concepts, ethics, and responsibility. Reviews hand calculators, number systems, and unit conversions. Introduces the personal computer and operating systems. Includes engineering problem solving techniques using computer software. Lecture 0-2 hours. Laboratory 0-3 hours. Total 1-4 hours per week.

EGR 125 Introduction to Engineering Methods (3 CR.)
Applies problem-solving techniques to engineering problems utilizing computer programming and algorithms in a higher level computer language such as FORTRAN, PASCAL, or C++. Lecture 3 hours.

EGR 127 Introduction to Computer Programming (3 CR.)
Introduces programming in a higher level language such as FORTRAN, BASIC or PASCAL, or C++ on the microcomputer. Uses the operating system, packaged software and peripheral devices. Emphasizes engineering program problem solving. Lecture 2 hours. Laboratory 2 hours.

EGR 140 Engineering Mechanics - Statics (3 CR.)
Introduces mechanics of vector forces and space, scalar mass and time, including S.I. and U.S. customary units. Teaches equilibrium, free-body diagrams, moments, couples, distributed forces, centroids, moments of inertia analysis of two- force and multiforce members and friction and internal forces. Lecture 3 hours per week.

EGR 145 Engineering Mechanics - Dynamics (3 CR.)
Presents approach to kinematics of particles in linear and curvilinear motion. Includes kinematics of rigid bodies in plane motion. Teaches Newton's second law, work-energy and power, impulse and momentum, and problem solving using computers. Lecture 3 hours per week.

EGR 146 Mechanics of Materials (3 CR.)
Teaches concepts of stress, strain, deformation, internal equilibrium, and basic properties of engineering materials. Analyzes axial loads, torsion, bending, shear and combined loading. Studies stress transformation and principle stresses, column analysis and energy principles. Lecture 3 hours per week.

Energy (ENE)

ENE 100 Conventional and Alternate Energy Applications (4 CR.)
Provides an overview of hydroelectric, coal, and nuclear energy production methods and renewable solar, geothermal, wind, and fuel cell technology. A complete system breakdown of conventional power production methods, efficiency, and sustainability when compared with solar, geothermal, wind, and fuel cell applications. ENF 2 requisite level. Lecture 3 hours. Laboratory 3 ours. Total 6 hours per week.

ENE 105 Solar Thermal Active and Passive Technology (4 CR.)
Provides a comprehensive study of thermal technology as it applies to collector types and ratings, open-loop versus closed-loop and system sizing. Introduces hydronics, hot water, and pool heating applications. Provides an introduction to fluid dynamics and chemistry as it applies to system installation and maintenance. ENF 2 requisite level. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ENE 110 Solar Power Installations (4 CR.)
Covers wiring, control, conversion, and ties to established power systems. Studies use of invertors, batteries, and charging systems. Prerequisite: ELE 140. Lecture 3 hours. ENF 2 requisite level. Laboratory 3 hours. Total 6 hours per week.

ENE 120 Solar Power (4 CR.)
Studies the production and conversion of electrical energy from modular to grid power systems. Covers the storage of energy, thermal solar capture, and storage for residential and commercial applications. Covers energy conversion and storage equipment based on size and efficiency. Prerequisite: ELE 157, ELE 140 or equivalent. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ENE 220 Wind Power Generation (4 CR.)
Studies wind turbines, their location, efficiency, and cost. Covers power generation with wind turbines, storage, conversion to established values, use of batteries, invertors, grid tie systems, and all necessary wiring installations. Prerequisite: ELE 157, ELE 140, or equivalent. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ENE 230 Geothermal Applications (4 CR.)
Studies the use of geothermal energy for large and small scale production. Covers the feasibility of heat pump applications for local use on an individual basis. Prerequisite: ELE 140 or equivalent. ENF 2 requisite level. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

English Fundamentals (ENF)

ENF 1 English Fundamentals I (8 CR.)
Provides integrated reading and writing instruction for students who require extensive preparation to succeed in college-level English courses. Students will place into this course based on VPT-English (Virginia Placement Test-English). Upon successful completion and faculty recommendation, students will move into ENF 3 (if they require additional preparation) or into college-level English (if they require no additional preparation). Requisite: VPT placement of ENF 1.

ENF 2 English Fundamentals II (4 CR.)
Provides integrated reading and writing instruction for students who require intermediate preparation to succeed in college-level English courses. Upon successful completion and faculty recommendation, students will move into ENF 3 (if they require additional preparation) or into college- level English (if they require no additional preparation). Requisite: VPT placement of ENF 2.

ENF 3 English Fundamentals III (2 CR.)
Provides integrated reading and writing instruction for students who require minimal preparation for college-level English but still need some preparation to succeed. Students in this course will be co-enrolled in college-level English. Requisite: VPT placement of ENF 3.

English (ENG)

ENG 111 College Composition I (3 CR.)
Introduces students to critical thinking and the fundamentals of academic writing. Through the writing process, students refine topics: develop and support ideas; investigate, evaluate, and incorporate appropriate resources; edit for effective style and usage; and determine appropriate approaches for a variety of contexts, audiences, and purposes. Writing activities will include exposition and argumentation with at least one researched essay. Requisite: VPT placement of ENG 111; or VPT Placement of ENF 3 (co-enrolled with ENG 111); or ENF 1 completed; or ENF 2 completed. Lecture 3 hours per week.

ENG 112 College Composition II (3 CR.)
Continues to develop college writing with increased emphasis on critical essays, argumentation, and research, developing these competencies through the examination of a range of texts about the human experience. Requires students to locate, evaluate, integrate, and document sources and effectively edit for style and usage. Prerequisite: Students must successfully complete ENG 111 or its equivalent, and must be able to use word processing software. Lecture 3 hours per week.

ENG 115 Technical Writing (3 CR.)
Develops ability in technical writing through extensive practice in composing technical reports and other documents. Guides students in achieving voice, tone, style, and content in formatting, editing, and graphics. Introduces students to technical discourse through selected reading. ENG 111 requisite level. Lecture 3 hours per week.

ENG 121-122 Introduction to Journalism I-II (3 CR.) (3 CR.)
Introduces students to all news media, especially news gathering and preparation for print. Prerequisite is ENG 111 or 112 or divisional approval. Lecture 3 hours per week.

ENG 210 Advanced Composition (3 CR.)
Helps students refine skills in writing nonfiction prose. Guides development of individual voice and style. Introduces procedures for publication. Prerequisite is ENG 112 or divisional approval. Lecture 3 hours per week.

ENG 211-212 Creative Writing I-II (3 CR.) (3 CR.)
Introduces the student to the fundamentals of writing imaginatively. Students write in forms to be selected from poetry, fiction, drama, and essays. ENG 112 or division approval is a prerequisite. Lecture 3 hours per week.

ENG 241-242 Survey of American Literature I-II (3 CR.) (3 CR.)
Examines American literary works from colonial times to the present, emphasizing the ideas and characteristics of our national literature. Involves critical reading and writing. Prerequisite ENG 112 or division approval. Lecture 3 hours per week. May be taken out of sequence.

ENG 243-244 Survey of English Literature I-II (3 CR.) (3 CR.)
Studies major English works from the Anglo-Saxon period to the present, emphasizing ideas and characteristics of the British literary tradition. Involves critical reading and writing. Prerequisite ENG 112 or division approval. Lecture 3 hours per week. May be taken out of sequence.

ENG 251-252 Survey of World Literature I-II (3 CR.) (3 CR.)
Examines major works of world literature. Involves critical reading and writing. Prerequisite ENG 112 or division approval. Lecture 3 hours per week. May be taken out of sequence.

ENG 253-254 Survey of African American Literature I-II (3 CR.) (3 CR.)
Examines selected works by Black American writers from the colonial period to the present. Involves critical reading and writing. Prerequisite ENG 112 or divisional approval.

ENG 256 Literature of Science Fiction (3 CR.)
Examines the literary and social aspects of science fiction, emphasizing development of ideas and techniques through the history of the genre. Involves critical reading and writing. Prerequisite ENG 112. Lecture 3 hours per week.

ENG 278 Appalachian Literature (3 CR.)
Examines selected works of outstanding authors of the Appalachian region. Involves critical reading and writing. Prerequisite ENG 112 or divisional approval. Lecture 3 hours per week.

Environmental Science (ENV)

ENV 108 Environmental Microbiology (3 CR.)
Studies characteristics and activities of microorganisms, showing their essential relation to diagnosis, treatment, and prevention of disease. Explores fundamentals of bacteriology, mycology, and parasitology, emphasizing their relationships to community health. Includes soil, water, wastewater, and industrial microbiology. ENF 2 requisite level. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

ENV 110 Introduction to Water and Wastewater Technology (3 CR.)
Provides an understanding of the basic principles of transportation, processing and disposal of water and wastewater. The course will trace the flow of water from the source through treatment, storage, distribution, use, waste collection, treatment, and discharge back into the environment. In addition to the lectures, a laboratory will be provided consisting of a combination of field experiences as well as more traditional laboratory exercises. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

ENV 115 Water Purification (3 CR.)
Explores principles of water purification including secretion, sedimentation, rapid sand filtration, chlorination, treatment, and prevention of disease. Studies fundamentals of bacteriology, mycology, and parasitology, emphasizing their relationships to community health. Includes soil, water, wastewater, and industrial microbiology. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

ENV 149 Wastewater Treatment Plant Operation (3 CR.)
Teaches principles, practices and desired function and operation of a variety of wastewater treatment unity processes. Evaluates the operation of processes by determination of the information and testing required for evaluation and performing the subsequent necessary calculations. ENF 2 requisite level. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

ENV 190 Coordinated Internship in Water/ Wastewater (4 CR.)
Supervises on-the-job training in selected business, industrial or service firms coordinated by the college. ENF 2 requisite. Variable hours.

ENV 193 Your Role in The Green Environment (1 CR.)
Introduces the student to techniques that reduce the environmental impact of building construction and operation. Starting with an overview of the effects of one's daily personal and work habits on the green environment, the course covers best practices for the construction industry and concludes with an analysis of the LEED green building rating system. ENF 1 requisite level. Lecture 15 hours.

ENV 211-212 Sanitary Biology and Chemistry I-II (3 CR.) (3 CR.)
Teaches theory and laboratory techniques for control tests of water purification including bacteriology, color, turbidity, pH, alkalinity, hardness, coagulations, chlorides, fluorides, iron, manganese, deter- gents, bactericides, and nitrates. Includes in-plant studies at nearby plants. Studies theory and laboratory techniques for the determination of solids, dissolved oxygen, oxygen consumed, relative stability, bacteria, biochemical oxygen demand, organic nitrogen, volatile acids, toxic metals. ENF 2 requisite level. Must be taken in sequence. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

ENV 220 Environmental Problems (3 CR.)
Studies the relationship of man to his environment; ecological principles, population dynamics, topics of current importance including air, water, and noise pollution; poisoning and toxicity, radiation, conservation and management of natural resources. ENF 2 requisite level. Lecture 3 hours per week.

ENV 227 Environmental Law (3 CR.)
Introductory course in environmental law designed to acquaint the student with the different facets of law that affects the citizens of the world. ENF 2 requisite level. Lecture 3 hours per week.

ENV 230 GIS: Applications in Environmental Science (3 CR.)
Introduces Global Positioning Systems (GPS) and Geographic Information Systems (GIS) hardware and software and applies the principles of GPS and GIS to Forest Science and Environmental Science. Includes: Natural Disasters; Pest Control; Water Quality; Prescribed Burning; Identifying Sources of Pollution. Prerequisites: MTH 02, GIS 200. [This course covers the same content as GIS 230. Credit will not be granted for both courses]. ENF 2 requisite level. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

ENV 235 Soil Conservation and Spoils Management (3 CR.)
Teaches principles of soil conservation, erosion and sediment processes, spoils placement, both mechanical and natural methods of stabilization, and impacts of not practicing prudent soil conservation methods. ENF 2 requisite level. Lecture 3 hours per week.

ENV 290 Coordinated Internship (4 CR.)
Supervises on-the-job training in selected business, industrial or service firms coordinated by the college. ENF 2 requisite level. Variable hours.

ENV 296 On-Site Training in Landscaping (4 CR.)
Specializes in career orientation and training program without pay in selected business and industry, supervised and coordinated by the college. ENF 2 requisite. Variable hours.

ENV 298 Seminar and Project in Forest Science and Environmental Science (4 CR.)
Requires completion of a project or research report related to student's occupational objective. Variable hours per week. ENF 2 requisite level.

ENV 298 Seminar and Project In Meteorology (4 CR.)
Requires completion of project or research report related to student's occupational objective. Topics include: Earth's atmosphere, energy transfer, air movement, weather patterns, climate types, and climatic exchange in the environment. Variable hours per week. ENF 2 requisite level.

ENV 298 Seminar and Project in Astronomy (4 CR.)
Requires completion of a project or research report related to student's occupational objective. Topics include: Radiation from space, early space missions, current and future space missions, earth, moon and exploring earth's moon. Variable hours per week. ENF 2 requisite level.

ENV 298 Seminar and Project in Oceanography (4 CR.)
Requires completion of a project or research report related to student's occupational objective. Topics include: Ocean water, ocean currents, waves and tides, seafloor, ocean life and pollution. Variable hours per week. ENF 2 requisite level.

ENV 298 Seminar and Project in Forest Science and Environmental Science (4 CR.)
Requires completion of a project or research report related to student's occupational objective. Variable hours per week. ENF 2 requisite level.

Finance (FIN)

FIN 107 Personal Finance (3 CR.)
Presents a framework of personal money management concepts, including establishing values and goals, determining sources of income, managing income, pre-

paring a budget, developing consumer buying ability, using credit, under- standing savings and insurance, providing for adequate retirement, and estate planning. ENF 2 requisite level. Lecture 3 hours per week.

Fire Science Technology (FST)

FST 100 Principles of Emergency Services (3 CR.)
Provides an overview to fire protection; career opportunities in fire protection and related fields; philosophy and history of fire protection/service; fire loss analysis; organization and function to public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; introduction to fire protection systems; introduction to fire strategy and tactics. Lecture 3 hours per week.

FST 110 Fire Behavior and Combustion (3 CR.)
Explores the theories and fundamentals of how and why fires start, spread, and how they are controlled. Lecture 3 hours per week.

Forestry (FOR)

FOR 100 Introduction to Forestry (3 CR.)
The purpose of this course is to learn the general concepts of forestry and forest resource use in the United States. Field trips and laboratory assignments will be made in place of a formal lab. ENF 2 requisite level. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

FOR 115 Dendrology (4 CR.)
Studies trees and shrubs botanically and commercially important to the forests of Eastern United States. Emphasizes field characteristics of trees and common shrubs of the Eastern United States. ENF 2 requisite level. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

FOR 125 Forest Fire Control (1 CR.)
Examines forest fire behavior. Includes factors causing ignition and spread, methods of fire prevention and pre-suppression, and forest fire control organizations. Lecture 1 hour per week.

FOR 135 Wildlife and Fish Management (4 CR.)
Introduces the principles of wildlife and fisheries management, emphasizes practices in United States. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

FOR 198 Seminar and Project in Introduction to Aquaculture (1-5 CR.)
Requires completion of a project or research report related to the student's occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. ENF 2 requisite. Variable hours.

FOR 201 Forest Mensuration I (4 CR.)
Teaches principles of forest measurements including basic elements of property boundary, location, forest mapping, tree measurement, saw log and pulp wood scaling. Prerequisites FOR 100 and FOR 115. ENF 2 requisite level. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

FOR 202 Forest Mensuration II (4 CR.)
Teaches principles of timber cruising including both fixed and variable size plot techniques. Utilizes aerial photographs to locate land features, cruise tracts, timber types, and plot sample locations. Prerequisite: FOR 201. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

FOR 215 Applied Silviculture (4 CR.)
Focuses on theory and practices involved in controlling the forest establishment, composition and growth. Laboratory emphasizes observation and application of various silvicultural procedures including site preparation, regeneration, and intermediate treatments. Prerequisites FOR 100 and FOR 115. ENF 2 requisite level. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

FOR 227 Timber Harvesting (5 CR.)
Teaches harvesting methods including physical layout, economics, contracts, silvicultural water management, protection consideration, and woods safety. Corequisite: FOR 202 and ENF 2. Lecture 3 hours. Laboratory 6 hours. Total 9 hours per week.

FOR 229 Sawmilling (5 CR.)
Studies arrangement, installation, and operation of small sawmill consisting of head saw, edger, and trimmer for the production of quality hardwood and softwood lumber. ENF 2 requisite. Lecture 3 hours. Laboratory 6 hours. Total 9 hours per week.

FOR 237 Wildlife Ecology (3 CR.)
Studies wildlife communities and their environmental relation- ships. ENF 2 requisite level. Lecture 3 hours per week.

FOR 245 Forest Products I (2 CR.)
Introduces forest products. ENF 2 requisite level. Lecture 2 hours per week.

FOR 290 Coordinated Internship in Forestry (4 CR.)
Supervises on-the-job training in selected business, industrial or service firms coordinated by the college. ENF 2 requisite level. Variable hours.

French (FRE)

FRE 101-102 Beginning French I-II (4 CR.) (4 CR.)
Introduces understanding, speaking, reading, and writing skills and emphasizes basic French sentence structure. ENG 111 requisite level. Lecture 4 hours per week. May include one additional hour of oral practice per week.

Geographical Information Systems (GIS)

GIS 101 Introduction to Geospatial Technology I (3 CR.)
Provides an introduction to the concepts of Geographic Information Systems (GIS), Global Positioning Systems (GPS) and remote sensing components of Geospatial Technology. Teaches the introductory concepts of geographic location and problem solving by using a GIS and GPS units in demonstrating solutions to cross-curricular applications of technology. Part I or II. Lecture 3 hours per week.

GIS 102 Introduction to Geospatial Technology II (3 CR.)
Continues with the concepts of Geographic Information Systems (GIS), Global Positioning Systems (GPS) and remote sensing components of Geospatial Technology. Covers additional concepts of geographic location and problem solving by using GIS and GPS units in demonstrating solutions to cross-curricular applications of the technology. Part II or II. Lecture 3 hours per week.

GIS 200 Geographical Information Systems I (4 CR.)
Provides hands on introduction to a dynamic desktop GIS (Geographic Information system). Introduces the components of a desktop GIS and their functionality. Emphasizes manipulation of data for the purpose of analysis, presentation, and decision-making. Prerequisite: ITE 115, 119, or instructor approval.

GIS 201 Geographical Information System II (4 CR.)
Provides a continuation of GIS 200, with emphasis on advanced topics in problem solving, decision- making, modeling, programming, and data management. Covers map projections and data formats, and methods for solving the problems they create. Prerequisite: GIS 200

GIS 203 Cartography for GIS (3-4 CR.)
Focuses on the fundamental cartographic concepts used in planning, designing, and creating effective maps. Lecture 2-3 hours. Laboratory 2 hours per week.

