

## WELCOME

Fayetteville Technical Community College is a warm and friendly place . . . to visit . . . to explore career possibilities . . . to extend and enjoy avocational interests . . . and to pursue academic degrees for enhanced employment opportunities or advancement. In fact, FTCC is so versatile that nearly 40,000 people took one or more courses with us last year.

FTCC offers 57 credit programs in the Curriculum Programs division and hundreds of non-credit courses through our Continuing Education division. We are sure there is a course or program at FTCC that will excite you.

We hope you'll take some time to look through the programs outlined in this catalog. Then let us know if we can help you make important decisions concerning your future education and training. If you have questions that are not answered in the catalog, please contact the people or offices listed below and let them know how they can help you with your special needs.

FTCC is a community college, meaning that we exist to serve the people in this community. So whether you come here to join friends, make new ones, or become a friend to others, you'll soon discover, FTCC is a friendly place.

Please call us with your questions.

Admissions . . . . .	678-8473
Adult and Continuing Education . . . . .	678-8386
Academic Program Areas	
Business . . . . .	678-8466
General Education and Public Service . . . . .	678-8467
Health . . . . .	678-8264
Technical and Vocational . . . . .	678-8338
Co-op Education . . . . .	678-8453
Counseling . . . . .	678-8286
Dean of Students . . . . .	678-8387
Financial Aid . . . . .	678-8242
Health Services . . . . .	678-8450
Information	
Student Services . . . . .	678-8419
Continuing Education . . . . .	678-8241
Job Placement . . . . .	678-8418
Learning Resources Center . . . . .	678-8305
Library . . . . .	678-8247
Registrar . . . . .	678-8252
Switchboard . . . . .	678-8400
Veterans' Services . . . . .	678-8395

**FAYETTEVILLE TECHNICAL COMMUNITY COLLEGE**

**BOARD OF TRUSTEES**

Harry F. Shaw, Chairman

Howard L. Hall, Vice Chairman

Steve R. Satsky, Secretary

<u>Name</u>	<u>Expiration Date</u>	<u>Appointed By</u>
Harry F. Shaw	June 30, 1993	Board of County Commissioners
Jimmy Harvey	June 30, 1992	Board of County Commissioners
Wayne T. Williams	June 30, 1994	Board of County Commissioners
Steve R. Satsky	June 30, 1991	Board of County Commissioners
Artheneus Dew	June 30, 1993	County School Board
Thornton W. Rose	June 30, 1992	County School Board
Mrs. Lura S. Tally	June 30, 1994	County School Board
Howard L. Hall	June 30, 1991	County School Board
William L. Dukes	June 30, 1992	Governor
Henry T. Pulliam	June 30, 1994	Governor
Robert C. Lewis, Jr.	June 30, 1991	Governor
Mrs. Tommie B. Evans	June 30, 1993	Governor

**ATTORNEY**

L. Stacy Weaver, Jr.

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## **NONDISCRIMINATION STATEMENT**

Fayetteville Technical Community College is dedicated to equality of opportunity within its community. Accordingly, Fayetteville Technical Community College does not practice nor condone discrimination, in any form, against students, employees, or applicants on the grounds of race, color, national origin, religion, sex, age, or handicap. Fayetteville Technical Community College commits itself to positive action to secure equal opportunity regardless of those characteristics.

Fayetteville Technical Community College supports the protection available to members of its community under all applicable Federal Laws, including Title VI and VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Sections 799A and 845 of the Public Health Service Act, the Equal Pay and Age Discrimination Acts, the Rehabilitation Act of 1973, and Executive Order 11246.

For information concerning these provisions, contact:

Vice President for Personnel  
Fayetteville Technical Community College  
P.O. Box 35236  
Fayetteville, NC 28303

## **PURPOSE OF CATALOG**

The purpose of this catalog is to provide a general description of Fayetteville Technical Community College and give detailed information regarding the various programs and services offered by the College. Inasmuch as the educational process necessitates change, the information and educational requirements in this catalog represent a flexible program which may be altered where such alterations are thought to be in the mutual interest of the College and its students. Each student is given an approval letter and educational plan upon acceptance to a program. Students are expected to follow the course requirements specified in the educational plan.

The provisions of this catalog do not constitute any offer for a contract which may be accepted by students through registration and enrollment in the College. Fayetteville Technical Community College reserves the right to change without notice any fee, provision, offering or requirements for admission or graduation. The College further reserves the right to require a student to withdraw from the College for cause at any time.

Each curriculum shall be governed by the requirements in effect on the date of enrollment as specified by the student's educational plan. If a student withdraws from Fayetteville Technical Community College and subsequently returns or does not remain continuously enrolled (summers excluded), the requirements in effect at the time of return will govern.

## **STUDENT RESPONSIBILITY**

All programs establish certain academic requirements that must be met before an academic award is granted. Advisors, department heads and deans are available to help the student understand and arrange to meet these requirements, but the student is responsible for fulfilling them. If, at the end of a student's course of study the requirements for graduation have not been satisfied, the respective certificate, degree or diploma will not be granted. For this reason, it is important for each student to acquaint himself or herself with all academic requirements throughout his or her college career and to be responsible for completing all such requirements.

# 1990-1991 ACADEMIC CALENDAR

	On-Campus 11-week Term	Accelerated Session	Accelerated Session
<b>Fall 90-91</b>		<b>Session 8-1</b>	<b>Session 8-2</b>
Registration	8/27, 28, 29, 30; 9/4	8/21, 22, 27, 28	10/16, 17, 22, 23
Orientation	8/31		
Classes Begin	9/5	8/27	10/22
Last Day to Add	9/11	8/29	10/24
Last Day for Refund	9/14	9/4	10/29
Student Holiday	9/3	9/3	11/22, 23
Faculty/Staff Holiday	9/3	9/3	11/22, 23
Last Day of Term	11/21	10/20	12/15
<b>Winter 90-91</b>		<b>Session 8-3</b>	
Registration	11/13, 14, 15, 28	1/2, 3, 7, 8	
Orientation	11/14		
Classes Begin	11/29	1/7	
Last Day to Add	12/5	1/9	
Last Day for Refunds	12/10	1/14	
Student Holidays	11/22, 23; 12/21 - 1/1; 1/21	1/21	
Faculty/Staff Holidays	11/22, 23; 12/24 - 28, 1/1; 1/21	1/21	
Required Leave Days	12/31		
Last Day of Term	2/27	3/2	
<b>Spring 90-91</b>		<b>Session 8-4</b>	<b>Session 8-5</b>
Registration	2/19, 20, 21; 3/4	2/26, 27; 3/4, 5	4/23, 24, 29, 30
Orientation	2/20		
Classes Begin	3/5	3/4	4/29
Last Day to Add	3/11	3/6	5/1
Last Day for Refunds	3/14	3/11	5/6
Student Holiday	4/1	4/1	
Faculty/Staff Holiday	4/1	4/1	
Last Day of Term	5/22	4/27	6/22
Graduation	6/6		
<b>Summer 91-92</b>		<b>Session 6-1</b>	<b>Session 6-2</b>
Registration	5/16; 5/27	5/16; 5/27	5/16; 5/27; 7/8
Classes Begin	5/28	5/28	7/8
Last Day to Add	6/3	5/28	7/8
Last Day for Refunds	6/6	6/3	7/12
Student Holiday	7/4	7/4	
Faculty/Staff Holiday	7/4	7/4	
Last Day of Term	8/14	7/5	8/14
Graduation	8/16		

# 1991-1992 ACADEMIC CALENDAR

	On-Campus 11-week Term	Accelerated Session	Accelerated Session
<b>Fall 91-92</b>		<b>Session 8-1</b>	<b>Session 8-2</b>
Registration	8/26, 27, 28, 29; 9/3	8/20, 21, 26, 27	10/15, 16, 21, 22
Orientation	8/30		
Classes Begin	9/4	8/26	10/21
Last Day to Add	9/10	8/28	10/23
Last Day for Refund	9/13	9/3	10/28
Student Holiday	9/2	9/2	11/28, 29
Faculty/Staff Holiday	9/2	9/2	11/28, 29
Last Day of Term	11/20	10/19	12/14
<b>Winter 91-92</b>		<b>Session 8-3</b>	
Registration	11/12, 13, 14, 25	1/6, 7, 8, 9	
Orientation	11/13		
Classes Begin	11/26	1/6	
Last Day to Add	12/4	1/9	
Last Day for Refunds	12/9	1/13	
Student Holidays	11/28, 29; 12/23 - 1/3; 1/20	1/20	
Faculty/Staff Holidays	11/28, 29; 12/23 - 27, 1/1; 1/20	1/20	
Required Leave Days	12/30, 31		
Last Day of Term	2/28	2/29	
<b>Spring 91-92</b>		<b>Session 8-4</b>	<b>Session 8-5</b>
Registration	2/18, 19, 20; 3/4	2/25, 26; 3/2, 3	4/21, 22, 27, 28
Orientation	2/19		
Classes Begin	3/5	3/2	4/27
Last Day to Add	3/11	3/4	4/29
Last Day for Refunds	3/16	3/9	5/4
Student Holiday	4/20	4/20	
Faculty/Staff Holiday	4/20	4/20	
Last Day of Term	5/22	4/25	6/20
Graduation	6/4		
<b>Summer 92-93</b>		<b>Session 6-1</b>	<b>Session 6-2</b>
Registration	5/21; 6/1	5/21; 6/1	5/21; 6/1; 7/13
Classes Begin	6/2	6/2	7/13
Last Day to Add	6/8	6/2	7/13
Last Day for Refunds	6/11	6/8	7/17
Student Holiday	7/6	7/6	
Faculty/Staff Holiday	7/6	7/6	
Last Day of Term	8/19	7/10	8/19
Graduation	8/21		