GIS 205 GIS 3-Dimensional Analysis (4 CR.)
Introduces GIS 3D (three-dimensional) concepts and practices with a concentration on displaying, creating and analyzing spatial GIS data using 3D. Covers 3D shape files, 3D data formats such as Tin's, DEM's, grids and controlling the perspective and scale of 3D data through rotating, panning, and zooming. Prerequisite GIS 201. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

GIS 210 Understanding Geographic Data (4 CR.)
Provides the student an introduction to geographic data and the principles behind their construction. Introduces the concepts for measuring locations and characteris-

tics of entities in the real world. Exposes the student to the limitations and common characteristics of geographic data. Prerequisite GIS 201. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

GIS 215 New GIS Software Platforms and Applications (4 CR.)
Assists users with the transition to newer GIS software platforms and applications. Covers concepts and terminology needed to become proficient in the latest GIS software. Prerequisite GIS 201. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

GIS 220 Introduction to Urban and Regional Planning (4 CR.)
Provides an overview of how GIS is used in urban and regional planning. Emphasis will be on the use of GIS software to address real world social, economic, and environmental planning problems. Prerequisite GIS 201. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

GIS 225 GIS Applications for Tax Assessors (4 CR.)
Provides an introduction to GIS in the local government tax assessment process. Teaches students how to apply common GIS technical skills to property valuation and the defense of assessed values. Covers how to create spatial queries, produce maps, generate statistics, manipulate tabular data, use charts, and employ other technical skills in major topic areas including special regulations, ratio studies, comparable sales, and parcel data development and maintenance. Prerequisite GIS 201. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

GIS 230 Applications in Environmental Science (3 CR.)
Introduces Global Positioning Systems (GPS) and Geographic Information Systems (GIS) hardware and software and applies the principles of GPS and GIS to Forest Science and Environmental Science. Includes: Natural Disasters; Pest Control; Water Quality; Prescribed Burning; Identifying Sources of Pollution. Prerequisite: GIS 200. [This course covers the same content as ENV 230. Credit will not be granted for both courses]. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

Geography (GEO)

GEO 210 People and The Land: Introduction to Cultural Geography (3 CR.)
Focuses on the relationship between culture and geography. Presents a survey of modern demographics, landscape modification, material and non-material culture, language, race and ethnicity, religion, politics, and economic activities. Introduces the student to types and uses of maps. ENF 3 requisite level. Lecture 3 hours per week.

Geology (GOL)

GOL 105 Physical Geology (4 CR.)
Introduces the composition and structure of the earth and modifying agents and processes. Investigates the formation of minerals and rocks, weathering, erosion, earthquakes, and crustal deformation. ENF 3 requisite. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

GOL 111-112 Oceanography I-II (4 CR.) (4 CR.)
Examines the dynamics of the oceans and ocean basins. Applies the fundamental principles and concepts of the four disciplines of oceanography: physical, chemical, biological and geological. ENF 3 requisite. May be taken out of sequence. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week.

GOL 225 Environmental Geology (4 CR.)
Explores the interaction between man and his physical environment. Stresses geologic hazards and environmental pollution utilizing case histories. Prerequisite GOL 105. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

German (GER)

GER 101-102 Beginning German I-II (4-5 CR.) (4-5 CR)
Introduces understanding, speaking, reading, and writing skills and emphasizes basic German sentence structures. Lecture 4-5 hours per week. May include on additional hour of oral practice per week.

Government (See Political Science)

Health (HLT)

HLT 100 First Aid and Cardiopulmonary Resuscitation (3 CR.)
Focuses on the principles and techniques of safety, first aid, and cardiopulmonary resuscitation.

HLT 105 Cardiopulmonary Resuscitation (1 CR.)
Provides training in coordinated mouth-to-mouth artificial ventilation and chest compression, choking, life- threatening emergencies, and sudden illness. Lecture 1 hour per week.

HLT 106 First Aid and Safety (2 CR.)
Focuses on the principles and techniques of safety and first aid. ENF 2 requisite level. Lecture 2 hours per week.

HLT 110 Concepts of Personal and Community Health (3 CR.)
Studies the concepts related to the maintenance of health, safety, and the prevention of illness at the personal and community level. ENF 3 requisite. Writing level requisite ENF 3. Lecture 3 hours per week.

HLT 116 Personal Wellness (3 CR.)
Explores the relationship between personal health and physical fitness as they apply to individuals in today's society. Includes nutrition, weight control, stress, conditioning, and drugs. ENF 1 requisite. Lecture 3 hours per week.

HLT 119 First Responder (3 CR.)
Provides knowledge and proficiency in basic life support and in actions necessary to minimize patient discomfort and prevention of further complications. Meets requirements for Virginia Certification as a first responder. This course is dually listed under EMT, as 105. It is also listed under the Health prefix to allow EMT's business and industry personnel to enroll in a health class to apply toward degree or certificate HLT requirements. ENF 1 requisite level. Total 3 hours per week.

HLT 121 Introduction to Drug Use and Abuse (3 CR.)
Explores the use and abuse of drugs in contemporary society with emphasis upon sociological, physiological, and psychological effects of drugs. ENF 1 requisite level. Lecture 3 hours per week.

HLT 125 - Anatomy and Physiology for Exercise Science (3 CR.)
Presents basic principles of human anatomy and physiology including the body structure, systems and functions. The course provides a foundation to build and apply concepts in the study of Exercise Science, Group Fitness, Personal Training, and related fitness studies. 3 Hours Lecture, 3 Contact Hours.

HLT 130 Nutrition and Diet Therapy (1-2 CR.)
Studies nutrients, sources, functions, and requirements with an introduction to diet therapy. ENF 2 requisite. Lecture 1 hour per week.

HLT 135 Child Health and Nutrition (3 CR.)
Focuses on the physical needs of the preschool child and the methods by which these are met. Emphasizes health routines, hygiene, nutrition, feeding and clothing habits, childhood diseases, and safety as related to health growth and development. ENF 2 requisite. Lecture 3 hours per week.

HLT 138 Principles of Nutrition (1-2 CR.)
Studies nutrient components of food, including carbohydrates, fats, proteins, vitamins, minerals and water. Provides a behavioral approach to nutrient guidelines for the development and maintenance of optimum wellness. ENF 2 requisite level. Lecture 1-2 hours per week.

HLT 140 Orientation to Health Related Professions (2 CR.)
Explores the interrelated roles and functions of various members of the health team. Lecture 2 hours per week.

HLT 141 - Introduction to Medical Terminology (1-2 CR.)
Focuses on medical terminology for students preparing for careers in the health professions. Lecture 1-2 hours per week.

HLT 143 Medical Terminology I (3 CR.)
Provides an understanding of medical abbreviations and terms. Includes the study of prefixes, suffixes, word stems, and technical terms with emphasis on proper spelling, pronunciation, and usage. Emphasizes more complex skills and techniques in understanding medical terminology. Part I of II. Lecture 3 hours per week.

HLT 144 Medical Terminology II (3 CR.)
Provides an understanding of medical abbreviations and terms. Includes the study of prefixes, suffixes, word stems, and technical terms with emphasis on proper spelling, pronunciation, and usage. Emphasizes more complex skills and techniques in understanding medical terminology. Part II of II. Lecture 3 hours per week.

HLT 145 Ethics for Health Care Personnel (2 CR.)
Focuses on ethical concepts of health care. Emphasizes confidentiality, maintaining patient records, personal appearance, professionalism with patients/clients, associates, and an awareness of health care facilities. ENF 1 requisite level. Lecture 2 hours per week.

HLT 156 - Health Care for Athletic Injuries (2-3 CR.)
Teaches prevention and care of athletic injuries, recognition and management of head and spinal injuries, fractures, strains, sprains, as well as cardiac emergencies. Discusses taping, protective equipment, and medical referral. Lecture 2-3 hours per week.

HLT 230 Principles of Nutrition and Human Development (3 CR.)
Teaches the relationship between nutrition and human development. Emphasizes nutrients, balanced diet, weight control, and the nutritional needs of an individual. ENF 2 requisite. Lecture 3 hours per week.

HLT 235 Diagnostic Cardiography (4 CR.)
Prepares students for a certification test as a Certified Cardiographic Technician. Focuses on electrocardiograms (ECGs), stress tests, ambulatory monitoring, and rhythm analysis. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

HLT 261-262 Basic Pharmacy I-II (3 CR.) (3 CR.)
Explores the basics of general pharmacy, reading prescriptions, symbols, packages, pharmacy calculations. Teaches measuring compounds of drugs, dosage forms, drug laws, and drug classifications. ENF 2 requisite level. MTE 2 requisite level. Lecture 3 hours per week.

Healthcare Technology (HCT)

HCT 101 Health Care Technician I (3-4 CR.)
Teaches basic care skills with emphasis on physical, social, emotional, and spiritual needs of patients. Covers procedures, communications and interpersonal relations; observation, charting and reporting; care planning, safety and infection control; anatomy and physiology, nutrition and patient feeding; ethics, death and dying. Prepares multi-skilled health care workers to care for patients of various ages with special emphasis on geriatric nursing, home health, long and short term care facilities. Lecture 3-4 hours per week.

HCT 102 Health Care Technician II (3-4 CR.)
Applies theory through laboratory experience for health care technicians to word in home health, long and short term facilities. Prerequisite: HCT 101. Lecture 1-2 hours. Laboratory 2-6 hours. Total 4 hours per week.

HCT 115 Medication Administration Training (2-3 CR.)
Prepares students to safely administer, or to assist in client self-administration of medications in specific settings. Includes practice. Meets curriculum requirements of the State Board of Nursing. ENF 1 requisite. Lecture 1-2 hours. Laboratory 2-6 hours. Total 4-8 hours per week.

Health Information Management (HIM)

HIM 101 Health Information Technology I (4 CR.)
Introduces values, uses and content of the medical record. Defines numbering, filing and retention policies and practices. ENF 2 requisite level. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

HIM 111-112 Medical Terminology I-II (3 CR.) (3 CR.)
Introduces the student to the language used in the health record. Includes a system-by-system review of anatomic disease, and operative terms, abbreviations, radiology procedures, laboratory tests, and pharmacology terms. ENF 2 requisite. Lecture 3 hours per week.

HIM 113 Medical Terminology and Disease Processes I (3 CR.)
This course is designed to introduce students to the language used in the health record by providing an overview of basic human organ system nomenclature and related pathophysiology's. Includes the study of prefixes, suffixes, stem words, and technical terms: puts emphasis on the causes and treatment of selected disease processes. ENF 2 requisite level. Lecture 3 hours per week.

HIM 114 Medical Terminology and Disease Processes II (3 CR.)
The course is designed to introduce students to the language used in the health record by providing an overview of basic human organ system nomenclature and related pathophysiology's. Includes the study of prefixes, suffixes, stem words, and technical terms: puts emphasis on the causes and treatment of selected disease processes. ENF 2 requisite level. Lecture 3 hours per week.

HIM 121-122 Medical Transcription I-II (4 CR.) (4 CR.)
Develops skills in the transcription of various medical record reports, use of transcription references and proof reading reports. Evaluates the productivity and organization of transcription departments/ services and the quality of transcribed reports and equipment utilized. Prerequisite: typing 40 words per minute. ENF 2 requisite level. Lecture 1 hour per week. Laboratory 6 hours per week. Total 7 hours per week.

HIM 130 Healthcare Information Systems (3 CR.)
Focuses on microcomputer applications, information systems and applications in the healthcare environment. ENF 2 requisite level. Lecture 3 hours.

HIM 149 Introduction to Medical Practice Management (2 CR.)
Introduces principles of administrative practice management. Examines patient scheduling, records management, financial systems and other systems/procedures. Focuses on the development of organizations and decision making skills utilized by the practice manager. Lecture 2 hours per week.

HIM 150 Health Records Management (3 CR.)
Presents documentation format and content of the medical record relevant to the coding function. Introduces application of standard techniques for filing, maintenance, and acquisition of health information. Examines the processes of collecting, computing, analyzing, interpreting, and presenting data related to health care services. Includes legal and regulatory guidelines for the control and use of health information data. ENF 2 requisite level. Lecture 3 hours per week.

HIM 151 Reimbursement Issues in Medical Practice Management (2 CR.)
Introduces major reimbursement systems in the United States. Focuses on prospective payment systems, managed care, and documentation necessary for appropriate reimbursement. Emphasizes management of practice to avoid fraud. Lecture 2 hours per week.

HIM 163 Anatomy and Physiology for Administrative Health Professionals (3 CR.)
Introduces the structure and function of the systems of the human body as applied by administrative health professionals. Prerequisite: HLT 143 or HIM 111. Lecture 3 hours per week.

HIM 215 Health Data Classification Systems (5 CR.)
Focuses on disease and procedure classification systems currently utilized for collecting health data for the purpose of statistical research and financial reporting. ENF 2 requisite level. Lecture 4 hours. Laboratory 2 hours. Total 6 hours per week.

HIM 220 Health Statistics (2 CR.)
Introduces the student to basic statistical principles and calculations as applied in the health care environment, procedures for collection and reporting vital statistics, and basic quality control basics. ENF 2 requisite level. Prerequisite: MTE 1,2, & 3. Lecture 2 hours per week.

HIM 226 Legal Aspects of Health Record Documentation (2 CR.)
Presents the legal requirements associated with health record documentation. Emphasizes the policies and procedures concerning the protection of the confidentiality of patient's health records. ENF 2 requisite level. Lecture 2 hours per week.

HIM 229 Performance Improvement in Health Care Settings (2 CR.)
Focuses on concepts of facility wide performance improvement, resource manage-

ment and risk management. Applies tools for data collection and analysis. ENF 2 requisite level. Lecture l hour. Laboratory 2 hours. Total 3 hours per week.

HIM 230 Information Systems and Technology in Health Care (3 CR.)
Explores computer technology and system application in health care. Introduces the information systems life cycle. ENF 2 requisite level. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

HIM 231 Health Record Applications I (3 CR.)
Uses an integrated approach to practicing health record skills in a simulated clinical environment. Emphasizes the use of the microcomputer in accomplishing problem-solving tasks. Prerequisite HIM 130. Laboratory 6 hours per week.

HIM 233 Electronic Health Records Management (3 CR.)
Studies new trends in management and processing of health information with emphasis on the electronic health record (EHR). Covers the definition, benefits, standards, functionality, confidentiality and security, and impact of the EHR in the healthcare environment. Explores implementation of the EHR including infrastructure required, project management techniques, information technology systems, workflow processes and redesign in various health care settings. Discusses legal issues created by implementation of the EHR. Prerequisites: HIM 130 and 230. Lecture 3 hours per week.

HIM 249 Supervision and Management Practices (3 CR.)
Introduces supervision and management principles with emphasis on the application of these principles in the health information setting. Lecture 3 hours per week.

HIM 250 - Health Data Classification Systems I (3 CR.)
Focuses on the current classification systems used in the healthcare industry. Introduces the professional standards for coding and reporting of inpatient/outpatient diagnostic codes as well as inpatient procedures. Utilizes standards in identifying and accurately assigning codes to diseases and procedures as they relate to statistical research and healthcare financing. Lecture 3 hours per week.

HIM 251-252 Clinical Practice I-II (3 CR.) (3 CR.)
Prepares the Health Information Technology Student to perform all functions commonly allocated to health record services. Gives practice in various settings under the supervision of a clinical practice supervisor. Laboratory 6 hours per week.

HIM 253 Health Records Coding (4 CR.)
Examines the development of coding classification systems. Introduces ICD-9-CM coding classification system, its format and conventions. Stresses basic coding steps and guidelines according to body systems. Provides actual coding exercises in relation to each system covered. ENF 2 requisite level. Lecture 3-4 hours. Laboratory 0-3 hours. Total 3-7 hours per week.

HIM 254 Advanced Coding and Reimbursement (4 CR.)
Stresses advanced coding skills through practical exercises using actual medical records. Introduces CPT-4 coding system and guidelines for out-patient/ ambulatory surgery coding. Introduces prospective payment system and its integration with ICD-9-CM coding. Prerequisite: HIM 111 & HIM 253 or instructor permission.

HIM 256 - Clinical Classification Systems and Reimbursement Methodologies (5 CR.)
Integrates and applies knowledge with hands-on skill practice in coding. Reinforces reimbursement for CPT coding system, guidelines for out-patient/ambulatory surgery coding, and prospective payment systems and their integration with ICD coding. Promotes critical thinking related to coding quality, fraud, and abuse. Lecture – 5 hours per week; Laboratory – 2 hours per week.

HIM 260 Pharmacology for Health Information Technology (2 CR.)
Emphasizes general pharmacology and pharmacologic therapies for Health Information professionals; covers general principles of drug actions/reactions, side effects, mechanism of action and contraindications of medications and the major drug classes, specific agents within each class. Lecture 2 hours per week.

HIM 265 Facility Based Medical Coding (3 CR.)
Students will learn to accurately assign CPT, ICD-9 Level 1, 2 and 3, in addition to HCPCS codes for inpatient, outpatient facility, and ambulatory surgical centers according to guidelines and rules set forth by the cooperating parties. Students will apply the theory and regulations concerning prospective payments systems (in and out of the facility setting) APC and DRG assignment. ENF 2 requisite level. Lecture 3 hours per week.

HIM 280 HIM Capstone (1 CR.)
Integrates and applies knowledge and skills learned in prior HIM courses, focusing on those required to prepare for national certification in American Health Information Management Association's Domains, Subdomains and Tasks. Includes a capstone project in which students apply principles of good practice in health information management. Lecture 1 hour per week.

Health Information Technology (HIT)

HIT 130 - Introduction to Computers in Health Care (3 CR.)
Introduces students to computers in health care. Provides a basic overview of computer architecture, common software applications and their use in health care, electronic data management, adoption of the electronic health record (EHR), and privacy and security. Lecture 2 hours per week. Lab 3 hours per week. Total 5 hours per week.

HIT 143 - Managing Electronic Billing in a Medical Practice (3 CR.)
Presents practical knowledge on use of computer technology in medical practice management. Develops basic skills in preparation of universal billing claim. Explores insurance claim processing issues. Lecture 3 hours per week.

History (HIS)

HIS 101-102 History of Western Civilization I-II (3 CR.) (3 CR.)
Examines the development of western civilization from ancient times to the present. The first semester ends with the seventeenth century; the second semester continues through modern times. ENF 3 requisite level. Lecture 3 hours per week.

HIS 111-112 History of World Civilization I-II (3 CR.) (3 CR.)
Surveys Asian, African, Latin American, and European civilizations from the ancient period to the present. ENF 3 requisite level. Lecture 3 hours per week.

HIS 121-122 United States History I-II (3 CR.) (3 CR.)
Surveys United States history from its beginning to the present. ENF 3 requisite level. Lecture 3 hours per week. May be taken out of sequence.

HIS 127 Women in American History (3 CR.)
Studies the role of women and attitudes toward women in American society from colonial times to the present. Lecture 3 hours per week.

HIS 205 Local History (3 CR.)
Studies the history of the local community and/or region. ENF 3 requisite level; or division approval. Lecture 3 hours per week.

HIS 225-226 Topics in European History I-II (3 CR.) (3 CR.)
Examines selected topics in the history of Europe from ancient times to the present. ENF 3 requisite level. Lecture 3 hours per week.

HIS 231 History of Latin American Civilizations I (3 CR.)
Examines Latin American civilizations from pre-Columbian origins to the present. Part I of II. Lecture 3 hours per week.

HIS 262 United States History in Film (3 CR.)
Examines selected topics in the United States history which shaped the American experience, presented in film. Lecture 3 hours per week. ENF 3 requisite level. HIS 121 or 122 preferred or instructor's permission. Lecture 3 hours per week.