## **GENERAL INFORMATION**

Fayetteville Technical Community College, as a technical, state-supported institution, adheres to an "Open Door" admissions policy. High school graduates, persons achieving a North Carolina equivalency certificate (GED), and adults who show potential for post high school education may be admitted to courses which are appropriate to their educational potential. Successful implementation of an "Open Door" admissions policy requires an emphasis on admissions counseling services. These services are provided to ascertain potential for success in the particular program to be pursued by the student. As part of the admissions counseling process, Fayetteville Technical Community College utilizes the ACT/ASSET placement battery, an interview, and an evaluation of the applicant's prior school record. When the admissions counseling process indicates that applicants lack sufficient academic background to pursue credit courses, they will be directed to the Developmental Studies program prior to entry into a diploma or degree curriculum. If they lack a high school diploma, they will be given the opportunity to pursue studies to achieve an Adult High School Diploma or a North Carolina equivalency certificate (GED) prior to entering a regular curriculum. Admissions to curricula are open to applicants without regard to race, creed, national origin, age, sex, or handicap.

## **HISTORY OF FTCC**

From a building of 38,000 square feet, a faculty and staff of nine people, and an enrollment of 50 students, Fayetteville Technical Community College has experienced phenomenal growth from 1961 to 1990. Now in its third decade, FTCC provides programs to meet the vocational, technical and adult education needs of Fayetteville, Cumberland and surrounding counties. FTCC currently is housed on a 111.6-acre campus with a physical plant of over 400,000 square feet and has a full-time faculty of 193 people, an enrollment of over 10,000 curriculum students, and a total operating budget of over 22 million dollars.

FTCC originated in 1961 as the Fayetteville Area Industrial Education Center under the auspices of the City Board of Education operating in the old senior high school while facilities in the Honeycutt area were being finished. In 1963, the North Carolina General Assembly created the Department of Community Colleges for the expressed purpose of providing for the establishment, organization, and administration of a system of educational institutions. Located throughout the State, these institutions offered courses of instruction in one or more of the general areas of two-year college parallel, technical, vocational, and adult education programs. The authority for this newly created department was vested in the North Carolina State Board of Education. The Center became a part of this system at that time.

The Center's progress in providing quality educational programs resulted in the Board of Trustees requesting that the status "Technical Institute" be given the Center. This request was granted by the State Board of Education in September, 1963, and the name Fayetteville Technical Institute was adopted. With the status of "Technical Institute", the Board of Trustees was granted

authority to award the Associate in Applied Science Degree and Associate Degree in General Education in addition to the diplomas offered in numerous programs.

From its beginning in 1961 to the present, FTCC has seen the construction of a number of buildings such as Lafayette Hall, Cumberland Hall, the Paul Thompson Library, the Administration Building, and in 1988, the Student Center and Center for Business and Industry. FTCC's growth has not been limited to the numerous buildings which have been constructed. It has grown in enrollment and in educational programs as well.

Effective January 1, 1981, the North Carolina Community College System was transferred from under the control of the State Board of Education to the newly created State Board of Community Colleges. This Board will lead the North Carolina Community College System into the third decade of educational challenge and beyond.

In January 1988, Fayetteville Technical Institute became Fayetteville Technical Community College when the North Carolina Department of Community Colleges and the North Carolina State Legislature allowed all the technical colleges and institutes in the State to refer to themselves as community colleges. The change was in name only as the purpose and mission of Fayetteville Technical Community College remains intact.

## **FTCC PURPOSE STATEMENT**

The purpose of Fayetteville Technical Community College is to provide low-tuition, occupational, technical, and general education programs which meet the needs and desires of its student population, community business, industry, and health facilities. To improve the educational base of society, FTCC encourages life-long learning and strives to prepare students for further educational experiences.

FTCC identifies the educational needs of applicants and assists students in satisfying these needs at a minimal expense. Each adult who applies will be admitted to a program appropriate to his/her abilities and interests.

FTCC provides instruction in the basic life skills needed to contribute effectively to society. Continuing Education programs are designed to meet specific needs in basic educational competencies, high school completion, upgrading occupational skills, and other avocational or practical skills required for the rapidly changing technological advances in the community.

Curricular programs reflect the changing technical, commercial, industrial, and health needs of Fayetteville, Cumberland County, and surrounding areas. Various curricula offer remedial preparation, certificates, diplomas, and associate degrees. FTCC offers courses and programs at times and places convenient to prospective students. Courses are also available for high school graduates who need additional academic preparation before attempting college work.

## **ACCREDITATIONS AND ASSOCIATIONS**

### **ACCREDITATION BOARD FOR ENGINEERING AND TECHNOLOGY, INC. (ABET)**

The following curricula offered by Fayetteville Technical Community College are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, Inc.

1. Civil Engineering Technology
2. Electronics Engineering Technology

### **AMERICAN BANKERS ASSOCIATION'S AMERICAN INSTITUTE OF BANKING**

The American Institute of Banking is an integral part of the organization and mission of the American Bankers Association (ABA) whose purpose is to enhance the ability of America's bankers and banks to serve effectively and profitably the needs and desires of the American public.

### **AMERICAN BAR ASSOCIATION**

Fayetteville Technical Community College's Paralegal Technology program is certified by the American Bar Association.

### **AMERICAN BOARD OF FUNERAL SERVICE EDUCATION**

Fayetteville Technical Community College's Department of Funeral Service Education is approved by the North Carolina State Board of Mortuary Science and the American Board of Funeral Service Education.

### **AMERICAN DENTAL ASSOCIATION**

The American Dental Association is directly concerned with dental and dental auxiliary education. Through this council, the Association accredits all auxiliary dental programs to insure quality educational training for auxiliary personnel who will provide dental health care to people.

### **AMERICAN PHYSICAL THERAPY ASSOCIATION**

The Physical Therapist Assistant program at Fayetteville Technical Community College is accredited by the American Physical Therapy Association.

## DEPARTMENT OF COMMUNITY COLLEGES

Fayetteville Technical Community College is chartered by the North Carolina State Department of Community Colleges, as specified in Chapter 115D of the General Statutes of North Carolina.

## JOINT REVIEW COMMITTEE ON EDUCATION IN RADIOLOGIC TECHNOLOGY

Fayetteville Technical Community College's Radiologic Technology program is accredited by the Joint Review Committee on Education in Radiologic Technology.

## JOINT REVIEW COMMITTEE FOR RESPIRATORY THERAPY EDUCATION

Fayetteville Technical Community College's Respiratory Therapy program is accredited by the Joint Review Committee for Respiratory Therapy Education.

## JOINT REVIEW COMMITTEE ON EDUCATION FOR THE SURGICAL TECHNOLOGIST

The Surgical Technology program at Fayetteville Technical Community College is accredited by the Committee on Allied Health Education and Accreditation. This accreditation decision was made upon the recommendation of the Joint Review Committee on Education for the Surgical Technologist (JRC/ST), which is sponsored by the American College of Surgeons, the American Hospital Association, and the Association of Surgical Technologists.

## NATIONAL LEAGUE FOR NURSING

The Associate Degree Nursing Program of Fayetteville Technical Community College is accredited by the National League for Nursing. This type of approval is national in scope and voluntary rather than required by law. The standards set by the accrediting body are uniform throughout the United States. The achievement of NLN accreditation by a program signifies that it has met the national standards of excellence for programs in nursing of its type.

## NORTH CAROLINA BOARD OF NURSING

Fayetteville Technical Community College is accredited to offer a two-year associate degree program with a major in nursing and a one-year practical nursing program. Both programs qualify the graduates to write the State Board Test Pool Licensing Examination for the respective levels of preparation. Candidates who complete these examinations are awarded licensure in North Carolina.

## NORTH CAROLINA DEPARTMENT OF INSURANCE

Fayetteville Technical Community College is approved by the North Carolina Department of Insurance for the purpose of pre-licensing education.

## NORTH CAROLINA REAL ESTATE LICENSING COMMISSION

The North Carolina Real Estate Licensing Commission approves and certifies all fundamental and advanced real estate instructors and approves the Fundamentals of Real Estate course, Real Estate Law, Real Estate Finance, Real Estate Brokerage Operations, and Real Estate Appraisal courses of instruction.

## NORTH CAROLINA STATE BOARD OF CERTIFIED PUBLIC ACCOUNTANT EXAMINERS

Fayetteville Technical Community College is approved by the North Carolina State Board of Certified Public Accountant Examiners for the purpose of mandatory Certified Professional Education credits.

## SOUTHERN ASSOCIATION OF COLLEGES AND SCHOOLS

Fayetteville Technical Community College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award certificates, diplomas, and associate degrees.

The Southern Association of Colleges and Schools is a regional accrediting agency for the purpose of identifying and accrediting institutions which meet their standards for quality and scope of higher education.

## UNITED STATES DEPARTMENT OF EDUCATION

Fayetteville Technical Community College is recognized by the U.S. Department of Education as being an institution of higher learning and is qualified to receive federal assistance in all of its higher education programs.

## PROFESSIONAL ORGANIZATIONS

The College has membership in several educational associations which carry on a variety of programs and services that will provide the institution with informational services, research, consultants, and workshops on many of the varied problems and issues in which we are engaged in technical and trade education on a national and state level. Also, FTCC employees hold individual memberships in professional organizations related to their interests and areas of responsibility.

1. American Association of Community and Junior Colleges
2. American Council on Education
3. North Carolina Association of Adult Educators
4. North Carolina Association of Junior Colleges
5. Southern Association of Colleges and Schools

## **ADMISSIONS POLICIES AND PROCEDURES**

1. Applicants must submit an application form, including a residency statement.
2. Applicants must be high school graduates. A state equivalency (GED) certificate or GED test results which meet N.C. equivalency standards is acceptable in lieu of a high school diploma. Official transcripts verifying secondary school completion must be sent to the Director of Admissions, P.O. Box 35236, Fayetteville, NC 28303.
3. Applicants who have previously attended any other college or post-secondary institution must request official transcripts of all work attempted be sent to the Admissions Office.
4. Each applicant is required to submit a medical history statement; the information provided will be used in health care. FTCC does not discriminate on the basis of handicap in the recruitment and admissions of students and the operation of any of its programs and activities. Approved health area students must submit physical and dental exams on forms provided by the Admissions Office.
5. Each applicant is scheduled for an ASSET Success Seminar. Previous school records and the results of the ASSET seminar will be used in conjunction with the student's personal aspirations to help plan a workable educational program.
6. The ASSET inventory requirement may be waived by the Director of Admissions upon receipt of official transcripts if the applicant:
  - a. has completed 24 quarter hours of transferable college-level coursework.
  - b. has made the following minimum scores on the Scholastic Aptitude Test (SAT): total score, 750 with verbal and math scores at or above 350 each or ACT composite score of 18 or higher.
  - c. has earned an Associate Degree or higher from a regionally accredited college and has completed the required prerequisite courses.

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2. American Council on Education
3. North Carolina Association of Adult Educators
4. North Carolina Association of Junior Colleges
5. Southern Association of Colleges and Schools



7. The following programs have prerequisite course requirements as shown below.

	High school course*				Dept. Interview**	Medical Exam***
	Alg I	Alg II	Bio	Chem		
Accounting Associate Degree	x	x				
Nursing	x		x	x	x	x
Architectural Technology	x					
Auto Service Technology					x	
Business Computer Programming	x	x				
Civil Engineering Technology	x	x				
Criminal Justice Protective Services Technology	x	x				
Dental Assisting			x		x	
Dental Hygiene	x		x	x	x	x
Electronics Engineering Technology	x	x				
Emergency Medical Science	x		x	x		x
Funeral Service Education			x		x	
General Education	x	x				
Nursing Assistant					x	x
Paralegal Technology					x	
Pharmacy Technology	x		x		x	x
Physical Therapist Assistant	x	x	x	x	x	x
Practical Nursing	x		x	x	x	x
Radiologic Technology	x	x	x	x	x	x
Respiratory Care Technology	x	x	x	x	x	x
Surgical Technology			x			

\* Grade of "C" or better

\*\* Qualified applicants will be scheduled for a department interview.

\*\*\* Approved applicants must provide a completed medical examination form.

8. Special Credit Students

Students who wish to take courses for exploratory purposes, for their own pleasure, for job skills, etc., are classified as special credit students and may enroll without completing the admissions process. Non-matriculating students who do intend to complete degree or diploma requirements may take up to 45 credit hours without meeting admissions requirements.

9. Due to limited class size and space in health areas, students may be admitted into the Certificate-General Technology program. Courses taken in this certificate program will transfer and count toward graduation in the final objective program.

10. International Student Admission

This College is authorized under federal law to enroll non-immigrant alien students.

International students must complete the International Student Application and comply with the instructions contained in it. Official transcripts, official results of the Test of English as a Foreign Language, and a completed financial certificate must be submitted to the Admissions Office.

11. Veterans Education Benefits

FTCC is approved for the certification of eligible veterans and dependents for Department of Veterans Administration education benefits.

## ADMISSION OF TRANSFER STUDENTS

Students who have attempted course work at other colleges and universities must submit official transcripts of all post-secondary work. Transcripts will be reviewed during the admissions interview and transfer credit awarded according to the following criteria:

1. Prior course work must be equivalent to FTCC courses required in the degree or diploma program being sought.
2. Course work must have been completed at a regional association accredited college (i.e., Southern Association of Colleges and Schools or regional counterpart) or an institution holding professional area accreditation status (ABET, ABA, ADA, AMA, etc.).
3. Prior course work must have been completed with a grade of "C" or better.
4. Major subject area transfer credit must be approved by the departmental chairperson.
5. Transfer students must complete a minimum of 24 quarter hours of resident credit at FTCC to be eligible to receive an associate degree, unless a SOCAD participant.

6. A record of transfer credit awarded is available on the FTCC student educational plan provided at the time of approval. Official FTCC transcripts will not be provided until the student has completed the first term of enrollment at the College.

## **CREDIT FOR NON-TRADITIONAL LEARNING**

FTCC will evaluate non-traditional educational records for the possible transfer of credits. Full documentation must be provided before an evaluation can be made. Transfer of credit of non-traditional work is limited to no more than 75 percent of the AAS degree or diploma requirements.

If a student changes curriculums, he/she may be allowed transfer credit for applicable courses taken and passed in the previous curriculum. These grades will be treated in the same way as transfer credit and will carry no quality points for averages in the curriculum.

### A. Advanced Placement Examinations

Applicants to the College may request transfer credit for subjects covered under advanced placement examinations. CLEP and DANTES General Exams and Subject Area Exams are evaluated for transfer credit. Test scores must meet ACE (American Council on Education) recommendations. Advanced credit awarded at prior colleges must be supported by official test score reports to be considered for transfer credit.

### B. Military Service Training

Military service school records may be submitted for transfer credit evaluations. The servicemember is encouraged to submit a "Request for Evaluation of Military Experience" (form-DD295). Servicemembers should submit AARTS (Army/ACE Registry Transcript System) transcripts for evaluation. Service school diplomas and MOS (Military Occupational Specialty) Evaluation Score Reports are acceptable in lieu of the AARTS Transcript. Military service experiences are evaluated using ACE Guide recommendations.

### C. Industrial and Professional Training

FTCC will consider the evaluation of credit for documented professional training and certification. Transfer of credits is considered using The National Guide to Educational Credit for Training Programs.

### D. Experiential Learning

FTCC does not consider experiential or life experiences for transfer credit evaluation.

## E. Proficiency Tests

FTCC students who plan to challenge\* a curriculum level course must contact the department chairperson of the appropriate department to request a proficiency examination. Proficiency tests are given under the following conditions.

1. Students have passed a preliminary screening test given by the department chairperson.
2. Students must be registered for the course in order to take a proficiency exam.
3. Proficiency exams must be taken within the first four class days of the quarter.
4. Students who pass a proficiency exam at the "C" grade level will be assigned a "P" grade and will not be required to attend further class sessions.
5. Veteran students and other third party recipients may not use courses passed by proficiency for the purposes of educational entitlement. Students who pass a proficiency test are encouraged to add additional courses in order to maintain full-time status.

\*CLEP examinations will be the required proficiency test where available. Students will be referred to area CLEP examination sites for testing when appropriate.

Fayetteville Technical Community College is a Serviceman's Opportunity College (SOC) and supports the concept that military personnel should be encouraged to begin their post-secondary education while serving their country. FTCC also participates in the SOCAD network with degree completion programs available to the serviceman in Accounting, Air Conditioning, Heating, and Refrigeration Technology, Banking and Finance, Business Administration, Criminal Justice-Protective Services Technology, Business Computer Programming, Foodservice Management, General Education, General Occupational Technology, Industrial Management, Marketing and Retailing, Paralegal Technology, Public Administration, and Real Estate.