HIS 267 The Second World War (3 CR.)
Examines causes and consequences of the Second World War and will include the rise of totalitarianism, American neutrality, military developments, the home fronts, diplomacy, and the decision to use the atomic bomb. ENF 3 requisite level. Lecture 3 hours per week.

HIS 269 Civil War and Reconstruction (3 CR.)
Studies factors that led to the division between the States. Examines the war, the home fronts, and the era of Reconstruction. ENF 3 requisite level. Lecture 3 hours per week.

HIS 270 America in The Gilded Age (3 CR.)
Studies in detail American history during the years from 1870-1900 - The Gilded Age, emphasizing the relationships between various aspects of American life and identifying themes that helped define the era. ENF 3 requisite level. Lecture 3 hours per week.

HIS 276 United States History Since World War II (3 CR.)
Investigates United States history from 1945 to the present, studying both domestic developments and American involvement in international affairs. ENF 3 requisite level. Lecture 3 hours per week.

HIS 281 History of Virginia I (3 CR.)
Examines the cultural, political, and economic history of the Commonwealth from its beginning to the present. Part I of II. Lecture 2 hours per week.

Human Services (HMS)

HMS 100 Introduction to Human Services (3 CR.)
Introduces human service agencies, roles, and careers. Presents an historical perspective of the field as it relates to human services today. Additional topics include values clarification and needs of target populations. ENF 3 requisite level. Lecture 3 hours per week.

Horticulture (HRT)

HRT 115 Plant Propagation (3 CR.)
Teaches principles and practices of sexual and asexual methods. Examines commercial and home practices. Provides experience in techniques using seed-spores, cuttings, grafting, budding, layering and division. ENF 2 requisite level. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

HRT 126 Home Landscaping (3 CR.)
Studies current approaches to improving home landscapes. Emphasizes planning, proper implementation, and methods of caring for the landscape. ENF 2 requisite level. Lecture 3 hours per week.

HRT 137 Environmental Factors in Plant Growth (3 CR.)
Explores environmental factors which affect plant growth, including rainfall, humidity, wind, temperature, sunlight, irrigation, heating, and shading. Examines methods of inducing and breeding dormancy, lighting, and shading systems, and the relationship between day length and flowering. ENF 2 requisite level. Lecture 3 hours per week.

HRT 225 Nursery and Garden Center Management (3 CR.)
Discusses aspects of nursery management, including culture, plant handling, facilities layout, and business management. Discusses aspects of garden center management, including planning and layout, purchasing, product selection, marketing, merchandising, and display. ENF 2 requisite level. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

HRT 226 Greenhouse Management (3 CR.)
Discusses the theoretical and applied practices of managing a greenhouse facility. Emphasizes greenhouse construction and design, environmental control, energy conservation, and related topics. ENF 2 requisite level. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

HRT 269 Professional Turf Care (3 CR.)
Discusses careers in the turf industry. Stresses turf grass identification, selection, culture, propagation, and pest control from a commercial standpoint. Surveys turf care operations and use of common equipment. ENF 2 requisite. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

Humanities (HUM)

HUM 100 Survey of The Humanities (3 CR.)
Introduces the humanities through the art, literature, music and philosophy of various cultures and historical periods. ENF 3 requisite level. Lecture 3 hours per week.

HUM 111-112 Great Books I-II (3 CR.) (3 CR.)
Introduces selected great works of philosophy and literature, with emphasis on close analysis of the text. Lecture 3 hours per week. Prerequisite: placement recommendation for ENF 3 requisite level. May be taken out of sequence.

HUM 153 Introduction to Appalachian Studies (3 CR.)
Explores the Appalachian region from a cross-disciplinary perspective, with readings on Appalachia drawn primarily from the humanities. Considers the historical, environmental, political and economic contexts that shape Appalachia. ENF 3 requisite level. Lecture 3 hours. Total 3 hours per week.

HUM 165 Controversial Issues in Contemporary American Culture (3 CR.)
Introduces students to selected issues in contemporary American culture. Includes topic areas ranging from welfare reform, economic development, privacy, environmental protection and conservation, evolution vs. creation, to family values, and special interest lobbying in our state and national governments. Focuses on the development of the student's critical thinking skills by analyzing, evaluating, and reflecting on opposing sides of the same issue as expressed by public leaders, special interest groups and academicians. ENF 3 requisite level. Lecture 3 hours per week.

HUM 202 Survey of Western Culture II (3 CR.)
Studies thought, values, and arts of Western culture, integrating major developments in art, architecture, literature, music, and philosophy. Covers the following periods: Renaissance, Baroque, Enlightenment, Romantic, and Modern. Reading and writing level requisite ENF 3. Lecture 3 hours per week.

HUM 212 Survey of American Culture II (3 CR.)
Examines elements of our national culture as they evolved from the first European explorations through colonization and independence to the present day. Part II of II. Reading and writing level requisite ENF 3. Lecture 3 hours per week.

HUM 218 Survey of Horror (3 CR.)
Surveys and analyzes the horror genre, focusing on the psychological, anthropological, and historical background of monsters. Acquaints students with recurring horror themes in literature, art, and popular culture from around the world. Reading and writing level requisite ENF 3. Lecture 3 hours per week.

HUM 260 Survey of Twentieth Century Culture (3 CR.)
Explores literature, visual arts, philosophy, music, and history of our time from an interdisciplinary perspective. ENF 3 requisite level. Lecture 3 hours per week.

Industrial Engineering Technology (IND)

IND 101-102 Quality Assurance Technology I-II (3 CR.) (3 CR.)
Studies principles and techniques of quality engineering for the management, design engineering economics, production, and assurance of quality. Emphasizes fundamentals of total quality assurance for product and process control. May include design review, fundamentals of statistics procurement control, sampling and control chart systems, quality reporting, process capability analysis, tool and gauge control, document control, or troubleshooting quality control. ENF 2 requisite level. Lecture 3 hours per week.

IND 106 Industrial Engineering Technology (3 CR.)
Introduces basic skills required for a career in industrial engineering technology. May include basic statistics for engineering technicians, the SI system, graphic analysis, and careers as an engineering technician. Lecture 3 hours per week.

IND 108 Technical Computer Applications (3 CR.)
Develops keyboarding proficiency for technology application and word processing as applied to technology. Presents an introduction to disk operating systems as related to technical applications. Includes demonstrations of selected technical topics such as CAD, CNC, Graphic illustration I/Os involving PLCs, telecommunications (modems), and process control. ENF 2 requisite level. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

IND 125 Installation and Preventative Maintenance (3 CR.)
Studies practices in the installation of machinery, including mounting, grouting, leveling, and alignment. Examines methods of preventive maintenance including inspection, scheduled maintenance, controls, record keeping, repair parts stocking,

and safety considerations. ENF 2 requisite level. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

IND 126 Maintenance Scheduling and Planning (2 CR.)
Studies organization of a maintenance department including planning, schedule, budgets, training, work measurement systems, labor standards, and preventive maintenance. Lecture 2 hours per week.

IND 137 Team Concepts and Problem Solving (3 CR.)
Studies team concepts and problem solving techniques to assist project teams in improving quality and productivity. Provides knowledge of how to work as a team, plan and conduct good meetings, manage logistics and details, gather useful data, communicate the results and implement changes. Lecture 3 hours per week.

IND 160 Introduction to Robotics (3 CR.)
Studies evolution and history of robotics with an emphasis on automated and flexible manufacturing. Presents advantages and limitations of present robot systems. ENF 2 requisite level. Lecture 3 hours per week.

IND 165 Principles of Industrial Technology I (4 CR.)
Introduces principle concepts of technology involving mechanical, fluid, electrical, and thermal power as they relate to force, work, and rate. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

IND 190 Coordinated Internship in Industrial Technology (3 CR.)
Supervises on-the-job training in selected business, industrial, or service firms coordinated by the college. Credit/practice ration not to exceed 1:5 hours. May be repeated for credit.

IND 235 Statistical Quality Control (3 CR.)
Gives overview of the quality control function within industry. May include the organization, cost, and techniques of quality control Emphasizes essentials and applications of statistics in the quality control function. ENF 2 requisite. Lecture 3 hours per week.

IND 250 Introduction to Basic Computer Integrated Manufacturing (3 CR.)
Presents the basic principles used in the design and implementation in a computer integrated manufacturing system. Emphasizes team concept and all aspects of a computer integrated manufacturing system to include the following: Robotics, Conveyor Control, Machine Center, Statistical Quality Control, and Computer Integrated Manufacturing. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

Insurance (ISR)

INS 130 Principles of Insurance (3 CR.)
Presents the basic concepts and history of the insurance industry. Includes the types of insurance, how they are regulated, financial performance measures, marketing, underwriting, claims, contracts, property loss exposures, liability loss exposures and risk transfer and management. Examines state's insurance laws and regulations. Lecture 3 hours. Total 3 hours per week.

INS 262 Personal Insurance (3 CR.)
Presents an overview of personal insurance. Emphasis is on automobile, recreational vehicles, homeowners, personal property and personal liability. Provides a comprehensive review of personal insurance issues and planning. Lecture 3 hours per week.

Interpreter Education (INT)

INT 107 Translation Skills (3 CR.)
Further develops fundamental skills needed for the task of interpreting Targets comprehending source language (either ASL or English), transferring content into memory store (breaking from original form), restructuring into target language, maintaining message equivalence, conveying implicit and inferred information, and applying appropriate discourse structure. Review Process Model of interpreting, and uses it to analyze translations. Further develops feedback skills essential to the team interpreting process. Prerequisite: INT 105. Lecture 3 hours per week.

INT 130 Interpreting: An Introduction to The Profession (3 CR.)
Introduces basic principles and practices of interpreting, focusing on the history of the profession, logistics of interpreting situations, regulatory and legislative issues, resources, and the Code of Ethics. Describes the state quality assurance screening and national certification exam systems, including test procedures. ENF 2 requisite level. Lecture 3 hours per week.

INT 133 ASL-to-English Interpretation I (3-4 CR.)
Begins consecutively interpreting monologues from the source language (ASL) to the target language (English). Watch entire ASL monologues process them, analyze them, then choose appropriate English to match the message. Eventually interpret the monologues into English. Puts interpreting theory into practice in a lab environment. Conducts research in the field of interpretation. Develops team interpreting techniques. Interacts with consumers of ASL-English interpretation. Prerequisite: INT 107. Lecture 2-3 hours. Laboratory 2 hours. Total 4-5 hours per week.

INT 141 Transliterating I (3 CR.)
Studies the skills required to transmit spoken English into a manual code for English or an interpreting product with more obvious English influences, and vice versa. Introduces a variety of manual codes and their relationship to American Sign Language and Contact Signing. Prerequisite: INT 107. Lecture 3 hours per week.

INT 235 Interpreting in The Educational Setting (3 CR.)
Examines the role, responsibilities, and communication techniques of the educational setting. Provides information on the nature and needs of the deaf student and methods used in working with students who are Deaf and hard of hearing. Describes various communication systems used for a variety of educational environments. Prerequisites: ASL 102 and INT 130. Lecture 3 hours per week.

INT 250 Dialogic Interpretation I (3 CR.)
Apply interpreting fundamentals. Interpret dialogs be- tween spoken English and ASL users. Analyze interpretations by using a Process Model of Interpreting. Conduct research. Practice team interpreting skills in an interactive interpreting environment. Prepare for the interactive nature of standard interpreting evaluations. Prerequisites: INT 233 and INT 234. Lecture 3 hours per week.

Information Technology Database (ITD)

ITD 110 Web Page Design I (3 CR.)
Stresses a working knowledge of web site designs, construction, and management using HTML or XHTML. Includes headings, lists, links, images, image maps, tables, forms, and frames. ENF 2 requisite level. Lecture 3 hours per week.

ITD 134 PL/SQL Programming (3 CR.)
Presents a working introduction to PL/SQL programming within the Oracle RDBMS environment. Includes PL/SQL fundamentals of block program structure, variables, cursors and exceptions, and creation of program units of procedures, functions, triggers and packages. ENF 3 requisite level. Lecture 3 hours per week.

ITD 210 Web Page Design II (3 CR.)
Incorporates advanced techniques in web site planning, design, usability, accessibility, advanced site management, and maintenance utilizing web editor software(s). Prerequisite: ITD 110 and ENF 2. Lecture 3 hours per week.

Information Technology Essentials (ITE)

ITE 100 Introduction to Information Systems (3 CR.)
Covers the fundamentals of computers and computing and topics which include impact of computers on society, ethical issues, and terminology. Provides discussion about available hardware and software as well as their application. ENF 2 requisite level. Lecture 3 hours per week.

ITE 105 Careers in Cyber Ethics (2 CR.)
Career paths in Information Technology will be explored to help the student determine the appropriate degree plan. Career paths will include but not be limited to software development, computer science, database, networking system administration and operations, end user support, web design, and management. The student will learn ethical concerns in business and information technology including the ACM Code of Ethics. Lecture 2 hours per week.

ITE 115 Introduction to Computer Applications and Concepts (3 CR.)
Covers computer concepts and internet skills, and uses a software suite which includes word processing, spreadsheet, database, and presentation software to demonstrate skills. ENF 2 requisite level. Recommended prerequisite keyboarding skills. Lecture 3 hours per week.

ITE 119 Information Literacy (3 CR.)
Presents the information literacy core competencies focusing on the use of information technology skills. Skills and knowledge will be developed in database searching, computer applications, information security and privacy, and intellectual property issues. Lecture 3 hours per week.

ITE 127 Microcomputer Software: Beginning Windows (2 CR.)
Imparts first-time users with sufficient information to make practical use of the Windows software package. Presents the basics of the features and applications included in the Windows operating system package. ENF 2 requisite. Lecture 2 hours per week.

ITE 130 Introduction to Internet Services (3 CR.)
Provides students with a working knowledge of Internet terminology and services including e-mail, WWW browsing, search engines, ftp, file compression, and other services using a variety of software packages. Provides instruction for basic web page construction. ENF 2 requisite level. Lecture 3 hours per week.

ITE 131 Survey of Internet Services (1 CR.)
Introduces students to basic Internet terminology and services including e-mail, WWW browsing, search engines, ftp telnet, and other services. ENF 2 requisite level. Lecture 1 hour per week.

ITE 140 Spreadsheet Software (3 CR.)
Covers the use of spreadsheet software to create spreadsheets with formatted cells and cell ranges, control pages, multiple sheets, charts, and macros. Topics include type and edit text in a cell, enter data on multiple worksheets, work with formulas and functions, create charts, pivot tables, and styles, insert headers and footers, and filter data. Covers MOS Excel objectives. ENF 2 requisite level. Lecture 3 hours per week.

ITE 141 Microcomputer Software: Spreadsheets (2 CR.)
Gives first-time users sufficient information to make practical use of spreadsheet software using the basics of building spreadsheets. ENF 2 requisite level.

ITE 150 Desktop Database Software (3 CR.)
Incorporates instruction in planning, defining, and using a database; performing queries; producing reports; working with multiple files; and concepts of database programming. Includes database concepts, principles of table design and table relationships, entering data, creating and using forms, using data from different sources, filtering, creating mailing labels. Covers MOS Access certification objectives. ENF 2 requisite level. Lecture 3 hours per week.

ITE 170 Multimedia Software (3 CR.)
Explores technical fundamentals of creating multimedia projects with related hardware and software. Students will learn to manage resources required for multimedia production and evaluation and techniques for selection of graphics and multimedia software. ENF 2 requisite level. Lecture 3 hours per week.

ITE 182 User Support/Help Desk Principles (3 CR.)
Introduces a variety of tools and techniques that are used to provide user support in help desk operations. Includes help desk concepts, customer service skills, troubleshooting problems, writing for end users, help desk operations, and software needs analysis, facilities management, and other topics related to end user support. ENF 2 requisite level. Lecture 3 hours per week.

ITE 190 Academy Internship Programming (1 CR.)
Supervises on-the-job training in selected business, industrial, or service firms coordinated by the College. ENF 2 requisite level.

ITE 215 Advanced Computer Applications and Integration (3 CR.)
Incorporates advanced computer concepts including the integration of a software suite. Prerequisite ITE 115. Lecture 3 hours per week.

ITE 270 Advanced Multimedia Development (3 CR.)
Refines multimedia skills, focusing on project development using digital media; video clips, still images, and audio (sounds, music, and narration). Prerequisite: ITE 170. Lecture 3 hours per week.

ITE 290 Internship in ITE (3 CR.)
Supervises on-the-job training in selected business, industrial, or service firms coordinated by the college. ENG 111 requisite level.3 hours per week.

ITE 298 Seminar and Project (3 CR.)
Requires completion of a project or research report related to the student's occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. ENF 2 requisite. 3 hours per week.

Information Technology Networking (ITN)

ITN 101 Introduction to Network Concepts (3 CR.)
Provides instruction in networking media, physical and logical topologies, common networking standards and popular networking protocols. Emphasizes the TCP/IP protocol suite and related IP addressing schemes, including CIDR. Includes selected topics in network implementation, support and LAN/WAN connectivity. ENF 2 requisite level. Lecture 3 hours per week.

ITN 107 Personal Computer Hardware and Troubleshooting (3 CR.)
Includes specially designed instruction to give a student a basic knowledge of hardware and software configurations. Includes the installation of various peripheral devices as well as basic system hardware components. ENF 2 requisite level. Lecture 3 hours per week.

ITN 110 Client Operating System (XP PRO) (3 CR.)
Introduces an overview of instruction in installation, configuration, administration, and troubleshooting of Windows 2000 Professional as a desktop operating system in a networked data communications environment. ENF 2 requisite level. Lecture 3 hours per week.

ITN 111 Server Administration (Server 2008) (3 CR.)
Covers basic instruction in various network protocols, name resolution services, remote access, security and print installation, configuration, administration, monitoring, and troubleshooting of Windows 2000 Server in an Active Directory domain environment. ENF 2 requisite level. Lecture 3 hours per week.

ITN 112 Network Infrastructure (Server 2008) (3 CR.)
Provides extensive instruction for the technical knowledge required for installation, configuration, administration, monitoring, and troubleshooting of Windows 2000 Server services such as NDS, DHCP, WINS, RRAS, NAT, and Certificate Authority to support the network infrastructure. ENF 2 requisite level. Prerequisites: ITN 154, ITN 155, ITN 156, ITN 111. Lecture 3 hours per week.

ITN 113 Active Directory (Server 2008) (3 CR.)
Emphasizes instruction in installation, configuration, and administration, monitoring, and troubleshooting of Windows 2000 Active Directory components, DNS, Group Policy objects, RIS, and security. ENF 2 requisite level. Lecture 3 hours per week.

ITN 154 Networking Fundamentals – Cisco (4 CR.)
Provides introduction to networking using the OSI reference model. Includes data encapsulation, TCP/IP suite, routing, IP addressing, and structured cabling design and implementation. ENF 2 requisite level. Lecture 4 hours per week.

ITN 155 Switching, Wireless, and Wan Technologies (ICND2-Cisco) (4 CR.)
Features an introduction to basic router configuration using Cisco IOS software. Includes system components, interface configuration, IP network design, troubleshooting techniques, configuration and verification of IP addresses, and router protocols. Prerequisite: ITN 154. ENF 2 requisite level. Lecture 4 hours per week.