## **RE-ADMISSION OF FORMER STUDENTS**

Any student who withdrew from the College and wishes to return must contact the Student Development Office to reactivate his/her application for admission.

1. A student who withdrew for unavoidable reasons may be eligible for re-admission at the beginning of the next quarter.
2. A student who was suspended for unsatisfactory academic progress is required to re-apply for re-entrance through the Admissions Office. Re-admissions decisions will then be made by the Admissions office based upon a review of previous grades, consultation with instructors and department chairpersons involved, additional achievement and/or interest testing, and interviews to determine the reasons for unsatisfactory progress. In cases where the probable causes of

unsatisfactory progress while previously enrolled have not been removed, re-entry to curricular studies may be denied or re-entry approved under specific conditions which can include change of curriculum, remedial course work, and probationary status.

3. A student who was dismissed from the College by disciplinary action may re-enter only upon approval by the Dean of Students.
4. A student who withdraws from the institution and re-enters at a later quarter, including students who have completed at least one or more quarters, will be subject to curricular requirements in effect for the following fall quarter. In cases where students re-enter at the beginning of fall quarter, they are subject to the requirements of the curriculum at the fall quarter re-entry.
5. Any student indebted to the institution is ineligible to re-enter until all financial obligations to the institution have been satisfied.

### COLLEGE EXPENSES

Tuition and fees are assessed on a quarterly basis and are due at registration. Payments may be made by cash, personal check drawn on an in-state bank, Bankamericard/VISA or Mastercard. Personal checks drawn on out-of-state banks, second party checks, and checks in excess of actual costs are not accepted. A student is not considered as registered until fees are paid.

The estimated expenses for a full-time student during an academic year are as follows:

	In-State	Out-of-State
Tuition*	315.00	2943.00
Student Support Services	9.00	9.00
Books and Supplies	600.00	600.00
Parking Fees	<u>12.00</u>	<u>12.00</u>
	<b>\$936.00</b>	<b>\$3564.00</b>

**Other Fees:**

1. Additional expenses required to cover uniforms, instruments, tools, malpractice insurance, and dues to student associations are detailed in the institution's recruitment brochures.
2. Tuition for students taking less than 12 quarter hours is \$8.75 per credit hour for in-state students and \$81.75 per credit hour for out-of-state students.

3. Parking stickers are issued upon payment of the parking fees. Students are held responsible for all parking regulations as stated in the Rules and Regulations Bulletin.
4. All prospective graduates will be charged a graduation fee of \$15.00.

\*Tuition and fees may change because of legislative or institutional policy revisions subsequent to publication of catalog.

## **FINANCIAL AID**

### **Financial Aid Office (Student Center, Room 145)**

A variety of assistance plans is available to students who cannot afford to pay the costs of their education. Those who hesitate to enroll because of the cost are urged to contact the Financial Aid Office for help in determining qualifications for assistance and for application forms.

Information about financial aid programs, methods by which aid is distributed, rights and responsibilities under any financial aid program, the cost of attending the College, and policies and procedures of the financial aid program are available for review.

### **Financial Aid Programs**

The Student Financial Aid Handbook, available in the Financial Aid Office, describes the following programs available at the College:

#### Scholarships

Private Donor Scholarships  
FTCC Foundation Scholarships

#### Grants

Pell Grants (formerly Basic Grants - BEOG)  
Supplemental Educational Opportunity Grants (SEOG)  
NCSIG

## Loans

Stafford Loan (GSL)  
Supplemental Loans (SLS)  
Parent Loans (PLUS)  
College Student Loan Fund

## Employment Opportunities

College Work-Study Employment (Federal)

## **RESIDENCY CLASSIFICATION FOR TUITION PURPOSES**

Every applicant is required to provide information regarding his or her length of residency in North Carolina. The tuition charge for legal residents of North Carolina is less than for non-residents attending Fayetteville Technical Community College. To qualify for in-state tuition, a legal resident must have maintained his or her domicile in North Carolina for at least twelve months prior to his or her classification as a resident for tuition purposes. Copies of the applicable law (G.S. 116-143.1) and implementing regulation are available in the office of the Dean of Students. Initial classification of residency for tuition purposes is made in the Admissions Office. Appeals and requests for re-classification should be addressed to the Dean of Students.

### Responsibilities of the Student Relative to Residency Classification

1. If you currently are classified as a nonresident for tuition purposes, it is your right to petition for a change in classification to that of resident if you claim that you are now and, for at least the twelve-month period immediately preceding the date of such petition, have been a legal resident of the State of North Carolina. The fact that you have resided in the state for twelve months does not in itself constitute in-state residency. You must be able to show proof that you have indeed taken steps to become a legal resident. Examples are: filing income tax in North Carolina, registering for voting, listing personal property taxes, automobile registration, etc.
2. If you currently are classified as a resident for tuition purposes, it is your obligation to petition for a change in classification to that of a nonresident if you have reasonable basis for believing that change in facts requires such a change in classification. Failure to fulfill this obligation may result in appropriate disciplinary action including, but not necessarily limited to, cancellation of enrollment. If it is determined that in fact you have become a nonresident, the effective date of change in applicable tuition rates shall be the next quarter following the date of change in facts which required the change in classification, unless you are deemed eligible to further enjoy the in-state tuition rate under the statutory twelve-month grace period. If you claim eligibility as a member of

the Armed Forces or a dependent relative of such a member to be charged the in-state tuition rate under GS 116-143.3, you must submit the appropriate application prior to initial enrollment or re-enrollment for which you claim the tuition benefit. You must submit the application prior to each successive academic year of enrollment.

3. North Carolina laws require that each student supply all information requested relative to residency classification for tuition purposes. Failure to do so would result in classification as a nonresident for tuition purposes.

## **STUDENT INSURANCE**

All students, either full- or part-time, who are charged a Student Support Services Fee are covered by a master student accident insurance plan carried by the College. Students are insured while attending school during the hours that school is in regular session or participating in or attending an activity (other than an athletic activity) exclusively sponsored and supervised by the school, and traveling directly to or from such activity (other than an athletic activity) in a vehicle furnished and supervised by the school.

Students participating in athletic activities which are a part of their regularly scheduled instruction are covered by this insurance. Students participating in organized intramural sports are also covered.

The student accident insurance plan does not guarantee payment of all medical costs, and the student is responsible for the payment of all costs in excess of those paid by the insurance policy. A copy of the student accident insurance plan for the College is available in the Health Services Office.

## **TUITION WAIVERS**

1. Senior citizens aged 65 or over are entitled to free tuition.
2. High school students enrolled in a community college curriculum class under Huskins Bill Programs or concurrent enrollment provisions are exempt from tuition.
3. When an employer, other than the armed services, pays tuition for an employee to attend a community college and when the employee works at a North Carolina business location, the employer is charged the in-state tuition rate.
4. Out-of-state service members and their dependents stationed at a North Carolina base are eligible to be charged the in-state tuition rate. This waiver is for the academic year. Continuing students must re-apply each fall term.



## REFUND POLICIES

TUITION REFUNDS for students shall not be made unless the student is, in the opinion of the College, compelled to withdraw for unavoidable reasons. In such cases, the student's tuition may be refunded if the student withdraws within ten (10) calendar days beginning with the first day of classes as published in the school catalog.

Tuition refunds will not be considered after that time except when a course or curriculum fails to materialize.

Eligibility for refunds for summer sessions is reduced to five calendar days beginning with the first day of classes for each session. No requests for refunds will be approved after the periods indicated above.

BOOKSTORE REFUNDS are made under the following conditions:

- A. Students are allowed ten (10) calendar days beginning with the first day of the quarter to return textbooks for refund or credit as outlined below.
- B. Books which have not been used, damaged, or marked in will be accepted for 100% refund or credit from students in the following categories, provided proof of purchase (cash register receipt) is furnished at the time books are returned:
  - (1) registered in error (must present signed drop/add form indicating such and sales receipt);
  - (2) course canceled (signed drop/add form and sales receipt);
  - (3) purchased in error (must present schedule of courses and sales receipt);
  - (4) courses dropped and/or added: (signed drop/add form and sales receipt);
  - (5) books which are defective or damaged at the time of purchase.
- C. All refunds, other than credit toward a purchase of additional items, will be made by check, issued by the Fiscal Affairs Office. No cash refunds will be made for books returned at any time after purchase.

## ALUMNI ASSOCIATION

The Alumni Association of Fayetteville Technical Community College was officially founded in November 1984. The purpose of the organization is to foster a mutually beneficial relationship between the College and its graduates.

Each member enjoys the benefits of continued use of campus resources such as the library and job placement, the receipt of a quarterly newsletter, and involvement in cultural and social activities on campus. There are no membership dues assessed.

The activities and growth of the Alumni Association are guided by a twelve member Board of Directors who are elected from within the membership.

The members of the Alumni Association are dedicated to advancing the growth and development of their alma mater, and to helping each other become better, more productive people. They share a pride in the past with a focus on the future.

## **STUDENT ACTIVITIES**

Student activities are an integral part of the total development of students at Fayetteville Technical Community College. Through participation in these activities, students receive practical experience in the responsibility of citizenship. All students are encouraged to participate. Intramurals, club membership, educational, cultural, and social events are provided. Activities are open to all students without regard to race, creed, national origin, or sex.

## **STUDENT GOVERNMENT ASSOCIATION**

The Student Government Association represents the student body in institutional affairs at Fayetteville Technical Community College. Members of the Student Government Association are assigned to serve as members of an institutional standing committee. The president of the Student Government Association serves on the FTCC Steering Committee. The president, as head of the student body, also serves as an ex officio member of the FTCC Board of Trustees.

## **NORTH CAROLINA VISITING ARTIST PROGRAM**

The North Carolina Arts Council and the Community College System jointly sponsor a visiting artist at each of the 58 community and technical colleges. The artists are not to teach formal classes, but to work as artists-in-residence for the communities where the schools are located. Residencies include areas such as music, dance, theater, painting, sculpture, printmaking, film/video, photography, crafts, poetry, and fiction.

As community art resources, visiting artists present workshops, lecture/demonstrations, exhibitions, in-school activities, and productions. Fayetteville Technical Community College has been a part of this program since 1972 and has provided many versatile and talented artists for Fayetteville and Cumberland County.

## **FITNESS CENTER**

Fayetteville Technical Community College is committed in its effort to provide students, faculty and staff with a healthful, safe environment in which to learn, teach, and grow.

In keeping with this philosophy, a new fitness center is now available on campus. It is located in the Horace Sisk gymnasium facility and is available for all students and personnel on campus.

The fitness center provides personal fitness appraisals by a professional staff, support groups for weight loss, stress management and exercise. Personal testing and evaluation will be a continuous process toward a healthful lifestyle.

## **STUDENT DEVELOPMENT**

The Office of Student Development at Fayetteville Technical Community College is located in the Student Center. Counselors are available to assist students from 8:00 a.m. to 9:00 p.m. each day, Monday through Friday.

Students, faculty, and staff who need assistance should feel free to contact staff personnel in the Student Development Office.

Students are urged to come to the Student Development Office any time during school hours. A counselor will be available to assist all students with career plans, personal concerns, or educational counseling.

The Student Development Staff is responsible for the following functions:

- |                                     |                            |
|-------------------------------------|----------------------------|
| 1. admissions                       | 7. health services         |
| 2. alumni or follow-up coordination | 8. new student orientation |
| 3. career development               | 9. recruitment             |
| 4. counseling                       | 10. registration           |
| 5. financial aid                    | 11. student activities     |
| 6. graduate job placement           | 12. student housing        |
|                                     | 13. testing                |

The foregoing services are provided to assist students in achieving their educational goals as quickly as possible. Students should feel free to come in any time for assistance.

## **CAREER DEVELOPMENT**

Assistance with the development of realistic career goals and plans is available through the Career Center. Through the Career Center an individual can talk with a trained counselor and work jointly in solving problems associated with career choices, daily choices and educational planning. The Career Center offers information on career-related topics, including job descriptions, duties, working environments, earnings, minimum entry skills, and the education and training required for entry into the job market. Special testing, including attitude and achievement tests, are utilized to aid the career development process. Career Center services are available to students, staff and faculty, and members of the community.

## **COOPERATIVE EDUCATION**

Cooperative Education offers an extension and application of classroom instruction through a supervised work experience that is related to the student's educational goals. It is an educational plan designed to use the "laboratories of the community" in business, industry, and civic agencies to the best advantage of the students, the school, and the employers.

The principle of this concept is that classroom instruction along with practical experience is the most effective way to obtain a balanced education. The program is designed to provide the necessary tools to prepare the student for the transition from school to work.

## **COUNSELING SERVICES**

Counseling Services, located in the Student Center, offers a variety of services free to all students, Monday through Friday, from 8:00 a.m. to 9:00 p.m. Students are seen on a walk-in basis, or appointments may be made in person or by calling 678-8419.

Staff: The counseling staff is composed of competent professionals with extensive training in counseling and guidance, who are experienced in assisting students in developing skills and attitudes needed to deal effectively with their surroundings. Responsibilities of counseling are shared equally between counselor and student, and the counselor respects the ability of the individual to make realistic choices among options presented.

Admissions Counseling: Counselors interpret test data, review transcripts, make course recommendations, and assist students in viewing alternatives as they prepare to enter Fayetteville Technical Community College. This process may involve career counseling. In such cases, counselors assist students in making a thorough self-appraisal of interests, abilities, and personality traits so that they may utilize this information in making a wise career choice. Additional career/vocational counseling services are available through the Career Center, Room 113, Student Center.

Educational Counseling: Students who are uncertain regarding their major course of study or who are experiencing academic difficulty are aided in making more meaningful academic choices.

Personal Counseling: Many students have personal concerns which may interfere with their academic success. The counseling staff provides an atmosphere in which students may discuss problems with the assurance that all counseling information is confidential and would be released only with the student's written consent.

Group Counseling: Counseling Services provides a variety of small group experiences ranging from personal growth groups, to study skills groups, to career decision-making workshops. Students who wish to improve communication or interpersonal skills may participate in growth groups where they can experiment with new types of behavior in a safe and accepting environment. For those students experiencing academic difficulty, study skills groups provide instruction and supervised activity designed to improve study skills and habits. Students can gain insight regarding their interests, abilities, and decision-making styles, as well as the world of work, while participating in career decision-making workshops.

Referrals: Those students with long-term counseling needs or serious problems, such as personality disorders which require special treatment, are referred to appropriate agencies.

## **FACULTY ADVISEMENT**

The faculty advisory system at Fayetteville Technical Community College is an integral part of the instructional and student development programs of the institution and serves two primary functions: (1) to assist students with course selection for their curricular studies, and (2) to provide assistance with the scholastic and school-related problems encountered in reaching their academic goals. The faculty advisory system is designed to provide the student with information, assistance with procedural tasks and educational program planning. In addition, the faculty advisory system is to provide the student with an educationally supportive relationship outside of the classroom environment. The effective use of the faculty-advisor/student relationship is essential to both student academic success and retention.

## **HEALTH SERVICES**

Health services at FTCC are handled by the Health Services Coordinator. Each shop and lab is equipped with first-aid kits. Basic first aid is available. Students are referred to an area health care facility when treatment is required. Health counseling is provided by a trained staff member. The Health Services Coordinator will act as a referral agent as necessary.

## **JOB PLACEMENT**

The Placement Office is available year round to assist graduates entering the job market. The Placement Office maintains placement records on students, initiates contacts with prospective employers, arranges and coordinates job interviews between students and employer representatives and maintains current information on employment opportunities including salaries. Follow-up studies of FTCC graduates are conducted yearly in order to provide current information on graduate placement, including type of employment, geographic location and salary scale.

A list of part-time jobs available locally is posted on the Placement Office bulletin board for student use.

## **SERVICES FOR THE HANDICAPPED**

Fayetteville Technical Community College commits itself to positive action to secure equal opportunity regardless of race, color, national origin, religion, sex, age, or handicap. Disabled students are encouraged to apply early in order to receive the full assistance of the institutional programs. Information with respect to the existence and location of services, activities, and facilities that are accessible to and usable by handicapped persons may be obtained from the Director of Admissions or any counselor in the Student Development Office.

## **STUDENT HOUSING**

Housing arrangements are the student's responsibility. As a member of the North Carolina Department of Community Colleges, FTCC does not provide student housing. Assistance is available in locating living arrangements in the community. Students in need of housing should contact the Director of Admissions. The College assumes no responsibility in any financial arrangement between the student and the landlord. Financial arrangements for rooms are on an individual basis between the student and the landlord.

## **LEARNING RESOURCES CENTER**

The Learning Resources Center contains a collection of carefully selected printed and nonprinted materials to support and enrich instruction. Components of the Learning Resources Center are the Library, the Learning Laboratory, and Media Services.

The Library provides excellent facilities for study, research, browsing, self-improvement, and enjoyment. The Library houses over 50,000 volumes of books and subscribes to over 330 current magazines and newspapers. Back issues of periodicals are available in bound volumes,

unbound issues, and on microfilm. Audiovisual software, such as film, filmstrips, records, video and audio tapes, slides, and microfilms are available in the Library, as is the space and equipment necessary to use these materials. The Library also has available for student use an Apple IIe computer and printer, electric typewriters, copying machines, and college catalogs for post-secondary institutions in the southeastern states. The Library also has the capacity of providing computerized literature searches of the Dialog data bases. The staff is always ready to instruct students in the use of the Library and to assist them in finding information here or at other institutions through interlibrary loans.