ITN 156 Basic Switching and Routing - Cisco (4 CR.)
Centers instruction in LAN segmentation using bridges, routers, and switches. Includes fast Ethernet, access lists, routing protocols, spanning tree protocol, virtual LANS and network management. Prerequisites: ITN 154, ITN 155. ENF 2 requisite level. Lecture 4 hours per week.

ITN 157 WAN Technologies – Cisco (4 CR.)
Concentrates on an introduction to Wide Area Networking (WANs). Includes WAN design, LAPB, Frame Relay, ISDN, HDLC, and PPP. Prerequisites: ITN 154, ITN 155, ITN 156. ENF 2 requisite level. Lecture 4 hours per week.

ITN 171 Unix 1 (3 CR.)
Provides an introduction to UNIX operating systems. Teaches login procedures, file creation, UNIX file structure, input/output control, and the UNIX shell. ENF 2 requisite level. Lecture 3 hours per week.

ITN 190 Academy Internship - Networking (1 CR.)
Supervises on-the-job training in selected business, industrial, or service firms coordinated by the College. ENF 2 requisite level.

ITN 198 A+ Certification (4 CR.)
Teaches procedures for isolating and correcting problems in computers and computer-related hardware. Emphasizes operational concepts, use of diagnostic software and troubleshooting equipment.

ITN 210 Windows 2000-DSID-Directory Services Infrastructure Design (3 CR.)
Presents the knowledge and skills necessary to analyze business requirements and design a directory service architecture that includes: unified directory services, such as Active Directory and Windows NT domains; connectivity between and within systems, systems components, and applications; and data replication, such as directory replication and database replication. ENF 2 requisite level. Lecture 3 hours per week.

ITN 211 Windows 2000 Network Security Design (NSD) (3 CR.)
Designing security framework for small, medium, and enterprise networks using Microsoft Windows 2000 technologies. Provides secure access to local network, secure access to remote users and remote offices, secure access between private and public networks and secure access to partners. ENF 2 requisite level. Lecture 3 hours per week.

ITN 214 Messaging Server Administration (Exchange 2007) (3 CR.)
Provides instruction in planning, creating, configuring, administering, maintaining, optimizing, and troubleshooting Windows 2000 Exchange Server. ENF 2 requisite level. Lecture 3 hours per week.

ITN 215 Enterprise Administration (NID) (3 CR.)
Provides instruction in analysis and design of business requirements for a network infrastructure, including network topology, routing, IP addressing, WINS, DNS, VPN remote access and telephony in an enterprise environment. ENF 2 requisite level. Lecture 3 hours per week.

ITN 242 Windows Microsoft Exchange 2003 Server (ES03) (3-4 CR.)
Incorporates instruction on how to implement, manage, and troubleshoot an Exchange Server 2003 organization. Lecture 3-4 hours per week.

ITN 260 Network Security Basics (3 CR.)
Provides instruction in the basics of network security in depth. Includes security objectives, security architecture, security models and security layers; risk management, network security policy, and security training. Includes the five security keys: confidentiality, integrity, availability, accountability, and auditability. Lecture 3 hours.

ITN 261 Network Attacks, Computer Crime and Hacking (3 CR.)
Encompasses in-depth exploration of various methods for attacking and defending a network. Explores network security concepts from the viewpoint of hackers and their attack methodologies. Includes topics about hackers, attacks, Intrusion Detection Systems (IDS), malicious code, computer crime, and industrial espionage.

ITN 262 Network Communication, Security and Authentication (3 CR.)
Covers an in-depth exploration of various communication protocols with a concentration on TCP/IP. Explores communication protocols from the point of view of the hacker in order to highlight protocol weaknesses. Includes Internet architecture, routing, addressing, topology fragmentation and protocol analysis, and the use of various utilities to explore TCP/IP. Lecture 3 hours.

ITN 275 Incident Report and Computer Forensics (3 CR.)
Prepares the student for a role on an organizational IT support staff where the need for resolving computer incidents is becoming increasingly common. Includes legal and ethical issues of search and seizure of computer and peripheral storage media leading to laboratory exercises examining computers configured with mix of both simulated criminal and other activities which are not criminal in nature, but do violate scenario-driven organizational policy. Requires the student to make choices/recommendations for further pursuit of forensics evidence gathering and analysis. Students will select and gather the utilities and procedures necessary for a court-acceptable forensics toolkit which will then be used to gather and examine specially configured desktop computers. Students will then participate in a mock court proceeding using the collected evidence. Lecture 2-3 hours. Laboratory 2 hours. Total 4-5 hours per week.

ITN 298 Seminar and Project (3 CR.)
Requires completion of a project or research report related to the student's occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field. Requisite: ENG 111. Lecture 3 hours per week.

Information Technology Programming (ITP)

ITP 100 Software Design (3 CR.)
Introduces principles and practices of software development. Includes instruction in critical thinking, problem solving skills, and essential programming logic in structured and object-oriented design using contemporary tools. ENF 2 requisite level. Lecture 3 hours per week.

ITP 112 Visual Basic.Net I (3 CR.)
Concentrates instruction in fundamentals of object-oriented programming using Visual Basic. NET and the .NET framework. Course content emphasizes program construction, algorithm development, coding, debugging, and documentation of graphical user interface applications. ENF 2 requisite level.

ITP 120 Java Programming I (3 CR.)
Entails instruction in fundamentals of object-oriented programming using JAVA. Emphasizes program construction, algorithm development, coding, debugging, and documentation of console and graphical user interface applications. Prerequisite: ITP 100. ENF 2 requisite level. Lecture 3 hours per week.

ITP 132 C++ Programming I (3 CR.)
Centers instruction in fundamentals of object-oriented programming and design using C++. Emphasizes program construction, algorithm development, coding, debugging, and documentation of C++ applications. Prerequisite: ITP 100. ENF 2 requisite level. Lecture 3 hours per week.

ITP 140 Client Side Scripting (3 CR.)
Provides instruction in fundamentals of Internet application design, development, and deployment using client side scripting language(s). ENF 2 requisite level. Lecture 3 hours per week.

ITP 193 Studies in PHP/MYSQL (3 CR.)
Introduces students to the principles, systems, and tools used to implement Web applications. Provides students with a comprehensive introduction to the programming tools and skills required to build and maintain interactive Web sites. Students will develop Web applications utilizing client-side and server-side scripting languages along with auxiliary tools needed for complete applications. Prerequisites: ITD 110: Web Page Design I. Lecture 3 hours per week.

ITP 214 Windows Mobile Development (3 CR.)
Provides skills for creating mobile enterprise solutions by using the Smart Device Extensions for Microsoft Visual Studio.NET and the Microsoft.NET Compact Framework for wireless devices. Develops systems including mobile phones and a range of rich hand-held devices such as PDAs using applications utilizing the .NET Compact Framework. Covers Enterprise business applications and game applications. ENG 111 or 115 requisite level. Lecture 3-4 hours per week.

ITP 215 XML Web Services (3 CR.)
Presents the techniques for developing and implementing Web-based applications with Web forms, ASP.NET, and the Microsoft. NET Framework. Includes Window services.NET remote objects, XML Web services, security, and consuming and manipulating Web data. ENG 111 requisite level. Prerequisites: ITD 110 and ITP 140. Lecture 3 hours per week.

ITP 220 Java Programming II (3 CR.)
Imparts instruction in application of advanced object-oriented techniques to application development using Java. Emphasizes database connectivity, inner classes, collection classes, networking, and threads. Prerequisite: ITP 120. Lecture 3 hours per week.

ITP 232 C++ Programming II (3 CR.)
Presents in-depth instruction of advanced object-oriented techniques for data structures using C++. Prerequisite: ITP 132. Lecture 3 hours per week.

ITP 240 Server Side Programming (3 CR.)
Centers around instruction in fundamentals of Internet application design, development, and deployment. Includes implementation of server component models, security, and database connectivity using server-side programming. Prerequisite: Recommended ITP 140 and ITD 110. ENF 2 requisite level. Lecture 3 hours per week.

ITP 251 Systems Analysis and Design (3 CR.)
Focuses on application of information technologies (IT) to system life cycle methodology, systems analysis, systems design, and system implementation practices. Covers methodologies related to identification of information requirements, feasibility in the areas of economic, technical and social requirements, and related issues are included in course content. Software applications may be used to enhance student skills. ENF 3 requisite level. Lecture 3 hours per week.

ITP 298 Capstone/Project Integration (3-5 CR.)
Requires completion of a project or research report related to the student's occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field. ENG 111 requisite level. Lecture 3-5 hours per week.

Legal Administration (LGL)

LGL 110 Introduction to Law and The Legal Assistant (3 CR.)
Introduces various areas of law in which a legal assistant will be working. Includes intense study of court system (Virginia and federal) as well as a brief overview of criminal law, torts, domestic relations, evidence, ethics, and the role of the legal assistant and other areas of interest. ENF 2 requisite level. Lecture 3 hours per week.

LGL 115 Real Estate Law for Legal Assistants (3 CR.)
Studies law of real property, and gives in-depth survey of more common types of real estate transactions and conveyances such as deeds, contracts, leases, and deeds of trust. Focuses on drafting problems involving these various instruments. Includes research projects, and studies the system of recording and search of public documents. ENF 2 requisite level. Lecture 3 hours per week.

LGL 117 Family Law (3 CR.)
Studies elements of a valid marriage, grounds for divorce and annulment, separation, defense, custody, support, adoptions, and applicable tax consequences. Includes property settlement, pre- and ante nuptial agreements, pleadings, and rules of procedure. May include specific federal and Virginia consumer laws. ENF 2 requisite level. Lecture 3 hours per week.

LGL 120 Legal Terminology (3 CR.)
Provides an understanding of legal terminology with emphasis on developing an understanding of legal terminology in different ways rather than relying solely on learning through rote memorization. Designed to aid students preparing for certification. ENF 2 requisite level. Lecture 3 hours per week.

LGL 125 Legal Research (3 CR.)
Provides an understanding of various components of a law library, and emphasizes research skills through the use of digests, encyclopedias, reporter systems, codes, Shepard's Citations, ALR, and other research tools. May include overview of computer applications and writing projects. Lecture 3 hours per week. ENF 3 requisite level.

LGL 126 Legal Writing (3 CR.)
Studies proper preparation of various legal documents, including legal memoranda, letters, and pleadings. Involves practical applications. May include case and appellate briefs. Lecture 3 hours per week. Prerequisite: ENG 111 and LGL 125.

LGL 127 Legal Research and Writing (3 CR.)
Provides a basic understanding of legal research and the proper preparation of legal documents, including brief writing. Prerequisite ENG 111 or permission of division. Lecture 3 hours per week.

LGL 200 Ethics for The Paralegal (1 CR.)
Examines general principles of ethical conduct applicable to paralegals. Includes the application of rules of ethics to the practicing paralegal. Lecture 1 hour. Total 1 hour per week.

LGL 216 Trail Preparation and Discovery (3 CR.)
Studies the preparation of a trial notebook, pretrial orders, use of interrogatories, depositions and other discovery tools used in assembling evidence in preparation for trial or an administrative hearing. Prerequisite: ENG 111. Lecture 3 hours per week.

LGL 218 Criminal Law (3 CR.)
Focuses on major crimes, including their classification, elements of proof, intent, conspiracy, responsibility, parties, and defenses. Emphasizes Virginia law. May include general principles of applicable constitutional law and criminal procedure. ENF 3 requisite level. Lecture 3 hours per week.

LGL 225 Estate Planning and Probate (3 CR.)
Introduces various devices used to plan an estate, including wills, trusts, joint ownership and insurance. Considers various plans in light of family situations and estate objectives. Focuses on practices involving administration of an estate including taxes and preparation of forms. ENF 3 requisite level. Lecture 3 hours per week.

LGL 230 Legal Transactions (3 CR.)
Introduces commercial principles and practices and Uniform Commercial Code. Emphasizes contracts, warrants, title, consideration, performance, parties, subject matter and remedies for breach, torts, sales, negotiable instruments, consumer protection, insurance, wills and inheritance, bankruptcy and statute of limitations. ENG 111 requisite level. Lecture 3 hours per week.

LGL 290 Cooperative Internship in Legal Assisting (3 CR.)
In order to apply legal assisting theory to practice, this cooperative venture will allow students to participate in onsite training in actual paralegal settings. ENG 111 requisite level. Variable hours per week.

Marketing (MKT)

MKT 100 Principles of Marketing (3 CR.)
Presents principles, methods and problems involved in marketing to consumers and organizational buyers. Discusses problems and policies connected with distribution and sale of products, pricing, promotion, and buyer motivation. Examines variations of marketing research, legal, social, ethical, e-commerce, and international considerations in marketing. ENF 2 requisite level. Lecture 3 hours per week.

MKT 110 Principles of Selling (3 CR.)
Presents fundamental aspects of personal selling, sales, ethics, and selling methods. Emphasizes professional sales techniques. Examines organization necessary for a well-coordinated sales effort, including the training of sales personnel for maximum efficiency in selling and organization of the sales division within the business enterprise. Introduces sales management in planning, organizing, directing and controlling the total sales effort. ENF 3 requisite level. Lecture 3 hours per week.

MKT 170 Customer Service (1 CR.)
Introduces students to the concepts of marketing as they relate to customer service. Teaches development of customer service training and implementation of strategies to improve customer relations and service. Includes lecture, role-playing, and case studies. Lecture 1 hour per week.

MKT 197 Marketing Cooperative (3 CR.)
Supervises on-the-job-training in approved business, industrial and service firms coordinated by the college. Is applicable to all occupational-technical curricula at the discretion of the college. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. ENF 1 requisite level.

MKT 201 - Introduction to Marketing (3 CR.)
Introduces students to the discipline of marketing and the need to create customer value and relationships in the marketplace. Presents an overview of the marketing

principles and management strategies, along with the analytical tools used by organizations in the creation of a marketing plan. Lecture 3 hours per week.

MKT 216 Retail Organization and Management (3 CR.)
Examines the organization of the retail establishment to accomplish its goals in an effective and efficient manner. Includes study of site location, internal layout, store operations, and security. Examines the retailing mix, the buying or procurement process, pricing, and selling. Studies retail advertising, promotion, and publicity as a coordinated effort to increase store traffic. Lecture 3 hours per week.

MKT 260 Customer Service Management (3 CR.)
Examines the role of customer service in achieving a firm's long-term goals; discusses the basic principles of effective customer service; explores the tasks and responsibilities of a customer service manager. Includes such topics as purpose of customer service; establishment of customer service goals and policies; recruitment, selection and training of customer service employees; motivation techniques, empowering employees for better decision making; and evaluation of customer service employees and program. ENF 2 requisite level. Lecture 3 hours per week.

MKT 270 Marketing Management (3 CR.)
Expands knowledge of marketing through case studies. Focuses on how marketing strategies are planned and utilized in the market place to accomplish the goals of the organization. Lecture 3 hours per week.

MKT 282 Principles of E-Commerce (3 CR.)
Studies on-line business strategies, and the hardware and software tools necessary for Internet commerce. Includes the identification of appropriate target segments, the development of product opportunities, pricing structures, distribution channels and execution of marketing strategies. ENF 3 requisite level. Lecture 3 hours per week.

MKT 284 Social Media Marketing (3 CR.)
Surveys the use of social networks and online communities such as blogs, wikis, virtual events that allow companies to expand their interaction with customers and develop relationships with collaborative communities. Emphasizes the ongoing transformation of the way companies adjust their marketing plans to improve interaction with customers online. Lecture 3 hours per week.

Math Essentials (MTE)

MTE 1 Operations with Positive Fractions (1 CR.)
Includes operations and problem solving with proper fractions, improper fractions, and mixed numbers without the use of a calculator. Emphasizes applications and includes U. S. customary units of measure. Credit is not applicable toward graduation. Prerequisite: Qualifying placement score.

MTE 2 Operations with Positive Decimals and Percents (1 CR.)
Includes operations and problem solving with positive decimals and percents. Emphasizes applications and includes U. S. customary and metric units of measure. Credit is not applicable toward graduation. Prerequisite(s): MTE 1 or qualifying placement score. Prerequisite: MTE 1 or qualifying placement score.

MTE 3 Algebra Basics (1 CR.)
Includes basic operations with algebraic expressions and solving simple algebraic equations using signed numbers with emphasis on applications. Credit is not applicable toward graduation. Prerequisite: MTE 1 and 2 or qualifying placement score.

MTE 4 First Degree and Inequalities in One Variable (1 CR.)
Includes solving first degree equations and inequalities containing one variable, and using them to solve application problems. Emphasizes applications and problem solving. Credit is not applicable toward graduation. Prerequisite: MTE 1, 2, and 3 or qualifying placement score.

MTE 5 Linear Equations, Inequalities and Systems of Linear Equations in Two Variables (1 CR.)
Includes finding the equation of a line, graphing linear equations and inequalities in two variables and solving systems of two linear equations. Emphasizes writing and graphing equations using the slope of the line and points on the line, and applications. Credit is not applicable toward graduation. Prerequisite: MTE 1, 2, 3, and 4 or qualifying placement score.

MTE 6 Exponents, Factoring and Polynomial Equations (1 CR.)
The student will learn to perform operations on exponential expressions and polynomials. Students will also learn techniques to factor polynomials and use these techniques to solve polynomial equations. Emphasis should be on learning all the different factoring methods, and solving application problems using polynomial equations. Credit is not applicable toward graduation. Prerequisite: MTE 1, 2, 3, 4, and 5 or qualifying placement score.

MTE 7 Rational Expressions and Equations (1 CR.)
Includes simplifying rational algebraic expressions, solving rational algebraic equations and solving applications that use rational algebraic equations. Credit is not applicable toward graduation. Prerequisite: MTE 1, 2, 3, 4, 5, and 6 or qualifying placement score.

MTE 8 Rational Exponents and Radicals (1 CR.)
Includes simplifying radical expressions, using rational exponents, solving radical equations and solving applications using radical equations. Credit is not applicable toward graduation. Prerequisite: MTE 1, 2, 3, 4, 5, 6, and 7 or qualifying placement score.

MTE 9 Functions, Quadratic Equations and Parabolas (1 CR.)
Includes an introduction to functions in ordered pair, graph, and equation form. Also introduces quadratic functions, their properties and their graphs. Credit is not applicable toward graduation. Prerequisite: MTE 1, 2, 3, 4, 5, 6, 7, and 8 or qualifying placement score.

Mathematics (MTH)

MTH 6 Developmental Geometry (1-5 CR.)
Covers topics in Euclidean geometry including similarity and congruency, plane and solid figures, right triangles, parallel and perpendicular lines, constructions, and applications. Develops the mathematical proficiency necessary for selected curriculum entrance. ENF 2 requisite level. Requisite: Test Credit or completion of MTE 1, 2, 3, 4, and 5. Credits not applicable toward graduation. Variable hours per week.

MTH 103 Applied Technical Mathematics I (3 CR.)
Presents a review of arithmetic, elements of algebra, geometry, and trigonometry. Directs applications to specialty areas. Lecture 3 hours per week. Prerequisite: MTE 1, 2, 3 and or qualifying placement score.