The Learning Lab/Skills Lab is a service facility available to the student body and any adult in the community. The Lab offers a wide selection of subjects and materials in a variety of formats including computer software, cassettes, filmstrips, and texts. The Learning Lab/Skills Lab supports courses and programs on campus and in the community. It is an excellent place to prepare for any academic endeavor or to get assistance in current studies. The Learning Lab has a program for the General Education Development test (GED) and courses for North Carolina teacher renewal. This comprehensive facility specializes in individualized teaching at the level of need.

Media Services provides a qualified staff and excellent facilities to support the instructional programs with materials production and equipment. Equipment that circulates is controlled through Media Services. Students in need of assistance for class assignments, projects, or presentations should contact Media Services through an instructor.

The Learning Resources Center has a seating capacity of over 300 with study arrangements to meet student needs. The Learning Resources Center strives to make available all types of media for enjoyment, enrichment and instructional purposes for the student body, the faculty, the staff of Fayetteville Technical Community College, and the community.

## **ACADEMIC POLICIES**

### Credits

- A. All curricular students receive quarter-hour credit for courses which they successfully complete.
- B. The Board of Trustees of Fayetteville Technical Community College has been authorized by the North Carolina Board of Community Colleges to award the Associate of Applied Science Degree, Associate Degree in General Education, the Diploma, and the Certificate upon successful completion of curricular requirements.
- C. Fayetteville Technical Community College has structured its curricula, of both one and two years' duration, on a post-secondary level and grants credit on a

quarter-hour basis. Instruction in all curricula is post-secondary and requires students to be capable of study beyond the high school equivalency level for success. The curricula are designed on a quarter-hour basis to include general education areas which require extra out-of-class preparation each quarter. Each class, lab and shop session is of 50 minutes duration and requires a minimum of outside preparation of two hours for each classroom session, one hour for each lab session and additional outside preparation for shop sessions. Quarter-hour credit is granted on a basis of one credit to three sessions of shop, one credit to two sessions of lab, and one credit to each classroom session of weekly attendance and one credit to ten hours of cooperative work experience or practicum.

- D. It is the policy of this College to permit students to enroll in additional subjects since the instructional hours shown in the curricula are minimum. A student may enroll on request for additional instructional hours deemed by the instructor to be consistent with the program and appropriate to the student as approved by his/her advisor.
- E. Students with academic deficiencies who require remedial work as background preparation may enroll in Developmental Studies. These Developmental Studies courses carry credit hours for institutional accounting purposes only and are not counted as credit hours toward graduation in any of the curricula.
- F. A student must obtain approval from the faculty advisor to take credit hours excessive to the normal curricular load as stated in the curriculum outline. Students falling below a 2.50 quality point average will not be permitted to attempt credit hours beyond the stated curricular quarter load.

#### Class Repeat Rules

Students should not repeat courses previously passed with a "C" or better. Students who fail a required course will be required to repeat the course. Both grades made on a given course will be counted on the student's total quality point average.

Veterans should be aware that they cannot receive VA benefits for duplication of courses previously passed with a grade of "D" or higher.

#### Classification of Students

**Full-time student:** A student enrolled for 12 or more quarter hours.

**Part-time student:** A student enrolled for fewer than 12 quarter hours.

**Freshman:** A student who has fewer than the number of quarter hours required for the first three quarters.

**Sophomore:** A student who has satisfied freshman requirements.



**Audit:** Students are not permitted to audit courses. (See provisions for students taking courses for "No Credit.")

**Non-Matriculating Student:** Students who wish to take courses for exploratory purposes, for their own pleasure, for job skills, etc., and who do not intend to pursue a degree or diploma may take up to 45 credit hours without meeting admission requirements.

However, students must meet all admission requirements and be formally approved for a curriculum before they may be approved for VA or financial aid.

#### Schedule Adjustments

1. Students may not add a class after the first five school days of any quarter.
2. A student may drop a class as late as the 20% date of the class without penalty. The transcript will indicate a "WD."
3. A student who has to withdraw from the institution for unavoidable reasons within the first 10 calendar days may request a refund of 2/3 tuition rates.
4. A student who drops a class after the 20% date of the class and is passing at the time of official withdrawal will be given a "WP."
5. A student who drops a class after the 20% date of the class, and is not eligible for a "WP," will receive a "WF."
6. All students who drop must follow the instructions listed in the current Student Handbook under "withdrawals."

#### Withdrawals

Once a student has duly enrolled in a class and paid the registration fee, the student shall maintain membership in said class, until one of the following occurs:

1. Student Withdrawal - He/she officially withdraws. (This constitutes student withdrawal and is effective as of that date.)
2. Administrative Withdrawal
  - a. He/she ceases attending class. Students who are absent for more than 20% of scheduled class sessions will be dropped from the class rolls.

- b. The responsible instructional personnel are reasonably assured that the student does not intend to pursue the learning activities of the class. (This constitutes administrative withdrawal and is effective as of that date.)
- c. He/she completes the minimum objectives stated for the class, or transfers to another class.

## GRADING PROCEDURES

FTCC grades are based on a 4.0 grading system. Each grade is assigned a "grade-point equivalent" in quality points for each quarter credit hour scheduled. The scholastic point average is determined by dividing the total of quality points earned by the number of quarter hours scheduled.

<u>Numerical Grade</u>	<u>Grade</u>	<u>Grade Point Equivalent</u>
93 - 100	A - Excellent	4 quality points for ea. qtr. hr.
85 - 92	B - Good	3 quality points for ea. qtr. hr.
77 - 84	C - Average	2 quality points for ea. qtr. hr.
70 - 76	D - Below Avg.	1 quality point for each qtr. hr.
0 - 69	F - Failure	0 quality point
	I - Incomplete	0 quality point
	N/C - No Credit	0 quality point (not computed in GPA)
	P - Proficiency	0 quality point for each qtr. hr. (not computed)
	W/D - Withdrew	No effect on grade point average
	W/P - Withdrew Passing	No effect on grade point average
	W/F - Withdrew Failing	0 quality point

All final course grades will be letter grades in accordance with the adopted grading system. Student grade reports are mailed at the end of each quarter. Grades will also reflect student's attitude toward scholastic work as measured by the instructor.

All students must have at least a 2.0 quality point average and have passed all curricular subjects as listed in the course outline under which they entered to be eligible for graduation. They must also meet the grade level needed in major subjects required to take licensure examinations.

Health occupations curricula and Funeral Service Education require grading policies necessary to meet state requirements. Each department area will issue to the student in written form the necessary information to cover such grading policies. Students who request transfers to other degree curricula are expected to have maintained a 2.0 QPA on all courses completed including prerequisite courses. Associate Degree Nursing candidates who elect to attempt related course work prior to entering the clinical sequence must complete all course work with a minimum grade of "C" and a cumulative QPA of 2.500.

## HONORS AND AWARDS

Any student who has earned a quality point average of 4.0 at Fayetteville Technical Community College will be granted a diploma or degree with highest honors. Any student who has earned a quality point average of 3.5 will be granted a diploma or degree with honors. A seal of recognition will be placed on the student's degree or diploma, and the student's transcript will be noted to reflect this achievement.

### President's List

The President's List is published at the end of each quarter to honor students with a perfect grade point average.

- a. Students must be approved for a curriculum, excluding Developmental Studies.
- b. Students must make final grade of "A" on a minimum of 12 credit hours of curricular work.
- c. Students must earn a "4.00" QPA on a minimum of 12 credit hours. The formula used to calculate this "4.00" QPA excludes the following grades: P, NC, WD, WP.
- d. Students are NOT eligible for consideration until all course work is completed for the quarter.

### Dean's List

The Dean's List is published quarterly to honor those students with an outstanding grade point average.

- a. Students must be approved for a curriculum, excluding Developmental Studies.
- b. Students must make a final grade of "A or B" on a minimum of 12 credit hours of curricular work.

- c. Students must earn at least a "3.5" QPA on a minimum of 12 credit hours. The formula used to calculate this minimum "3.5" QPA excludes the following grades: P, NC, WD, WP.
- d. Students are NOT eligible for consideration until all course work is completed for the quarter.

### Marshals

Marshals are selected and given the privilege to lead the academic procession during graduation exercises. The selection of marshals is a competitive process based on academic averages. Marshals must be third-quarter freshmen in a two-year curriculum.

### Trox Poland Memorial Award

The Trox Poland Memorial Award is presented to an outstanding student at the spring graduation exercises. The criteria set forth for this award are as follows:

1. Student must have a minimum overall quality point average of 3.00.
2. Student must have been in continuous enrollment on a full-time basis at FTCC during year of nomination.
3. Student will be selected during the spring quarter of his/her year of graduation at FTCC.
4. Student will be judged on "attributes" and "contributions" while attending FTCC.
5. Student should demonstrate a genuine concern for FTCC and its role in the community. In addition, he/she should exhibit and promote good student morale.

### Outstanding Student Award

Each year an outstanding student is honored at the summer graduation with a special award.