MTH 105-106 Survey of Technical Mathematics I-II (2 CR.)(2 CR.)
Reviews arithmetic and introduces measurement, basic algebra, plane and solid geometry, and trigonometry. ENF 2 requisite level. Requisite: Test Credit or completion of MTE 1, 2, 3, and 4. Lecture 2 hours per week. Prerequisite for MTH 106 is MTH 105.

MTH 111 Basic Technical Mathematics (3 CR.)
Provides a foundation in mathematics with emphasis in arithmetic, unit conversion, basic algebra, geometry and trigonometry. This course is intended for CTE programs. Lecture 3 hours. Total 3 hours per week. Prerequisite: MTE 1-3 or Corequisite: MCR 1.

MTH 126 Mathematics for Allied Health (2 CR.)
Presents scientific notation, precision and accuracy, decimals and percents, ratio and proportion, variation, simple equations, techniques of graphing, use of charts and tables, logarithms, and the metric system. ENF 2 requisite level. Requisite: Test Credit or completion of MTE 1, 2, and 3, and one unit of high school algebra with "C" or equivalent. Lecture 2 hours per week.

MTH 132 Business Mathematics (3 CR.)
Provides instruction, review, and drill in percentage, cash and trade discounts, markup, payroll, sales, property and other taxes, simple and compound interest, bank discounts, loans, investments, and annuities. This course is intended for occupational/technical programs. Lecture 3 hours. Total 3 hours per week. Prerequisite(s): Competency in MTE 1-3 or as demonstrated through placement or unit completion or equivalent or Corequisite: MCR 8.

MTH 133 Mathematics for Health Professions (3 CR.)
Presents in context the arithmetic of fractions and decimals, the metric system and dimensional analysis, percents, ratio and proportion, linear equations, topics in statistics, topics in geometry, logarithms, topics in health professions including dosages, dilutions and IV flow rates. This course is intended for programs in the Health Professions. Lecture

3 hours. Total 3 hours per week. Prerequisite(s): Competency in MTE 1-3 as demonstrated through placement or unit completion or equivalent or Corequisite: MCR 9.

MTH 141-142 Business Mathematics I-II (3 CR.) (3 CR.)
Provides instruction, review, and drill in percentage, cash and trade discounts, markup, payroll, sales, property and other taxes, simple and compound interest, bank discounts, loans, investments, and annuities. ENF 2 requisite level. Requisite: Test Credit or completion of MTE 1, 2, and 3. Lecture 3 hours per week. Prerequisite for MTH 142 is MTH 141.

MTH 146 Introduction to Elementary Statistics (3 CR.)
Introduces the methods of statistics including sampling from normally distributed populations, estimation, regression, testing of hypotheses, point and interval estimation methods. ENF 3 requisite level. Requisite: Test Credit or completion of MTE 1, 2, 3, 4, and 5. Lecture 3 hours per week.

MTH 151 Mathematics for The Liberal Arts I (3 CR.)
Presents topics in sets, logic, numeration systems, geometric systems, and elementary computer concepts. ENF 3 requisite level. Requisite: Test Credit or completion of MTE 1, 2, 3, 4, and 5. Lecture 3 hours per week.

MTH 152 Mathematics for The Liberal Arts II (3 CR.)
Presents topics in functions, combinatorics, probability, statistics and algebraic systems. ENF 3 requisite level. Requisite: Test Credit or completion of MTE 1, 2, 3, 4, and 5. Lecture 3 hours per week. May be taken before MTH 151.

MTH 154 Quantitative Reasoning (3 CR.)
Presents topics in proportional reasoning, modeling, financial literacy and validity studies (logic and set theory). Focuses on the process of taking a real-world situation, identifying the mathematical foundation needed to address the problem, solving the problem and applying what is learned to the original situation. Lecture 3 hours. Total 3 hours per week. Prerequisite(s): Competency in MTE 1-5 as demonstrated through placement or unit completion or equivalent or Corequisite: MCR 4: Learning Support for Quantitative Reasoning

MTH 155 Statistical Reasoning (3 CR.)
Presents elementary statistical methods and concepts including visual data presentation, descriptive statistics, probability, estimation, hypothesis testing, correlation and linear regression. Emphasis is placed on the development of statistical thinking, simulation, and the use of statistical software. Lecture 3 hours, Total 3 hours per week. Prerequisite: Competency in MTE 1-5 as demonstrated through placement or unit completion or equivalent or Corequisite: MCR 5.

MTH 157 Elementary Statistics (3 CR.)
Presents elementary statistical methods and concepts including descriptive statistics, estimation, hypothesis testing, linear regression, and categorical data analysis. ENF 3 requisite level. Requisite: Test Credit or completion of MTE 1, 2, 3, 4, and 5. Lecture 3 hours per week.

MTH 158 College Algebra (3 CR.)
Covers the structure of complex number systems, polynomials, rational expressions, graphing, systems of equations and inequalities and functions, quadratic and rational equations and inequalities. Departmental permission required. Lecture 3 hours per week. ENF 3 requisite level. Requisite: Test Credit or completion of MTE 1, 2, 3, 4, 5, 6, 7, 8, and 9 and a grade of "C" or better in high school Algebra II and Geometry.

MTH 161 Precalculus I (3 CR.)
Presents topics in power, polynomial, rational, exponential, and logarithmic functions, and systems of equations and inequalities. Credit will not be awarded for both MTH 161: Precalculus I and MTH 167: Precalculus with Trigonometry or equivalent. Lecture 3 hours. Total 3 hours per week. Prerequisite(s): Competency in MTE 1-9 as demonstrated through placement or unit completion or equivalent or Corequisite: MCR 6.

MTH 162 Precalculus II (3 CR.)
Presents topics in power, polynomial, rational, exponential, and logarithmic functions, and systems of equations and inequalities. Credit will not be awarded for both MTH 161: Precalculus I and MTH 167: Precalculus with Trigonometry or equivalent. Lecture 3 hours. Total 3 hours per week. Prerequisite(s): Competency in MTE 1-9 as demonstrated through placement or unit completion or equivalent or Corequisite: MCR 6: Learning Support for Precalculus I

MTH 163 Precalculus I (3 CR.)
Presents college algebra, matrices, and algebraic, exponential, and logarithmic functions. Credit will not be awarded for both MTH 163 and 166. ENF 3 requisite level. Requisite: Test Credit or completion of MTE 1, 2, 3, 4, 5, 6, 7, 8, and 9 and a "C" in high school Algebra II and Geometry or equivalent. Lecture 3 hours per week.

MTH 164 Precalculus II (3 CR.)
Presents trigonometry, analytic geometry, and sequences and series. Prerequisite: MTH 163. Lecture 3 hours per week.

MTH 241 Statistics I (3 CR.)
Covers descriptive statistics, elementary probability, probability distributions, estimation, and hypothesis testing. Prerequisites: MTH 163. Lecture 3 hours per week.

MTH 242 Statistics II (3 CR.)
Continues the study of estimation and hypothesis testing with emphasis on correlation and regression, analysis of variance, chi-square tests, and non-parametric methods. Prerequisite: MTH 241. Lecture 3 hours per week.

MTH 245 Statistics I (3 CR.)
Presents an overview of statistics, including descriptive statistics, elementary probability, probability distributions, estimation, hypothesis testing, correlation, and linear regression. Credit will not be awarded for both MTH 155: Statistical Reasoning and MTH 245: Statistics I or equivalent. Lecture 3 hours. Total 3 hours per week. Prerequisite: Completion of MTH 154 or MTH 161 or equivalent with a grade of C or better.

MTH 246 Statistics II (3 CR.)
Completion of MTH 245: Statistics I or equivalent with a grade of C or better Lecture 3 hours. Total 3 hours per week. Prerequisite: Completion of MTH 245 or equivalent with a grade of C or better.

MTH 261 Applied Calculus I (3 CR.)
Introduces limits, continuity, differentiation and integration of algebraic, exponential and logarithmic functions, and techniques of integration with an emphasis on applications in business, social sciences and life sciences. Lecture 3 hours. Total 3 hours per week. Prerequisite: Completion of MTH 161 or equivalent with a grade of C or better.

MTH 263 Calculus I (4 CR.)
Presents concepts of limits, derivatives, differentiation of various types of functions and use of differentiation rules, application of differentiation, antiderivatives, integrals and applications of integration. Lecture 4 hours. Total 4 hours per week. Prerequisite: Completion of MTH 167 or MTH 161/162 or equivalent with a grade of C or better.

MTH 264 Calculus II (4 CR.)
Continues the study of calculus of algebraic and transcendental functions including rectangular, polar, and parametric graphing, indefinite and definite integrals, methods of integration, and power series along with applications. Features instruction for mathematical, physical and engineering science programs. Lecture 4 hours. Total 4 hours per week. Prerequisite: Completion of MTH 263 or equivalent with a grade of C or better.

MTH 265 Calculus III (4 CR.)
Focuses on extending the concepts of function, limit, continuity, derivative, integral and vector from the plane to the three dimensional space. Covers topics including vector functions, multivariate functions, partial derivatives, multiple integrals and an introduction to vector calculus. Features instruction for mathematical, physical and engineering science programs. Lecture 4 hours. Total 4 hours per week. Completion of MTH 264: Calculus II or equivalent with a grade of C or better.

MTH 266 Linear Algebra (3 CR.)
Covers matrices, vector spaces, determinants, solutions of systems of linear equations, basis and dimension, eigenvalues, and eigenvectors. Features instruction for mathematical, physical and engineering science programs. Lecture 3 hours. Total 3 hours per week. Prerequisite: Completion of MTH 263 or equivalent with a grade of B or better or MTH 264 or equivalent with a grade of C or better.

MTH 267 Differential Equations (3 CR.)
Introduces ordinary differential equations. Includes first order differential equations, second and higher order ordinary differential equations with applications and nu-

merical methods. Lecture 3 hours. Total 3 hours per week. Prerequisite: Completion of MTH 264 or equivalent with a grade of C or better.

MTH 271 Applied Calculus I (3 CR.)
Presents limits, continuity, differentiation of algebraic and transcendental functions with applications, and an introduction to integration. Prerequisite: MTH 163. Lecture 3 hours per week.

MTH 273 Calculus I (4 CR.)
Presents topics in differential calculus of one variable including the theory of limits, derivatives, differentials, definite and indefinite integrals and applications to algebraic and transcendental functions. Designed for mathematical, physical, and engineering science programs. ENG 111 requisite level. Requisite: MTH 164 or MTE 1, 2, 3, 4, 5, 6, 7, 8, and 9 and a grade of "C" or better in high school Trigonometry. Lecture 4 hours per week.

MTH 274 Calculus II (4 CR.)
Covers vectors in three dimensions, definite integrals, methods of integration, indeterminate forms, partial differentiation, and multiple integrals. Designed for mathematical, physical, and engineering science programs. Prerequisite: MTH 273. Lecture 4 hours per week.

MTH 275 Multi-Variable Calculus and Linear Algebra (4 CR.)
Presents vector valued functions, partial derivatives, multiple integrals, matrices, vector spaces, determinants, solutions of systems of linear equations, basis and dimension, Eigen values, and Eigen vectors. Designed for mathematical, physical and engineering science programs. Prerequisite: MTH 174 or equivalent. Lecture 4 hours per week.

MTH 277 Vector Calculus (4 CR.)
Presents vector valued functions, partial derivatives, multiple integrals, and topics from the calculus of vectors. Designed for mathematical, physical, and engineering science programs. Prerequisite: MTH 174 or equivalent. Lecture 4 hours per week.

MTH 279 Ordinary Differential Equations (4 CR.)
Introduces ordinary differential equations. Includes first order differential equations, second and higher order ordinary differential equations with application. Designed for mathematical, physical, and engineering science programs. Prerequisite: MTH 174 or equivalent. Lecture 4 hours per week.

MTH 285 Linear Algebra (3 CR.)
Covers matrices, vector spaces, determinants, solutions of systems of linear equations, basis and dimension, Eigen values, and Eigen vectors. Designed for mathematical, physical and engineering science programs. Prerequisite: MTH 174 or equivalent. Lecture 3 hours per week.

MTH 286 Discrete Mathematics (4 CR.)
Presents topics in discrete mathematical structures which are basic tools used in computer science. Covers sets, Boolean algebra, counting methods, generating functions and recurrence relations, graph theory, trees, and an introduction to finite state automata. Designed for mathematical, physical, and engineering science programs. Prerequisite: MTH 174 or equivalent. Lecture 4 hours per week.

MTH 287 Mathematical Structures (3 CR.)
Presents topics in mathematical structures of value to students majoring in Computer Science or other disciplines requiring programming skills. Covers logic, set theory, number theory, combinatorics, functions, relations, and graph theory. Prerequisite: MTH 166 or equivalent. Lecture 3 hours per week.

MTH 291 Differential Equations (3 CR.)
Introduces first order differential equations, linear differential equations, numerical methods, and applications. Designed for mathematical, physical, and engineering science programs. Prerequisite: MTH 174 or equivalent. Lecture 3 hours per week.

MTH 292 Topics in Differential Equations (3 CR.)
Presents power series solutions, Fourier series, Laplace transform, partial differential equations, and boundary value problems. Designed for mathematical, physical, and engineering science programs. Prerequisite: MTH 291 or equivalent. Lecture 3 hours per week.

Mathematics Corequisites (MCR)

MCR 4 Learning Support for Quant Reasoning I (1-2 CR.)
Provides instruction for students who require minimum preparation for college- level Quantitative Reasoning. Students in this course will be co-enrolled in MTH 154. Credits are not applicable toward graduation and do not replace MTE courses waived. Successful completion of Quantitative Reasoning results in the prerequisite MTE modules being satisfied. Corequisite: MTH 154. Prerequisite: Completion of any three of the MTE modules 1-5. Lecture 1-2 hours. Total 1-2 hours per week.

MCR 6 Learning Support for Pre-Calculus (1-2 CR.)
Provides instruction for students who require minimum preparation for college-level Pre-calculus. Students in this course will be co-enrolled in MTH 161. Credits not applicable toward graduation and do not replace MTE courses waived. Successful completion of Precalculus I results in the prerequisite MTE modules being satisfied. Corequisite: MTH 161. Prerequisite: Completion of any seven of the MTE modules 1-9. Lecture 1-2 hours. Total 1-2 hours per week.

Mechanical Engineering Technology (MEC)

MEC 101 Introduction to Engineering Technology I (2 CR.)
Introduces engineering technology. Provides historical background. Covers such topics as professional ethics; problem solving techniques involving forces, structures, materials, fluids, energy, and electricity and U.S. Customary and S.I. units, and unit conversions. Part I of II. ENF 2 requisite level. Lecture 2 hours per week.

MEC 113 Materials and Processes of Industry (3-4 CR.)
Studies engineering materials and accompanying industrial manufacturing processes. Investigates nature of materials structure and properties from a design standpoint. Analyzes the effects of various processes on materials, and the processes themselves. Includes machining, casting, forming, molding, hot/cold working, chipless machining, and welding. Addresses quality assurance and inspection procedures. Lecture 3-4 hours per week.

MEC 118 Automated Manufacturing Technology (3 CR.)
Studies numerical control systems. Includes application of numerical control to standard machine tools, numerical control systems, NC coordinate systems, APT systems, two-dimensional machine process, three-dimensional machine process, flexible manufacturing role of robotics in automated manufacturing. ENF 2 requisite level. Lecture 2 hours. Laboratory 3 hours. Total 4 hours per week.

MEC 120 Principles of Machine Technology (2-3 CR.)
Studies fundamental machine operations and practices, including layout, measuring devices, hand tools, drilling, reaming, turning between centers, cutting tapers and threads, and milling; fabrication of mechanical parts on drill press, lathe and mill. ENF 2 requisite level. Lecture 2 hours. Laboratory 0-3 hours. Total 5 hours per week.

MEC 122 Desktop Manufacturing Technologies (3 CR.)
Provides an overview of rapid technologies in Additive Manufacturing that are high productivity tools designed to cut lead times, reduce time to market, increase the quality of the product, and improve collaboration within the organization. Lecture 2 hours. Lab 3 hours. Total 5 hours per week.

MEC 148 I Industrial Pipefitting (3 CR.)
Covers the fundamentals of industrial piping installation, components, and layout. Considers the types of pipe and fabrication of piping systems, as well as the methods used to connect them. ENF 2 requisite level. Lecture 3 hours per week.

MEC 155 Mechanisms (2 CR.)
Studies the purpose and actions of cams, gear trains, levers, and other mechanical devices used to transmit control. Focuses on motions, linkages, velocities, and acceleration of points within a link mechanism; layout method for designing cams and gear grain. Requires preparation of weekly laboratory reports. ENF 2 requisite level. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.

MEC 205 Piping and Auxiliary Systems (3 CR.)
Studies threaded pipe, welded pipe, isometric pipe sketching and layout, gaskets, packing, industrial hoses and tubing, basic steam system operations, automatic and

manual valves, and positive displacement pumps. ENF 2 requisite level. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

MEC 266 Fluid Mechanics (3-4 CR.)
Teaches theory of hydraulic and pneumatic circuits including motors, controls, actuators, valves, plumbing, accumulators, reservoirs, pumps, compressors, and filters. ENF 2 requisite level. Lecture 3-4 hours per week.

Medical Laboratory (MDL)

MDL 100 Introduction to Medical Laboratory Technology (2 CR.)
Introduces the basic principles, techniques, and vocabulary applicable to all phases of medical laboratory technology. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

MDL 105 Phlebotomy (3-4 CR.)
Introduces basic medical terminology, anatomy, physiology, components of health care delivery and clinical laboratory structure. Teaches techniques of specimen collection, specimen handling, and patient interactions. ENF 2 requisite level. Lecture 2 hours. Laboratory 3-6 hours. Total 5-8 hours per week.

MDL 106 Clinical Phlebotomy (4 CR.)
Focuses on obtaining blood specimens, processing specimens, managing assignments, assisting with and/or performing specified tests, performing clerical duties and maintaining professional communication. Provides supervised learning in college laboratory/and or cooperating agencies. ENF 2 requisite level. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week. *Students must complete the following prior to enrolling: Proof & record of three Hepatitis B vaccinations. Proof & record of two MMR vaccines OR proof of immunity by titer. Proof & record of negative TB test (two-step). Proof & record of seasonal flu shot. Proof & record of two varicella vaccinations OR proof of immunity by titer. Proof & record of DTP (diphtheria, tetanus, pertussis) vaccinations. Copy of BLS for Healthcare Provider (CPR) certification card, back and front. Passing of criminal and sexual background checks. Passing of drug testing.*

MDL 126 Clinical Immunohematology/Immunology I (4 CR.)
Incorporates basic principles of antigen and antibody reactions included in blood grouping and typing, compatibility testing, and serological procedure. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week.

MDL 127 Hematology (3 CR.)
Teaches various blood components, how they are obtained and methods of examination. Includes erythrocyte, leukocyte and platelet counts, hemoglobin and hematocrit determinations, normal and abnormal smears. Introduces coagulation screening studies. Lecture 1 hour. Laboratory 6 hours. Total 7 hours per week.

MDL 130 Basic Clinical Microbiology (3 CR.)
Studies classification, theories, techniques, and methods used in basic bacteriology, parasitology, and mycology. Emphasizes routine identification. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

MDL 225 Clinical Hematology II (3- 4 CR.)
Teaches advanced study of blood to include coagulation, abnormal bloody formation, and changes seen in various diseases. Lecture 2 hours. Laboratory 3-6 hours. Total 5-8 hours per week.

MDL 227 Clinical Immunohematology/Immunology II (3 CR.)
Emphasizes ability to apply theories and procedures utilized in immunohematology for routine transfusion and donor services. Correlates theories with practical application in order to assess cellular and immune mechanisms in specific disease states. Lecture 1 hour. Laboratory 6 hours. Total 7 hours per week.

MDL 240 Clinical Microscopy (2- 3 CR.)
Studies theories, principles, and interpretation of test results for urine and body fluids associated with normal and abnormal states. Lecture 1-2 hours. Laboratory 3 hours. Total 4-5 hours per week.

MDL 252 Clinical Microbiology II (3- 4 CR.)
Teaches handling, isolation, and identification of pathogenic microorganisms. Emphasizes clinical techniques of bacteriology, mycology, parasitology and virology. Lecture 1-2 hours. Laboratory 3-6 hours. Total 4-8 hours per week.

MDL 261-262 Clinical Chemistry and Instrumentation I-II (4-5 CR.) (4-5 CR.)
Introduces methods of performing biochemical analysis of clinical specimens. Teaches instrumentation involved in a clinical chemistry laboratory, quality control, and the ability to recognize technical problems. Lecture 3 hours. Laboratory 3-6 hours. Total 6-9 hours per week.

MDL 263 Clinical Chemistry And Instrumentation III (3 CR.)
Prerequisite MDL 262. Emphasizes application of chemical theories and principles, performance of routine and special chemistries on various types of instrumentation, evaluation of quality control programs, and association of test results with clinical significance. Lecture 1 hour; Laboratory 6 hours; Total 7 hours/week.

MDL 275 Clinical Hematology III (3 CR.)
Prerequisite MDL 225. Focuses on maintenance and troubleshooting of automated equipment, on evaluation of quality control programs, on blood dyscrasias, utilizing special stains and bone marrow studies, and on specialized studies for evaluating problems of hemostasis. Lecture 1 hour. Laboratory 6 hours. Total 7 hours/week.

MDL 279 Clinical Microbiology III (2 CR.)
Prerequisite MDL 252. Stresses ability of the student to culture and identify pathogenic and non-pathogenic bacterial and mycotic agents, to identify parasites, and to associate microorganisms with clinical symptoms. Lecture: 1 hour. Laboratory: 3 hours. Total 4 hours/week.

Music (MUS)

MUS 121-122 Music Appreciation I-II (3 CR.) (3 CR.)
Increases the variety and depth of the student's interest, knowledge, and involvement in music and related cultural activities. Acquaints the student with traditional and twentieth century music literature, emphasizing the relationship music has as an art form with man and society. Increases the student's awareness of the composers and performers of all eras through listening and concert experiences. ENF 3 requisite level. Lecture 3 hours per week.

MUS 133 Recording Systems Services I (3 CR.)
Introduces the principles of recording systems and recording system designs. Provides the student with theoretical and practical site locations. Includes the study of sound studio design and construction, production costs, and retail distribution. Prerequisite divisional approval. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

MUS 139 Shape Note Singing (3 CR.)
Introduces the student to the history and performance of shape note singing in the central Appalachian region. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

MUS 150 Old Time String Band (3 CR.)
Introduces the student to the history and performance of traditional old time string band music of the central Appalachian region with topics on musicians, instrumentation, regional influences, and tunes. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

MUS 163 Guitar Theory & Practice I (3 CR.)
Studies the fundamentals of sound production, music theory, and harmony as they apply to guitar. Builds proficiency in both the intermediate level techniques of playing the guitar focusing on fingerpicking style of Appalachian old-time music artists and in the application of music fundamentals to these techniques. Presents different types of guitars and related instruments as well as the history of fingerpicking musicians from the central Appalachian region. The class emphasizes music as entertainment as a communication skill. Classroom instruction will include lecture, demonstrations, assignments, practice, and reports. Lecture 2. Laboratory 3. Total 3 hours/week.

MUS 164 Guitar Theory & Practice II (3 CR.)
Studies the fundamentals of sound production, music theory, and harmony as they apply to guitar. Builds proficiency in both the intermediate level techniques of playing the guitar focusing on flatpicking style of Appalachian bluegrass music artists and in the application of music fundamentals to these techniques. Presents different types of guitars and related instruments as well as the history of flatpicking musicians from the central Appalachian region. The class emphasizes music as entertainment and as a communication skill. Classroom instruction will include lecture, demonstrations, assignments, practice, and reports. Lecture 2. Laboratory 3. Total 3 hours/week.

MUS 167 Beginning Appalachian Dulcimer (3 CR.)
Introduces the student to the history of the Appalachian dulcimer, regional musicians, influences, and performance with emphasis on the old time style found in the central Appalachian region. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

MUS 168 Beginning Clawhammer Banjo (3 CR.)
Introduces the student to the history of the banjo, regional musicians, influences, and performance with emphasis on the old time, claw hammer style found in the central Appalachian region. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

MUS 169 Beginning Fiddle (3 CR.)
Introduces the student to the history of fiddle, regional musicians, influences, and performance with emphasis on the old time styles found in the central Appalachian region. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

MUS 170 Beginning Rhythm Guitar (3 CR.)
Introduces the student to the history of rhythm guitar, regional musicians, influences, and performance with emphasis on the old time style found in the central Appalachian region. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

MUS 171 Beginning Mandolin (3 CR.)
Introduces the student to the history of the mandolin, regional musicians, influences, and performance with emphasis on the old time styles found in the central Appalachian region. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

MUS 172 Beginning Upright Bass (3 CR.)
Introduces the student to the history of the upright bass, regional musicians, influences, and performance with emphasis on the old time style found in the central Appalachian region. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

MUS 218 Traditional Music and Musicians of Central Appalachia (3 CR.)
Introduces students to the traditional music and musicians, historical and contemporary, of the central Appalachian region. Explore influences of the music of various cultures, both within and outside the region, on the musical styles. Lecture 3 hours. Total 3 hours per week.

MUS 225 The History of Jazz (3 CR.)
Studies the underlying elements of jazz, concentrating on its cultural and historical development from earliest stages to present. No previous knowledge of music is required. Lecture 3 hours per week.

MUS 290 Internship in Recording (3 CR.)
Supervised on-the-job training in a recording studio coordinated by the college. Total 4 hours per week.

Natural Science (NAS)

NAS 106 Conservation of Natural Resources (3 CR.)
Describes the management of natural resources, balance of nature, and the human impact on the environment. ENF 2 requisite level. Lecture 3 hours per week.

NAS 125 Meteorology (4 CR.)
Presents a non- technical survey of fundamentals meteorology. Focuses on the effects of weather and climate on humans and their activities. Serves for endorsement or recertification of earth science teachers. ENF 3 requisite. Lecture 3 hours per week. Recitation and laboratory 2 hours per week. Total 5 hours per week.

NAS 131-132 Astronomy I-II (4 CR.) (4 CR.)
Studies the major and minor bodies of the solar system, stars and nebulae of the Milky Way, and extragalactic objects. Examines life and death of stars, origin of the universe, history of astronomy, and instruments and techniques of observation. ENF 3 requisite. Lecture 3 hours per week. Recitation and the laboratory 3 hours per week. Total 6 hours per week.

NAS 171-172 Human Anatomy and Physiology I-II (4 CR.) (4 CR.)
Presents the human organ systems and their functions as they relate to allied health science. Lecture 3 hours per week. Recitation and laboratory 3 hours per week. Total 6 hours per week.

NAS 215 Man in His Environment (6 CR.)
Analyzes ecological and technological forces at work in today's world including air and water pollution, pesticides, and land use. ENF 111 requisite. Lecture 4 hours per week. Recitation and laboratory 6 hours per week. Total 10 hours per week.

Nursing (NSG)

NSG 100 Introduction to Nursing Concepts (4 CR.)
Introduces concepts of nursing practice and conceptual learning. Focuses on basic nursing concepts with an emphasis on safe nursing practice and the development of the nursing process. Provides supervised learning experiences in college nursing laboratories, clinical/community settings, and/or simulated environments. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. Prerequisite(s): BIO 141, 231 or NAS 161.

NSG 106 Competencies for Nursing Practice (2 CR.)
Focuses on the application of concepts through clinical skill development. Emphasizes the use of clinical judgment in skill acquisition. Includes principles of safety, evidence-based practice, informatics and math computational skills. Prepares students to demonstrate competency in specific skills and drug dosage calculation including the integration of skills in the care of clients in simulated settings. Provides supervised learning experiences in college nursing laboratories, clinical/community settings, and/or simulated environments. Lecture 0-1 hour. Laboratory 3-6 hours. Total 4-6 hours per week. Prerequisite(s): MTE 1-5, BIO 145 (or BIO 231 or NAS 161.

NSG 130 Professional Nursing Concepts I (1 CR.)
Introduces the role of the professional nurse and fundamental concepts in professional development. Focuses on professional identity, legal/ethical issues and contemporary trends in professional nursing. Lecture 1 hour. Total 1 hour per week. Prerequisite(s): BIO 141 or BIO 231 or NAS 161.

NSG 152 Health Care Participant (3 CR.)
Focuses on the health and wellness of diverse individuals, families, and the community throughout the lifespan. Covers concepts that focus on client attributes and preferences regarding healthcare. Emphasizes population-focused care. Provides supervised learning experiences in college nursing laboratories, clinical/community settings, and/or cooperating agencies, and/or simulated environments. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. Prerequisite(s): BIO 142 (or BIO 232 or NAS 162), NSG 100, NSG 106, NSG 130 and NSG 200; Corequisite(s): BIO 150 or BIO 205.

NSG 170 Health/Illness Concepts (6 CR.)
Focuses on the nursing care of individuals and/or families throughout the lifespan with an emphasis on health and illness concepts. Includes concepts of nursing care for the antepartum client and clients with common and predictable illnesses. Provides supervised learning experiences in college nursing laboratories, clinical/community settings, and/or simulated environments. Lecture 4 hours, Laboratory 6 hours. Total 10 hours per week. Prerequisite(s): BIO 142 (or BIO 232 or NAS 162), NSG 100, NSG 106, NSG 130 and NSG 200; Corequisite(s): BIO 150 or BIO 205.

NSG 200 Health Promotion and Assessment (3 CR.)
Introduces assessment and health promotion for the individual and family. Includes assessment of infants, children, adults, geriatric clients and pregnant females. Emphasizes health history and the acquisition of physical assessment skills with underlying concepts of development, communication, and health promotion. Prepares students to demonstrate competency in the assessment of clients across the lifespan. Provides supervised learning experiences in college nursing laboratories, clinical/community settings, and/or simulated environments. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. Prerequisite(s): BIO 141 (or BIO 231 or NAS 161.

NSG 210 Health Care Concepts I (5 CR.)
Focuses on care of clients across the lifespan in multiple settings including concepts related to physiological health alterations and reproduction. Emphasizes the nursing process in the development of clinical judgment for clients with multiple needs. Provides supervised learning experiences in college nursing laboratories, clinical/community settings, and/or simulated environments. Part I of II. Lecture 3 hours, Laboratory 6 hours. Total 9 hours per week. Prerequisite(s): BIO 150 (or BIO 205), NSG 152 and NSG 170.

NSG 211 Health Care Concepts II (5 CR.)
Focuses on care of clients across the lifespan in multiple settings including concepts

related to psychological and physiological health alterations. Emphasizes the nursing process in the development of clinical judgment for clients with multiple needs. Provides supervised learning experiences in college nursing laboratories, clinical/community settings, and/or simulated environments. Part II of II. Lecture 3 hours. Laboratory 6 hours. Total 9 hours per week. Prerequisite(s): BIO 150 (or BIO 205), NSG 152 and NSG 170.

NSG 230 Advanced Professional Nursing Concepts (2 CR.)
Develops the role of the professional nurse in the healthcare environment in preparation for practice as a registered nurse. Introduces leadership and management concepts and focuses on the integration of professional behaviors in a variety of healthcare settings. Lecture 2 hours. Total 2 hours per week. Prerequisite(s): NSG 210 and NSG 211.

NSG 252 Complex Health Care Concepts (4 CR.)
Focuses on nursing care of diverse individuals and families integrating complex health concepts. Emphasizes clinical judgment, patient-centered care and collaboration. Lecture 4 hours. Total 4 hours per week. Prerequisite(s): NSG 210 and NSG 211.

NSG 270 Nursing Capstone (4 CR.)
Provides students with the opportunity to comprehensively apply and integrate learned concepts from previous nursing courses into a capstone experience. Emphasizes the mastery of patient- centered care, safety, nursing judgment, professional behaviors, informatics, quality improvement, and collaboration in the achievement of optimal outcomes of care. Provides supervised learning experiences in faculty and/or preceptor-guided college nursing laboratories, clinical/community settings, and/or simulated environments. Laboratory 12 hours. Total 12 hours per week. Prerequisite(s): NSG 210 and NSG 211.

Nursing (NUR)

Prerequisite for all courses in this department is current enrollment in the Associate Degree Nursing Plan.

NUR 105 Nursing Skills (2 CR.)
Prerequisites: MTH 126, ITE 119, ENG 111, SDV 100, and admission to the program. Develops nursing skills for the basic needs of individuals and introduces related theory. Includes assessment, personal care, activity/rest, sterile technique, wound care, ostomy care, catheterization, oxygen administration, infection control, suctioning, and medication administration. Provides supervised learning experiences in college nursing laboratories and/or cooperating agencies. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

NUR 108 Nursing Principles and Concepts I (5 CR.)
Prerequisites: MTH 126, ITE 119, ENG 111, SDV 100, and admission to the program. Introduces principles of nursing, health and wellness concepts, and the nursing process. Identifies nursing strategies to meet the multidimensional needs of individuals. Includes math computational skills, basic computer instruction related to the delivery of nursing care, introduction to the profession of nursing, nursing process, documentation, basic needs related to integumentary system, teaching/learning, stress, psychosocial, safety, nourishment, elimination, oxygenation, circulation, rest, comfort, sensory, fluid and electrolyte, and mobility needs in adult clients. Also, care of the pre- and post-operative client. Provides supervised learning experience in college nursing labs and/or cooperating agencies. Lecture 4 hours. Laboratory 3 hours. Total 7 hours per week.

NUR 109 Nursing Principles and Concepts II (5 CR.)
Prerequisites: NUR 105, 108; BIO 141 or 231 and admission to the program. Focuses on nursing care of individuals and/or families experiencing alterations in health. Includes math computational skills, basic computer instruction related to the delivery of nursing care; immunological, gastrointestinal, musculoskeletal, oncological and diabetic disorders and pre- and post-operative care in adult and pediatric clients. Provides supervised learning experiences in college nursing laboratories and/or cooperating agencies. Lecture 3 hours. Laboratory 6 hours. Total 9 hours per week.

NUR 114 Geriatric Nursing (3 CR.)
Prerequisites: Acceptance into the nursing program, ENG 111, ITE 119, MTH 126, and SDV 100. Presents theoretical and clinical nursing aspects of the aging population. Includes the aging process, psychological aspects, common age-related disorders, pharmacologic aspects, care facilities, and relationships between elders and caregivers. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

NUR 115 LPN Transition (6 CR.)
Prerequisites: Acceptance to the LPN-to-RN Bridge program. Introduces the role of the registered nurse through concepts and skill development in the discipline of professional nursing. The course serves as a bridge course for practical nurses and is based upon individualized articulation agreements, mobility exams or other assessment criteria as they relate to local programs and service areas. Includes math computational skills and basic computer instruction related to the delivery of nursing care. Lecture 5 hours. Laboratory 3 hours. Total 8 hours per week. (THIS COURSE HAS BEEN APPROVED BY THE VICE CHANCELLOR AS AN EXCEPTION TO THE VARIABLE CREDIT POLICY).

NUR 136 Principles of Pharmacology I (1 CR.)
Prerequisites: Acceptance into the nursing program, MTH 126, ITE 119, ENG 111, SDV 100. Focuses on principles of medication administration which include dosage calculations, major drug classifications, drug legislation, legal aspects of medication administration, drug action on specific body systems, and basic computer applications. Lecture 1 hour per week.

NUR 137 Principles of Pharmacology II (1 CR.)
Prerequisites: Acceptance into the nursing program. Prerequisites: MTH 126, ITE 199, ENG 111, SDV 100. Continues discussion on principles of medication administration which include dosage calculations, major drug classifications, drug legislation, legal aspects of medication administration, drug action on specific body systems, and basic computer applications. Lecture 1 hour per week.

NUR 201 Psychiatric Nursing (3 CR.)
Prerequisites: NUR 109 or 115, 136, 137, 226, PSY 231, BIO 142. Focuses on the care of individuals/families requiring clinical treatment. Uses all components of the nursing process with increasing degrees of skill. Includes math computational skills and basic computer instruction related to the delivery of nursing care, alterations in behavior, eating disorders, mood disorders, anxiety, chemical dependency and dementias. Provides supervised learning experiences in college nursing laboratories and/or cooperating agencies. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

NUR 205 Introduction to Second Level Nursing (5 CR.)
Prerequisites: NUR 109 or 115, 136, 137, 226, PSY 231, BIO 142. Focuses on principles and concepts of nursing care for individuals, families, and/or groups in the community and hospital setting. Focuses on health team membership and various nursing care delivery systems. Includes math computational skills, basic computer instruction related to the delivery of nursing care; endocrine, renal, cardiovascular and immunological disorders in school and home health settings. Provides supervised learning experiences in cooperating agencies. Lecture 2 hours. Laboratory 9 hours. Total 11 hours per week.

NUR 208 Acute Medical/Surgical Nursing (6 CR.)
Prerequisites: NUR 205, PSY 231. Focuses on the use of nursing process to provide care to individuals/families with acute medical or surgical problems or to prevent such problems. Includes math computational skills and basic computer instruction related to the delivery of nursing care. Provides supervised learning experiences in cooperating agencies. Lecture 3 hours. Laboratory 9 hours. Total 12 hours per week.

NUR 226 Health Assessment (2 CR.)
Prerequisites: MTH 126, ITE 119, ENG 111, SDV 100 and admission to the program. Introduces the systematic approach to obtaining a health history and performing a physical assessment. Lecture 1 hours. Laboratory 3 hours. Total 4 hours per week.

NUR 236 Principles of Pharmacology III (1 CR.)
Prerequisites: NUR 109 or 115, 136, 137, 226, BIO 142 or 232. Teaches principles of medication and administration which include dosage calculations, major drug classifications, drug legislation, legal aspects of medication administration, and drug action on specific body systems. Part I of II. Lecture 1 hour per week.

NUR 237 Principles of Pharmacology IV (1 CR.)
Prerequisites: NUR 137, NUR 137, NUR 205. Teaches principles of medication and administration which include dosage calculations, major drug classifications, drug legislation, legal aspects of medication administration, and drug action on specific body systems. Part II of II. Lecture 1 hour per week.