The criteria for this award are:

1. Student must have a 3.00 overall quality grade point average.
2. Student must be in continuous enrollment during the year of nomination.
3. Student must be nominated by a faculty member from his/her curricular area.
4. Student will be selected during the summer quarter of his/her year of graduation.
5. Student will be judged on "attributes" and "contributions" while attending FTCC.

## REQUIREMENTS FOR GRADUATION

To be eligible for graduation, the student must:

1. Successfully complete the curricular requirements in effect at the time the student entered the curriculum. Students who enter a curriculum after the spring quarter are subject to the curricular requirements in effect for the following fall quarter. A student who withdraws from the institution and re-enters at a later quarter, including students who have completed at least one or more quarters, will be subject to curricular requirements in effect for the following fall quarter. In cases where students re-enter at the beginning of fall quarter, they are subject to the requirements of the curriculum at the fall quarter re-entry.
2. Have met all admissions requirements for the program in which the student will graduate, including receipt of high school transcript and transcripts of all post-secondary school work.
3. Have sufficient quality points to average 2.0 in total program.
4. Have passing grades in all required courses (certain curricula, especially in the health area, require that a student make at least a "C" grade on major subject areas for the student to be eligible to take state and national examinations for licensure.)
5. Must have taken care of ALL financial indebtedness to Fayetteville Technical Community College, including a graduation fee.
6. Applications for degrees or diplomas must be completed by the student and returned when the student registers for the last quarter of enrollment. The College assumes no responsibility for making special adjustments for students who fail to file applications by the designated time. A candidate who fails to file an application for graduation or meet graduation requirements by the designated date automatically voids his candidacy for that particular graduation.
7. Substitution of courses for graduation purposes is limited to 10 percent of the total credit hours required to graduate and must be approved by the department chairperson and the program area dean. All exceptions to the 10 percent limit must be approved by the Associate Vice President for Student Development.
8. Electives taken by students under VA educational benefits may exceed the total required hours of a curriculum only by the hours of the last elective taken to fulfill those requirements.

## STANDARDS OF PROGRESS

A student whose quality point average for any given quarter's work falls below the minimum as stated in the current Student Handbook will be placed on academic probation. If the subsequent quarter's work should also fail to meet the minimum requirement of probation, the student may be requested to drop certain courses, and/or take remedial work, or may be placed on academic suspension for at least one quarter. Certain curricula have minimum course grade requirements which will be specified either in the Student Handbook or a program area bulletin.

The conditions of academic probation are as follows: (1) maintain at least a grade of "C" on all courses taken during the quarter, (2) non-participation in organized extra-curricular activities while on academic probation, and (3) participation in a minimum of three counseling sessions.

Students placed on academic suspension for one quarter may be re-enrolled after the suspension period; however, the student will be placed on academic probation for the first quarter of re-enrollment.

Anyone (on academic probation) receiving VA educational allowance must receive at least a 2.0 grade-point average during the quarter of probation. If the 2.0 grade point average is not met during the probationary period, VA benefits will be terminated due to unsatisfactory academic progress, regardless of the school's decision as to whether to allow the student to continue.

Students who are on academic probation and do not meet the conditions of probation are subject to academic suspension for a minimum of one quarter.

## GENERAL COMPETENCIES FOR FTCC GRADUATES

The following competencies were developed within the framework of Fayetteville Technical Community College's purpose statement, which reflects the institution's desire to meet the needs of its students and the surrounding community. Students who graduate from FTCC's degree and diploma programs should be able to:

- Communicate effectively in speaking, writing, reading, and listening.
- Perform technical skills in their chosen occupation.
- Use information to analyze problems and make logical decisions.
- Demonstrate positive interpersonal skills in various aspects of life.

- Demonstrate quantitative competencies.
- Demonstrate basic skills in using a personal computer.

## **STUDENT OBLIGATIONS**

### Attendance Policy

Because of the nature of the vast majority of the courses at Fayetteville Technical Community College, the administration has established the following policy. The policy has been established for the benefit of the students who are forced, because of reasons beyond their control, to miss classes as well as of those who do not miss any classes. (Both groups of students are involved.)

- A. Instructors will make every effort to advise students who have missed more than 10% of a course that their standing in class is in jeopardy. Students added to a class after the first day of the term shall have absences computed starting with the day following the date on their registration or drop/add form.
- B. Instructors are encouraged to refer students with excessive absences to the Counseling Office.
- C. If a student is absent during a quarter 20% of the number of class hours scheduled per quarter, he/she will be dropped from the course. Students dropped from class for non-attendance may be readmitted to class with the approval of both the counselor and instructor.
- D. Each student dropped may submit a request for review by the Student Appeals Committee.
- E. Tardy students interrupt the beginning of a class meeting. If a student enters the class after the instructor has started the class, the student shall be recorded as being tardy. Three tardies shall be counted as one absence.
- F. No absence, for any reason, shall excuse a student from an announced test, examination, or other assigned activities. Make-up of any tests or work missed shall be at the discretion of the faculty member. The make-up of any test or examination shall be scheduled on the earliest possible date after the student returns to class.
- G. Health Programs curricula do have attendance policies that are more stringent than the general requirements. Health students will receive a copy of attendance requirements during the first days of class.

## GENERAL STUDENT REGULATIONS

The total educational program of the College is designed to assist the student to reach his/her highest level of potential in personal development. Each curriculum is designed as a vital part of that development, and the successful completion of all course work will enhance the probability of good job placement. Each out-of-class activity is designed to provide the best opportunity for social development as a part of overall training.

In order to maintain a climate supportive of learning, certain rules and regulations are expected of students. The program area deans are responsible for administrative discipline of students. The institution's standards of behavior are published in the Student Handbook under "Regulations for Students." They are as follows:

1. Students are expected to conduct themselves as mature adults at all times.
2. Students who negligently lose, damage, destroy, sell, or otherwise dispose of school property placed in their possession or entrusted to them will be charged the full extent of the damage or loss and will be subject to disciplinary action.
3. Students who engage in such acts as cheating, stealing, gambling, profane language, or personal combat make themselves liable to disciplinary action, which may include being dropped from school.
4. Students are expected to be familiar with the College's Drug and Alcohol Prevention Program, printed in the back of this catalog.
5. Use of school equipment, including copiers and computer terminals, is considered a privilege and not to be abused. Use of computer equipment and terminals not authorized by the instructor or department chairperson will be considered unauthorized and will result in disciplinary action. Improper use of computer equipment and terminals includes use of unauthorized passwords, access to unauthorized programs, and other activities not expressly required for specific class assignments.
6. Students are required to observe "no smoking" regulations.
7. Students are under a moral obligation to conduct themselves in a respectful manner in off-campus housing.
8. Off-campus activities under the name or sponsorship of FTCC are subject to the same rules and regulations for on-campus activities.
9. Students are responsible for information, rules and regulations published in the Student Handbook.



## Dismissal

Fayetteville Technical Community College reserves the right to dismiss any student when it believes such action is in the best interest of the institution and/or the student. In all cases, the right of due process is the student's prerogative.

## Students' Right to Due Process

Students subject to administrative decisions affecting their right to attend classes are entitled to due process. Due process includes, but is not limited to, the following considerations.

1. The student must be informed of any charges made against him/her that may result in administrative action except for certain academic programs, the standards for which are set out in the Student Handbook.
2. The student must be advised in writing of the administrative action taken.
3. The student will be advised of corrective action required.
4. The student is entitled to an appeal. The appeals process is described in the current Student Handbook.

## **STUDENT RECORDS**

Records of progress are kept by this institution on veteran and non-veteran students alike. Progress records are furnished the students, veterans and non-veterans alike, at the end of the scheduled school term.

1. The Registrar is responsible for student records. The following documents will be maintained as a part of the student's institutional records and will be subject to all state and federal regulations governing the safety and confidentiality of those records: completed application, completed medical form, veterans' records, statement of residency, transcripts, any statement of waiver by the student concerning student records, and a list of persons, firms, or other institutions to which a copy of the institutional records have been sent.
2. A student may receive a copy of his/her transcript upon graduation. One official transcript may be sent to a school of his/her choice upon written request.
3. When a student has a name change or change of address, he/she is responsible for contacting the Registrar's Office in person to fill out the necessary forms.
4. Transcripts and other information on students will not be released until all financial obligations to the institution have been satisfied.

5. Any student with outstanding (unpaid) fines at the end of an academic quarter may not be permitted to re-register, nor have his/her grades released, nor have course completion certificates released until payment of such debts has been accomplished.

**TO ALL PARENTS OF STUDENTS CURRENTLY ATTENDING FAYETTEVILLE TECHNICAL COMMUNITY COLLEGE AND ALL STUDENTS CURRENTLY ATTENDING WHO HAVE REACHED THE AGE OF 18:**

The Family Educational Rights and Privacy Acts (FERPA) is a federal law that governs the maintenance of students' records. Under the law, parents of students or students, if they are at least 18, have both the right to inspect records kept by the school about the student and the right to correct inaccuracies in the records. Access to the records by persons other than the parents or the student is limited and generally requires prior consent by the parents or the student. The Board of Trustees has adopted a written policy governing all the rights of parents and students under FERPA. Copies of this policy may be found in the Registrar's Office.