NUR 245 Maternal/Newborn Nursing (3 CR.)
Prerequisites: NUR 205, PSY 231. Develops nursing skills in caring for families in the

antepartum, intrapartum, and post-partum periods. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

NUR 254 Dimensions of Professional Nursing (2 CR.)
Prerequisites: NUR 205, PSY 231. Explores the role of the professional nurse. Emphasizes nursing organizations, legal and ethical implications, and addresses trends in management and organizational skills. Explores group dynamics, relationships, conflicts, and leadership styles. Lecture 2 hours per week.

Philosophy (PHI)

PHI 211-212 The History of Western Philosophy I-II (3 CR.) (3 CR.)
Provides historical survey of representative philosophers from the pre-Socratics to the present. Introduces the student to development of philosophical thought through selected readings of original works and appropriate critical materials. ENG 111 requisite level. Lecture 3 hours per week. May be taken out of sequence.

Photography (PHT)

PHT 101-102 Photography I-II (3 CR.) (3 CR.)
Teaches principles of photography and fundamental camera techniques. Requires outside shooting and lab work. ENF 2 requisite level. Lecture 1 hour. Laboratory 4 hours. Total 5 hours per week. Must be taken in sequence.

Physical Education and Recreation (PED)

PED 103-104 Aerobic Fitness I-II (1-2 CR.) (1-2 CR.)
Develops cardiovascular fitness through activities designed to elevate and sustain heart rates appropriate to age and physical condition. ENF 1 requisite level. Variable hours per week. Must be taken in sequence.

PED 109 Yoga (1-2 CR.)
Focuses on the forms of yoga training emphasizing flexibility. ENF 1 requisite level. Variable hours per week.

PED 111-112 Weight Training I-II (1-2 CR.) (1-2 CR.)
Focuses on muscular strength and endurance training through individualized workout programs. Teaches appropriate use of weight training equipment. ENF 1 requisite level. Variable hours per week. Must be taken in sequence.

PED 123-124 Tennis I-II (1-2 CR.) (1-2 CR.)
Teaches tennis skills with emphasis on stroke development and strategies for individual and team play. Includes rules, scoring, terminology, and etiquette. ENF 1 requisite level. Variable hours per week. Must be taken in sequence.

PED 125 Badminton (1 CR.)
Introduces skills, techniques, strategies, rules, and scoring. Lecture 0-1 hour. Laboratory 2-4 hours. PED 126 ARCHERY (1-2 CR.) Teaches skills and techniques of target archery. Focuses on use and maintenance of equipment, terminology, and safety. ENF 1 requisite level. Variable hours per week.

PED 133-134 Golf I-II (1-2 CR.) (1-2 CR.)
Teaches basic skills of golf, rules, etiquette, scoring, terminology, equipment selection and use, and strategy. ENF 1 requisite level. Variable hours per week.

PED 137-138 Martial Arts I (2 CR.) (2 CR.)
Emphasizes forms, styles, and techniques of body control, physical and mental discipline, and physical fitness. Presents a brief history of development of martial arts theory and practice. ENF 1 requisite level. Lecture 0-1 hours. Laboratory 2-4 hours. Total 2-4 hours per week. Must be taken in sequence.

PED 149 Cardio Sculpt I (2 CR.)
Combines strength training and cardiovascular workouts that strengthen the major muscle groups as well as developing endurance. Utilizes the use of weights, balls and bands, fitness equipment or a combination thereof that promote cardiovascular endurance and develops muscle strength. Benefits all levels of participation. ENF 1 requisite level. Lecture 0-2 hour. Laboratory 2-4 hours. Total 2-4 hours per week.

PED 154 Volleyball (1 CR.)
Introduces skills, techniques, strategies, rules, and scoring. Lecture 0-1 hour. Laboratory 2-4 hours.

PED 155 Wallyball (1-2 CR.)
Focuses on skills, techniques, strategies, rules and scoring. Wallyball is volleyball played on a racquetball court. ENF 1 requisite level. Lecture 0-1 hour. Laboratory 2-4 hours.

Physics (PHY)

PHY 121-122 Principles of Physics I-II (4 CR.) (4 CR.)
Covers fundamental principles of physics. Includes mechanics, thermodynamics, wave phenomena, electricity and magnetism, and selected topics from modern physics. ENF 3 requisite level. Prerequisites 2 units of high school algebra and one unit of high school geometry or equivalent. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. Must be taken in sequence.

PHY 131 Applied Physics I (3 CR.)
Emphasizes application of topics such as precision measurement, statics, dynamics, energy, momentum, properties of matter, heat, sound, optics, electricity, and magnetism. Prerequisites: MTH 105 and MTH 106. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

PHY 201-202 General College Physics I-II (4 CR.) (4 CR.)
Teaches fundamental principles of physics. Covers mechanics, thermodynamics, wave phenomena, electricity and magnetism, and selected topics in modern physics. Prerequisite MTH 164 or equivalent. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. Must be taken in sequence.

PHY 241-242 University Physics I-II (4 CR.) (4 CR.)
Teaches principles of classical and modern physics. Includes mechanics, wave phenomena, heat, electricity, magnetism, relativity, and nuclear physics. ENG 111 requisite level. Prerequisite for PHY 241--MTH 173, MTH 175, or MTH 273 or divisional approval. Prerequisite for PHY 242--MTH 174 or MTH 274 or divisional approval. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. Must be taken in sequence.

Political Science (PLS)

PLS 135 American National Politics (3 CR.)
Teaches political institutions and processes of the national government of the United States, focuses on the Congress, presidency, and the courts, and on their interrelationships. Gives attention to public opinion, suffrage, elections, political parties, interest groups, civil rights, domestic policy, and foreign relations. ENF 3 requisite level. Lecture 3 hours per week.

PLS 211-212 U.S. Government I-II (3 CR.) (3 CR.)
Teaches structure, operation, and process of national, state, and local governments. Includes in-depth study of the three branches of the government and of public policy. ENF 3 requisite level. Lecture 3 hours per week.

Practical Nursing (PNE)

Prerequisite for all courses in this department is current enrollment in the Practical Nursing Plan.

PNE 132 Care of Maternal and Newborn Clients (2 CR.)
Studies normal pregnancy, childbirth, post-partum, and the neonate along with complications associated with each phase using a family-centered approach. Lecture 2 hours. Total 2 hours per week.

PNE 143 Applied Nursing Skills (1 CR.)
Applied principles and procedures essential to the basic nursing care of patients. Laboratory 3 hours per week. Total 3 hours per week. Prerequisites: admission to the PN program.

PNE 145 Trends in Practical Nursing (1 CR.)
Studies the role of the Licensed Practical Nurse. Covers legal aspects, organizations,

and opportunities in practical nursing. Assists students in preparation for employment. Lecture 1 hour. Total 1 hour per week. Prerequisites: Successful completion ("C" or higher) of all first and second semester PN coursework.

PNE 155 Body Structure and Function (3 CR.)
Studies the structure and function of the body. Lecture 3 hours. Total 3 hours per week. Prerequisites: admission to the PN program.

PNE 158 Mental Health and Psychiatric Nursing (1 CR.)
Recognizes emotional needs of patients. Provides knowledge of the role that emotions play. Enables students to understand their own behavior as well as patient behavior. Lecture 1 hour. Total 1 hour per week. Prerequisites: Successful completion ("C" or higher) of all first semester PN coursework.

PNE 159 Care of Pediatric Clients (2 CR.)
Studies normal and abnormal variations in children from infancy to adolescence. Covers milestones in all aspects of growth, development and common childhood disorders using the family-centered approach. Lecture 2 hours. Total 2 hours per week.

PNE 161 Nursing in Health Changes (6 CR.)
Focuses on nursing situations and procedures necessary to assist individuals in meeting special needs related to human functions. Lecture 4 hours. Laboratory 6 hours. Total 10 hours per week. Prerequisites: admission to the PN program.

PNE162 Nursing in Health Changes II (10 CR.)
Continues the focus on nursing situations and procedures necessary to assist individuals in meeting special needs related to human functions. Lecture 5 hours. Laboratory 18 hours. Total 23 hours per week. Prerequisites: Successful completion ("C" or higher) of all first semester PN coursework.

PNE 164 Nursing in Health Changes IV (10 CR.)
Continues the focus on nursing situations and procedures necessary to assist individuals in meeting special needs related to human functions. Lecture 4 hours. Laboratory 18 hours. Total 23 hours per week. Prerequisites: Successful completion ("C" or higher) of all first and second semester PN coursework.

PNE 173 Pharmacology for PN'S (2 CR.)
Studies history, classification, sources, effects, uses and legalities of drugs. Teaches problem solving skills used in medication administrations. Emphasizes major drug classes and specific agents within each class. Lecture 2 hour. Total 2 hour per week. Prerequisites: admission to the PN program.

PNE 174 Applied Pharmacology for PN'S (1 CR.)
Applies problem solving skills in preparing and administering medications. Laboratory 3 hours. Total 3 hours per week. Prerequisites: admission to the PN program.

PNE 199 Supervised Study (1 CR.)
Assigns problems for independent study incorporating previous instruction and supervised by the instructor. Lecture 1 hour. Total 1 hour per week. Prerequisites: Successful completion ("C" or higher) of all first, second, and third semester PN coursework except PNE 145 - Trends in Practical Nursing.

Psychology (PSY)

PSY 116 Psychology of Death and Dying (3 CR.)
Focuses on psychological aspects of death and dying. Teaches the meaning of death and ways of handling its personal and social implications. Includes psychological, sociological, cultural, and religious views of death. ENF 3 requisite level. Lecture 3 hours per week.

PSY 120 Human Relations (3 CR.)
Introduces the theory and practice of effective human relations. Increases understanding of self and others and interpersonal skills needed to be a competent and cooperative communicator. ENF 2 requisite level. Lecture 3 hours per week.

PSY126 Psychology for Business and Industry (3 CR.)
Focuses on the application of psychology to interpersonal relations and the working environment. Includes topics such as group dynamics, motivation, employee-employer relationship, and interpersonal communications. May include techniques for selection and supervision of personnel. ENF 3 requisite level. Lecture 3 hours per week.

PSY 200 Principles of Psychology (3 CR.)
Surveys the basic concepts of psychology. Covers the scientific study of behavior and mental processes, research methods and measurement, theoretical perspectives, and application. Includes biological bases of behavior, learning, social interactions, memory, and personality; and other topics such as sensation, perception, consciousness, thinking, intelligence, language, motivation, emotion, health, development, psychological disorders, and therapy. ENF 3 requisite level. Lecture 3 hours per week.

PSY 215 Abnormal Psychology (3 CR.)
Explores historical views and current perspectives of abnormal behavior. Emphasizes major diagnostic categories and criteria, individual and social factors of maladaptive behavior, and types of therapy. Includes methods of clinical assessment and research strategies. Prerequisite: PSY 200. ENF 3 requisite level. Lecture 3 hours per week.

PSY 230 Developmental Psychology (3 CR.)
Studies the development of the individual from conception to death. Follows a lifespan perspective on the development of the person's physical, cognitive, and psychosocial growth. ENF 3 requisite level. Lecture 3 hours per week.

PSY 231-232 Life Span Human Development I-II (3 CR.) (3 CR.)
Investigates human behavior through the life cycle. Describes physical, cognitive, and psycho- social aspects of human development from conception to death. ENF 3 requisite level. Lecture 3 hours per week. May be taken out of sequence.

PSY 235 Child Psychology (3 CR.)
Studies development of the child from conception to adolescence. Investigates physical, intellectual, social and emotional factors involved in the child's growth. ENF 3 requisite level. Lecture 3 hours per week.

PSY 236 Adolescent Psychology (3 CR.)
Studies development of the adolescent. Investigates physical, intellectual, social, and emotional factors of the individual from late childhood to early adulthood. ENF 3 requisite level. Lecture 3 hours per week.

Radiology (RAD)

RAD 105 Introduction to Radiology and Patient Care (2 CR.)
Presents brief history of Radiologic profession, code of ethics, conduct for Radiologic students, and basic fundamentals of radiation protection. Teaches the care and handling of the sick and injured patient in the Radiology Department. Introduces the use of contrast media necessary in the investigation of the internal organs. Lecture 2 hours per week.

RAD 110 Imagining Equipment and Protection (3 CR.)
Discusses the basic components of a radio- graphic unit, principles of x-ray production, principles of image receptors, automatic processing, film evaluation and concepts in radiation protection and radiobiology. Lecture 3 hours per week.

RAD 111-112 Radiologic Science I-II (4 CR.)
Teaches concepts of radiation, radiography physics, fundamentals of electromagnetic radiation, electricity and magnetism, and application of these principles to radiography. Focuses on X-ray production, emission, and X-ray interaction with matter. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

RAD 121 Radiographic Procedures I (4 CR.)
Introduces procedures for positioning the patient's anatomical structures relative to X-ray beam and image receptor. Emphasizes procedures for routine examination of the chest, abdomen, extremities, and axial skeleton. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

RAD 205 Radiation Protection and Radio Biology (3 CR.)
Studies methods and devices used for protection from ionizing radiation. Teaches theories of biological effects, cell and organism sensitivity, and the somatic and genetic effects of ionizing radiation. Presents current radiation protection philosophy for protecting the patient and technologist. Lecture 3 hours per week.

RAD 215 Correlated Radiographic Theory (2 CR.)
Presents intensive correlation of all major Radiologic technology subject areas. Studies inter- relationships of biology, physics, principles of exposure, radiologic procedures, patient care, and radiation protection. Lecture 2 hours per week.

RAD 221 Radiographic Procedures II (4 CR.)
Continues procedures for positioning the patient's anatomical structures relative to X-ray beam and image receptor. Emphasizes procedures for routine examination of the skull, contrast studies of internal organs, and special procedures employed in the more complicated investigation of the human body. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

RAD 225 Specialized Patient Care Procedure (2 CR.)
Focuses on specific nursing procedures associated with routine and emergency conditions encountered in the performance of radiographic examinations. Teaches medication preparation and administration principles. Lecture 2 hours per week.

RAD 233 - Anatomy and Positioning of the Breast (1 CR.)
Presents the risk factors for breast disease, anatomy and physiology of the breast and discusses the various pathologies identified through mammography. Includes routine and special projections of the breast. Prerequisite: ARRT or eligible. Lecture 1 hour per week.

RAD 234 - Breast Imaging/Instrumentation (1 CR.)
Discusses the dedicated radiography equipment necessary for breast imaging. Includes proper technical factors, radiation protection techniques, and proper accessory equipment. Prerequisite: ARRT or eligible. Lecture 1 hour per week.

RAD 235 - Quality Assurance in Mammography (1 CR.)
Discusses the components of quality assurance in mammography and the accreditation programs developed to ensure quality in breast imaging facilities. Prerequisite: ARRT or eligible. Lecture 1 hour per week.

RAD 240 Radiographic Pathology (3 CR.)
Presents a survey of common medical and surgical disorders that affect radiographic image. Discusses conditions related to different systems of the human body. Studies the correlation of these conditions with radiographs. Lecture 3 hours per week.

RAD 245 Radiologic Specialties (2 CR.)
Introduces the study of treatment of disease as it relates to various imaging modalities, computerized tomography, and magnetic resonance imaging. Introduces computers and other innovations in radiology. Emphasizes theory, principle of operation, and clinical application of these topics. Lecture 2 hours per week.

RAD 246 Special Procedures (2 CR.)
Studies special radiographic and surgical procedures and equipment employed in the more complicated investigation of internal conditions of the human body. Lecture 2 hours per week.

RAD 247 Cross-Sectional Anatomy (3 CR.)
Presents a specialized study of cross-sectional anatomy relevant to sectional imaging modalities such as computed tomography and magnetic resonance imaging. Prerequisite: ARRT or eligible. Lecture 3 hours per week.

RAD 255 Radiographic Equipment (3 CR.)
Studies principles and operation of general and specialized X-ray equipment. Lecture 3 hours per week.

RAD 256 Radiographic Film Evaluation (3 CR.)
Presents a concentrated study and practical evaluation of radiographic quality and disease effects on radiographs. Focuses on technical factors, procedural factors, equipment malfunctions, and other difficulties associated with radiographs. Prerequisites: BIO 141-142, RAD 111-112, RAD 121-221. Lecture 3 hours per week.

Real Estate (REA)

REA 100 Principles of Real Estate (4 CR.)
Examines practical applications of real estate principles. Includes a study of titles, estates, land descriptions, contracts, legal instruments, financing and management of real estate. Lecture 4 hours per week.

REA 215 Real Estate Brokerage (3 CR.)
Considers administrative principles and practices of real estate brokerage, financial control and marketing of real property. Lecture 3 hours per week.

REA 216 Real Estate Appraisal (3 CR.)
Explores fundamentals of real estate valuation. Introduces the Uniform Standards of Professional Appraisal Practice and the Uniform Residential Appraisal Report form. Lecture 3 hours per week.

REA 217 Real Estate Finance (3 CR.)
Presents principles and practices of financing real estate. Analyzes various types of mortgage note contracts and mortgage and deed of trust instruments. Covers underwriting of conventional and government insured and guaranteed loans. Lecture 3 hours per week.

REA 218 Appraising the Single Family Residence (2-3 CR.)
Promotes an understanding and working knowledge of procedures and techniques used to estimate market value of vacant residential land and improved single family residential properties. Emphasizes the proper application of valuation methods and techniques to residential properties and extraction of data from the market for use in sales comparison, cost and income capitalization approaches to value. Lecture 2-3 hours per week.

REA 220 Income Property Valuation I (3 CR.)
Familiarizes the student with the techniques that are utilized to perform the appraisal of more complex income producing properties. Focuses on income and expense forecasting, appropriate techniques for determining capitalization rates, and discounted cash flow method. Includes valuation of complex commercial properties such as apartment complexes, office buildings, shopping centers, industrial properties, hotels, and mixed use complexes. Prerequisite REA 216, or equivalent. Lecture 3 hours per week.

REA 225 Real Property Management (3 CR.)
Introduces the field of property management. Focuses on the principles of tenant selection and retention, financial management, and building maintenance. Lecture 3 hours per week.

REA 238 Professional Appraisal Standards (1 CR.)
Examines the provisions and standard rules that govern professional appraisal practices. Covers the "Binding Requirements" and "The Specific Appraisal Guidelines" published by The Appraisal Foundation. Lecture 1 hour per week.

REA 245 Real Estate Law (3 CR.)
Studies real estate law, including rights incidental to property owner- ship and management, agency contract and application to real estate transfer covenancing probate proceedings, trust transactions, and tax implications. Lecture 3 hours per week. May be taken out of sequence.

REA 246 Real Estate Economics (3 CR.)
Examines the nature and classification of land economics, the development of property, construction and subdivision, economic values and real estate evaluation, real estate cycles and business fluctuations, residential market trends, rural property and special purpose property trends. Lecture 3 hours per week.

Religion (REL)

REL 100 Introduction to The Study of Religion (3 CR.)
Explores various religious perspectives and ways of thinking about religious themes and religious experience. Reading and writing level requisite ENF 3. Lecture 3 hours per week.

REL 200 Survey of The Old Testament (3 CR.)
Surveys books of the Old Testament, with emphasis on prophetic historical books. Examines the historical and geographical setting and place of the Israelites in the ancient Middle East as background to the writings. ENF 3 requisite level. Lecture 3 hours per week.

REL 210 Survey of The New Testament (3 CR.)
Surveys books of the New Testament, with special attention upon placing the writings within their historical and geographical setting. ENF 3 requisite level. Lecture 3 hours per week.

REL 216 Life and Teachings of Jesus (3 CR.)
Studies the major themes in the teachings of Jesus of Nazareth as recorded in the Gospels, and examines the events of his life in light of modern biblical and historical scholarship. Lecture 3 hours per week.

REL 231-232 Religions of The World I-II (3 CR.) (3 CR.)
Studies religions of the world with attention to origin, history, and doctrine. ENF 3 requisite level. Lecture 3 hours per week.

REL 233 Introduction to Islam (3 CR.)
Studies Islam in its historical, religious, and political dimensions and assists in the understanding of its contemporary vitality and attraction as a faith, culture, and a way of life.

REL 240 Religions in America (3 CR.)
Surveys various manifestations of religion in the American experience. Emphasizes concepts, problems, and issues of religious pluralism and character of American religious life. ENF 3 requisite level. Lecture 3 hours per week.

Respiratory Therapy (RTH)

Prerequisite for all courses in this department is current enrollment in the Respiratory Therapy Plan.

RTH 102 Integrated Sciences for Respiratory Care (3 CR.)
Integrates the concepts of mathematics, chemistry, physics, microbiology, and computer technology as these sciences apply to the practices of respiratory care. Lecture 3 hours per week.

RTH 110 Fundamental Theory and Procedures for Respiratory Care (3 CR.)
Focuses on the development of basic respiratory care skills necessary to enter the hospital environment. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

RTH 111 Anatomy and Physiology of The Cardiopulmonary System (3 CR.)
Concentrates on anatomy and physiology of the cardiopulmonary system. Lecture 3 hours per week.

RTH 112 Pathology of The Cardiopulmonary System (3 CR.)
Presents pathophysiology of medical and surgical diseases with emphasis upon diseases of cardiopulmonary system. Lecture 3 hours per week.

RTH 121 Cardiopulmonary Science I (3 CR.)
Focuses on assessment, treatment, and evaluation of patients with cardiopulmonary disease. Explores cardiopulmonary, renal and neuromuscular physiology and pathophysiology. Lecture 3 hours per week.

RTH 131-132 Respiratory Care Theory and Procedures I-II (4 CR.) (4 CR.)
Presents theory of equipment and procedures used for patients requiring general and critical cardiopulmonary care. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

RTH 135 Diagnostic and Therapeutic Procedures I (2 CR.)
Focuses on purpose, implementation and evaluation of equipment, and procedures used in the diagnosis and therapeutic management of patients with cardiopulmonary disease. Lecture 2 hours. Total 2 hours per week.

RTH 145 Pharmacology for Respiratory Care I (2 CR.)
Introduces students to pharmacologic agents used in cardiopulmonary care. Lecture 2 hours per week.

RTH 151 Fundamental Clinical Procedures I (4 CR.)
Offers clinical instruction in basic patient care practices. Lecture 2 hour. Laboratory 6 hours. Total 8 hours per week.

RTH 152 Fundamental Clinical Procedures II (4 CR.)
Offers clinical instruction in basic patient care practices. Lecture 2 hour. Laboratory 6 hours. Total 8 hours per week.

RTH 224 Integrated Respiratory Therapy Skills I (2 CR.)
Presents intensive correlation of all major respiratory therapy subject areas reflecting the entry-level and advanced practitioner matrices. Emphasizes assessment, implementation, and modification of therapy to patient response. Lecture 2 hours per week.

RTH 226 Theory of Neonatal and Pediatric Respiratory Care (2 CR.)
Focuses on cardiopulmonary physiology and pathology of the newborn and pediatric patient. Lecture 2 hours per week.

RTH 227 Integrated Respiratory Therapy Skills II (2 CR.)
Presents intensive correlation of all major respiratory therapy subject areas reflecting the entry-level and advanced practitioner matrices. Emphasizes assessment, implementation, and modification of therapy to patient response. Lecture 2 hours per week.

RTH 253 Advanced Clinical Procedures III (3 CR.)
Offers clinical instruction in advanced patient care practices. Clinical 15 hours per week.

RTH 254 Advanced Clinical Procedures IV (3 CR.)
Offers clinical instruction in advanced patient care practices. Clinical 15 hours per week.

RTH 265 Current Issues in Respiratory Therapy(2 CR.)
Explore current issues affecting the profession of respiratory care. Lecture 2 hours per week.

RTH 267 12-Lead Electro Cardiographic Diagnostics (3 CR.)
Presents a basic review of cardiac anatomy and physiology, and fundamental EKG's including the dysrhythmias. The focus of the remainder of the course is 12-lead diagnostics, including bundle branch clocks; hemiblocks; digitalis effects; myocardial ischemia, injury and infarction and related wave changes. Lecture 3 hours per week.

Safety (SAF)

SAF 126 Principles of Industrial Safety (3 CR.)
Teaches principles and practices of accident prevention, analysis of accident causes, mechanical safeguards, fire prevention, housekeeping, occupational diseases, first aid, safety organization, protection equipment and general safety principles and promotion. Prerequisite: HVE Plan. Lecture 3 hours per week.

SAF 130 Industrial Safety (1 CR.)
Presents an introduction to occupational health and safety and its application in the workplace. Emphasizes safety standards and the Occupational Safety and Health Act (OSHA), its rules and regulations (OSHA 10). Lecture 1 hour per week.

SAF 246 Hazardous Chemicals, Materials, and Waste in the Workplace (3 CR.)
Introduces the rules and regulations governing use, exposure to, and disposal of hazardous chemicals, materials and waste by-products. Discusses OSHA "Right to Know Laws," EPA and RCRA regulations. Provides the techniques to interpret and understand the code of Federal Regulations. Emphasis on management mandates, strategies, and options to comply with these regulations. Lecture 3 hours per week.

Science Technology (SCT)

SCT 111-112 Introduction to Environmental Science Technology I-II (4 CR.) (4 CR.)
Introduces the basic sciences which describe our physical environment. Includes the fundamentals of geology, meteorology, physics, chemistry, and biology. Describes basic scientific principles and relates them to natural phenomena and the activities of man. Emphasizes field experiences including techniques and data gathering. ENF 2 requisite level. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. Must be taken in sequence.

Sociology (SOC)

SOC 200 Principles of Sociology (3 CR.)
Introduces fundamentals of social life. Presents significant research and theory in areas such as culture, social structure, socialization, deviance, social stratification, and social institutions. ENF 3 requisite level.

SOC 211 Principles of Anthropology (3 CR.)
Inquiries into the origins, development, and diversification of human biology and human cultures. Includes fossil records, physical origins of human development, human population genetics, linguistics, cultures' origins and variation, and historical and contemporary analysis of human societies. Part I of II. Lecture 3 hours per week.

SOC 215 Sociology of The Family (3 CR.)
Studies topics such as marriage and family in social and cultural context. Addresses the single scene, dating and marriage styles, child-rearing, husband and wife interaction, single parent families, alternative life-styles. ENF 3 requisite level. Lecture 3 hours per week.

SOC 268 Social Problems (3 CR.)
Applies sociological concepts and methods to analysis of current social problems. Includes delinquency and crime, mental illness, drug addiction, alcoholism, sexual behavior, population crisis, race relations, family and community disorganization, poverty, automation, wars, and disarmament. ENF 3 requisite level. Lecture 3 hours per week.

Spanish (SPA)

SPA 101-102 Beginning Spanish I-II (4 CR.) (4 CR.)
Introduces understanding, speaking, reading, and writing skills and emphasizes basic Spanish sentence structure. May include an additional hour of oral drill and practice per week. ENG 111 requisite level. Lecture 4 hours per week.

Student Development (SDV)

SDV 100 College Success Skills (1 CR.)
Assists students in transition to college. Provides overviews of college policies, procedures, curricular offerings. Encourages contacts with other students and staff. Assists students toward college success through information regarding effective study habits, career and academic planning, and other college resources available to students. May include English and math placement testing. Strongly recommended for beginning students. REQUIRED FOR GRADUATION. ENF 1 requisite level. Lecture 1 hour per week.

SDV 101 Orientation to Business Related Programs (1 CR.)
Introduces students to the skills which are necessary to achieve their academic goals, to the services offered at the college and to the discipline in which they are enrolled. Covers topics such as services offered at the college including the learning resources center, counseling, and advising; listening, test taking, and study skills; and topical areas which are applicable to their particular discipline. ENF 1 requisite level. Lecture 1 hour per week.

SDV 101 Orientation to Criminal Justice Related Programs (1 CR.)
Introduces students to the skills which are necessary to achieve their academic goals, to services offered at the college and to the discipline in which they are enrolled. Covers topics such as services at the college including the learning resources center; counseling, and advising; listening, test taking, and study skills; and topical areas which are applicable to their particular discipline. ENF 1 requisite level. Lecture 1-3 hours per week. 1-3 credits

SDV 101 Introduction to Technology (1 CR.)
Introduces students to the skills which are necessary to achieve their academic goals, to services offered at the college and to the discipline in which they are enrolled. Covers topics such as services at the college including the learning resources center; counseling, and advising; listening, test taking, and study skills; and topical areas which are applicable to their particular discipline. ENF 1 requisite level. Lecture 1 hour per week.

SDV 106 Preparation for Employment (1 CR.)
Provides experience in resume writing, preparation of applications, letters of application, and successfully preparing for completing the job interview. Assists students in identifying their marketable skills and aptitudes. Develops strategies for successful employment search. Assists students in understanding effective human relations techniques and communication skills in job search. ENF 3 requisite level. Lecture 1 hour per week.

SDV 107 Career Education (1-3 CR.)
Surveys career options available to students. Stresses career development and assists in the understanding of self in the world of work. Assists students in applying decision-making to career choice. May be substituted for SDV 100. ENF 1 requisite level.

SDV 108 College Survival Skills (1-3 CR.)
Provides an orientation to the college. Introduces study skills, career and life planning. Offers an opportunity to engage in activities aimed at self-discovery. Emphasizes development of "Coping Skills" such as listening, interpersonal relations, competence, and improved self-concept. Recommended for students enrolled in developmental courses. Lecture 1-3 hours per week.

SDV 109 Student Leadership Development (1 CR.)
Provides opportunities for students to learn leadership theory and skills for application in campus organizations, committees and groups. Lecture 1 hour per week.

Travel (TRV)

TRV 240 Principles of Event Planning and Management (3 CR.)
Focuses on the detailed aspects of how to produce, stage, script, and manage special events within the context of achieving organizational goals. Emphasizes the five critical stages in planning and man- aging successful special events: research needs and make goal assessments; design events to meet organizational purposes; planning the effective event; coordination and on-site management; and post-event evaluation. Lecture 3 hours per week. Total 3 hours per week.

Unmanned Systems (UMS)

UMS 107 Small Unmanned Aircraft Systems Remote Pilot Ground School (3 CR.)
Presents the aeronautical knowledge required for FAA approved commercial operations as a Remote Pilot with small Unmanned Aircraft Systems (sUAS) rating. Covers the regulations applicable to small UAS operations, loading and performance, emergency procedures, crew resource management, determining the performance of the small unmanned aircraft, and maintenance/inspection procedures. Prepares students for the FAA written examination required to obtain the Remote Pilot certificate. Lecture 2-3 hours. Total 2-3 hours per week.

UMS 111 Small Unmanned Aircraft Systems (3 CR.)
Introduces students to the history of small Unmanned Aerial Systems (sUAS), surveys current platforms, applications, components, and sensors. Covers the theory of flight, operations, manual flight, maintenance, and required record keeping. Introduces mission planning, crew management, and autonomous control. Emphasizes the ethical, legal, and safe use of sUAS. Lecture 3 hours. Total 3 hours per week.

UMS 177 - Small Unmanned Aircraft Systems (sUAS) Components and Maintenance (3 CR.)
Provides an introduction to the basic equipment and techniques used in maintaining, repairing, and upgrading sUAS to assure airworthiness and proper operation of the other components. Emphasizes safe practices in repair and handling of components and develops fundamental skills in troubleshooting/repair of the circuits, subsystems and components typically found in the complete sUAS. Covers payload sensor mounting, power management and security threat management. Lecture 2 hours. Laboratory 2-3 hours. Total hours per week 4-5.

UMS 211 - Small Unmanned Aircraft Systems (sUAS) II (3 CR.)
Focuses on advanced Unmanned Aircraft System (UAS) mission planning and operation of small Unmanned Aerial Systems (sUAS). Covers mission planning, operations, communications, autonomous flights, ground control station operations, crew management, emergency procedures, safety/air vehicle pilot checklist procedures, sensor selection, data collection and analysis. Examines advanced coverage of maintenance, operations support, and introduces geospatial product workflow. Emphasizes the ethical, legal, and safe use of sUAS. Prerequisite: UMS 111 Lecture 2 hours. Laboratory 2-3 hours. Total 4-5 hours per week.

Welding (WEL)

WEL 100 Fundamentals of Welding (3 CR.)
Introduces electric and gas welding and cutting. Provides fundamental principles of joining ferrous and nonferrous metals, welding and cutting processes, equipment operation, and safety procedures with emphasis upon welding and cutting procedures. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

WEL 110 Welding Processes (3 CR.)
Introduces types of welding, their advantages and disadvantages. Points out effects of welds on metals to be machined. Provides practice and demonstration in welding. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

WEL 115 Arc and Gas Welding (3 CR.)
Presents arc and gas welding practices. Discusses safety, general welding practices and effects of welding on metals. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

WEL 123-124 Are Welding I-II (3-4 CR.) (3-4 CR.)
Teaches operation of AC transformers and DC motor generator arc welding sets, welding polarities, heats and electrodes for use in joining various metal alloys by the arc welding process; deals with running beads, butt, and fillet welds in all positions. Emphasizes safety procedures. Variable hours per week. ENF 1 requisite level.

WEL 126 Pipe Welding I (3 CR.)
Teaches metal arc welding processes including the welding of pressure piping in the horizontal, vertical, and horizontal-fixed positions in accordance with section IX of the ASME Code. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

WEL 129 Pipefitting and Fabrication (3 CR.)
Reviews basic mathematics necessary for the pipe trade. Teaches basic methods for fabricating piping offsets, miter-turn fittings, laterals, tees, odd angle elbows from 90 degree elbows, and the use of pipe fitting tools. Lecture 3 hours per week.

WEL 130 Inert Gas Welding (3 CR.)
Introduces practical operations in the uses of inert-gas-shield arc welding. Discusses equipment, safety operations, welding practice in the various applications, manual and semiautomatic welding. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

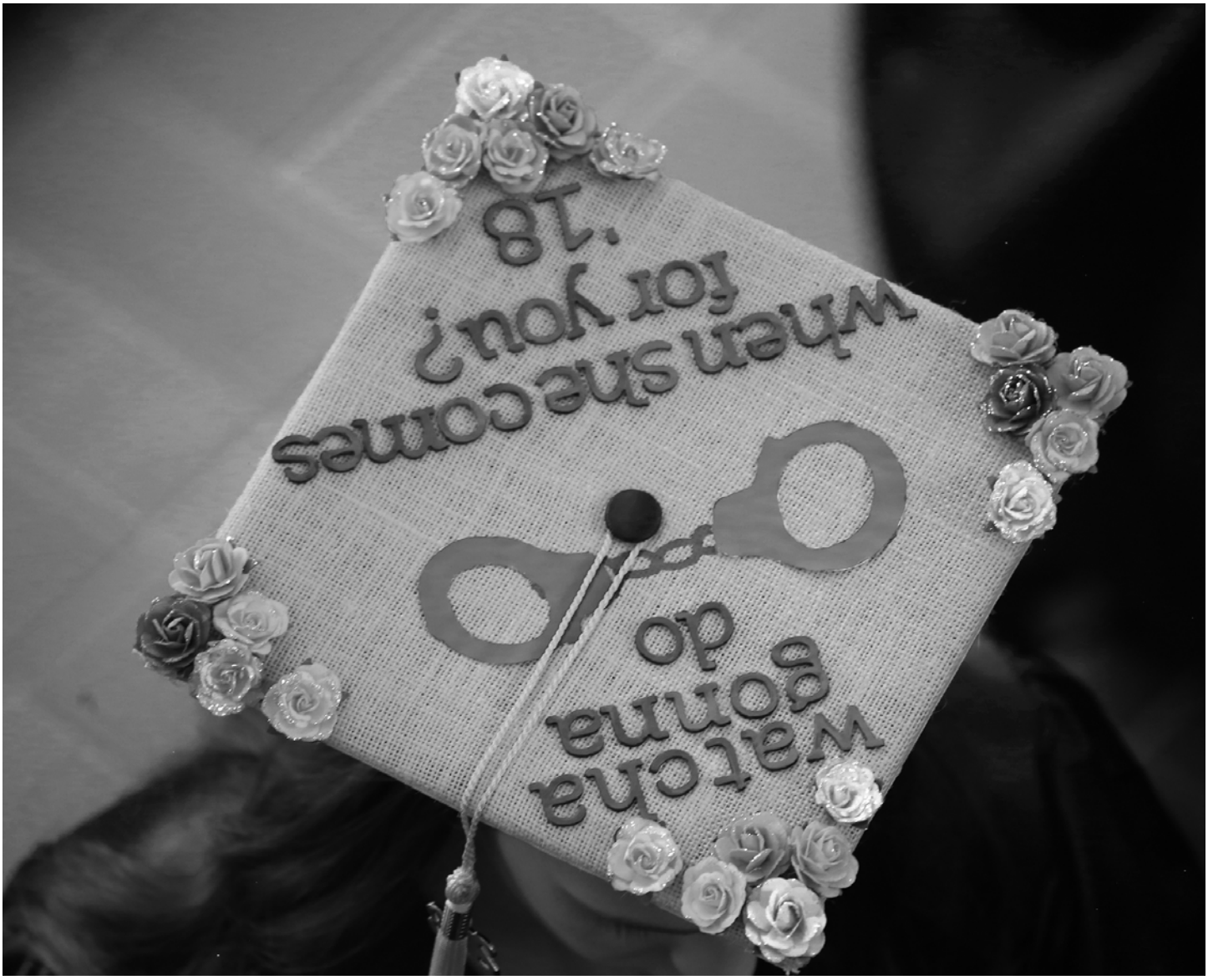
WEL 141-142 Welder Qualification Tests I-II (3 CR.) (3 CR.)
Studies techniques and practices of testing welded joints through destructive and nondestructive tests. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

WEL 145 Welding Metallurgy (3 CR.)
Studies steel classifications, heat treatment procedures, properties of ferrous and nonferrous metals. Discusses techniques and practices of testing welded joints and destructive/ nondestructive, visual magnetic and fluorescent testing. Lecture 3 hours per week.

WEL 150 Welding Drawing and Interpretation (2-3 CR.)
Teaches fundamentals required for successful drafting as applied to the welding industry. Includes blueprint reading, geometric principles of drafting and freehand sketching, basic principles of orthographic projection, preparation of drawings and interpretation of symbols. Variable lecture/lab hours per week.

WEL 160 Semiautomatic Welding Processes (3 CR.)
Introduces semi-automatic welding processes with emphasis on practical application. Includes the study of filler wires, fluxes, and gases. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

WEL 198 Seminar and Project in Welding (3 CR.)
Completion of a project or research report related to the student's occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.



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