Fayetteville Technical Community College classifies the following as directory information: Name and enrollment status, including curriculum and dates of enrollment. The student's address, telephone number and location on campus may also be released if the request is legitimate and a need for emergency access exists as determined by the Registrar or staff. School officials may release this information to any person without the consent of the parents or the student. Any parent or eligible student who objects to the release of any or all of this information without his/her consent must notify in writing the Registrar by a date which is five (5) school days from the date that the student receives his/her Student Handbook. The objection must state what information the parent or student does not want to be classified as directory information. If no objection is received by the aforesaid date, the information will be classified as directory information until the beginning of the next school year.

Complaints about failures of Fayetteville Technical Community College to comply with the Family Educational Rights and Privacy Act may be made in writing to FERPA Office, Department of Health, Education, and Welfare, 330 Independence Avenue, S.W., Washington, D.C. 20201.



**Fayetteville Technical  
Community College**

**CONTINUING EDUCATION**

## CONTINUING EDUCATION

### General

The Continuing Education Division is responsible for non-curriculum, non-credit educational programs for students 18 years of age or older. Due to ongoing changes in technology, career and job requirements, as well as revised life styles, needs are being created for continuing education in most occupational and avocational areas. The Continuing Education Division is mandated to respond to these needs by providing services to individuals, organizations, businesses, and industries within the Fayetteville-Cumberland County area. Requests for continuing education programs range from courses in basic reading and writing to advanced courses in technical fields. These courses are made available whenever there is a sufficient number of students interested in the same subject area and a qualified instructor is available. Adults may also attend continuing education courses to fill leisure time and to improve vocational, avocational, and practical skills.

### Literacy Education

Literacy Education encompasses the areas of Adult Basic Education (ABE), Adult High School Diploma (HSD), English As A Second Language (ESL), General Education Development (GED), and Compensatory Education.

### Adult Basic Education (ABE)

The goal of this program is to teach adults the basic skills of reading, writing, math, money management and problem solving. The program is offered at no charge to adults 16 years of age and older.

### General Education Development (GED)

The GED course is designed for adults 18 years of age and older who have not received a High School Diploma. The course will prepare students for the five GED exams in reading (literature and the arts), mathematics, writing (English), social studies, and science. The GED certificate signifies that the graduate has achieved a level of educational development equivalent to that of High School Diploma recipients.

### English as a Second Language (ESL)

ESL classes are designed for any adult who is not a native English speaker. Reading, writing, speaking, and basic living skills are taught. Students are placed in class levels with other students having similar language needs. Classes and books are FREE.

### Compensatory Education (CED)

Compensatory education is designed to provide remedial academics to adults 18 years of age and older who have been diagnosed as being delayed learners. Classes are free and all books and materials are provided.

### Adult High School Diploma Program

The Adult High School Diploma Program, a component of Literacy Education, is a course of studies in the core subjects of English, social studies, mathematics, and sciences. This component is designed to give adults of Cumberland County an opportunity to earn a high school diploma. A student should be 18 years of age or older to enter the program, or be officially released from the public school system.

Each of the above listed subjects is a concentrated study of approximately sixty (60) hours per subject. The high school diploma is issued by Fayetteville Technical Community College in cooperation with the Cumberland County Board of Education.

### Human Resources Development

Human Resources Development is a self-improvement, job-seeking skills class for the unemployed adult, 18 years of age or older. During the six-week class the students are provided instruction in the area of self-awareness, communication skills, interviewing techniques and resume preparation. The objective of the class is to enhance the students' potential for employment by improving their job seeking skills and techniques.

### Industry Services and Occupational Extension Education

Occupational Extension Education is primarily concerned with educational programs required to upgrade skills in businesses and industries throughout the county. Additionally, training for service industries is provided for public and private businesses and agencies. Other areas of concern include new and expanding industry, hospitality, and occupational skills training for the handicapped. Specialty training for manufacturing industries is available through the Cooperative Skills Training Department.

### Center for Business and Industry

The Center for Business and Industry is designed to serve the employee or prospective employee of our business and industry community. This state-of-the-art facility is located on Fayetteville Technical Community College's main campus (2801 Fort Bragg Road) and is scheduled exclusively for local business and industry use. Through the Center for Business and Industry, the Continuing Education Division will be promoting yet another dimension of customized courses, flexibility, and quality instruction.

### Extension Education

Extension Education offers a wide variety of courses in arts and crafts, aviation (private pilot and instrument ground school), business, computer education, automotive mechanics, auto body repair, general contractors license preparation, vocational shop, and general interest programs (including such courses as bartending, prepared childbirth, travel agent, and effective teaching training for substitutes). These courses are intended to provide training to upgrade a person's skills or qualifications, and assist in preparing an individual for a new career.

### Community Services

Community Services programs are an integral part of continuing education. Classes such as arts and crafts, home economics, foreign languages, sign language, and general interest are offered mornings, afternoons, and evenings.

Courses are frequently designed to meet specific requests, therefore, this area is expected to grow and change with the interests and needs of the community. Students are regularly surveyed for comments and suggestions.

### Emergency Services Training

Emergency Services Training consists of education in the areas of Emergency Medical Technician, Cardiopulmonary Resuscitation, Rescue Squad, and other areas of the medical profession. Additionally, Law Enforcement Training and Fire Service Training are provided. Courses are offered on campus, at local fire departments, churches, schools, businesses, industries, or other locations where there is community interest. A number of courses are open to the public, while some are limited to in-service training. Although the state prescribed registration fee is required, exceptions are recognized for fire service, police, and life-saving personnel. CPR classes are also tuition free for people willing to join Heart Saver Team Programs.



**Fayetteville Technical  
Community College**

# **CURRICULUM PROGRAMS**

## CURRICULUM PROGRAMS

### ASSOCIATE DEGREE PROGRAMS

A/C, Heating & Refrigeration Technology

Accounting

Administrative Office Technology

Architectural Technology

Associate Degree Nursing

Automotive Service Technician

Automotive Technology

Banking and Finance

Business Administration

Business Computer Programming

Civil Engineering Technology

Commercial Art & Advertising Design

Criminal Justice/Protective Services Technology

Dental Hygiene

Early Childhood Associate

Electronics Engineering Technology

Emergency Medical Science

Foodservice Management

Funeral Service Education

General Education

General Occupational Technology

General Office

Horticulture Business Technology

Industrial Management Technology

Insurance

Machinist Technology

Marketing and Retailing

Paralegal Technology

Physical Therapist Assistant

Postal Service Technology

Public Administration

Radiologic Technology

Real Estate

Recreation Associate

Respiratory Care Technology

Surveying Technology

### DIPLOMA PROGRAMS

Automotive Body Repair

Automotive Mechanics

Carpentry & Cabinetmaking

Cosmetology

Dental Assisting

Drafting-Mechanical

Electrical Installation and Maintenance

Foodservice Specialist

Industrial Mechanics

Masonry

Pharmacy Technology

Plumbing and Pipefitting

Practical Nursing

Surgical Technology

Tool & Die Making

Waste Water Treatment Plant Operator

Welding

### CERTIFICATE PROGRAMS

Basic Law Enforcement Training

Nursing Assistant

Practical Foodservice

Real Estate Appraisal



## **NOTE:**

All displays in schedules for Curriculum Programs show contact hours and total quarter credit hours for classes in the following order:

### **Example:**

		<b>Lecture Hours</b>	<b>Lab Hours</b>	<b>Shop/ Clinic Hours</b>	<b>Quarter Credit Hours</b>
ENG-101	Grammar	3	0	0	3

# ACCOUNTING

(T-016)

The purpose of the Accounting curriculum is to prepare the individual to enter the accounting profession through study of accounting principles, theories and practices with related study in law, finance, management, and data processing operations.

The curriculum is designed to prepare the individual for entry-level accounting positions, such as junior accountant, bookkeeper, accounting clerk, cost clerk, payroll clerk, and related data processing occupations.

With experience and additional education, the individual will be able to advance to positions such as system accountant, cost accountant, budget accountant and property accountant.

Upon completion of the program, the student will receive an **associate degree**.

## FIRST QUARTER

ACC-120	Accounting Principles I	4	2	0	5
BUS-109	Desktop Computers	1	0	3	2
BUS-110	Bus Math With Calculators	2	0	3	3
BUS-191	Keyboarding Skills I	1	0	3	2
<b>OR</b>					
BUS-192	Keyboarding Skills II	1	0	3	2
ENG-101	Grammar	3	0	0	3
MAT-132	College Algebra	5	0	0	5
		--	--	--	--
		16	2	9	20

## SECOND QUARTER

ACC-121	Accounting Principles II	4	2	0	5
ACC-123	Accounting on Computers	0	0	3	1
BUS-123	Business Finance I	2	2	0	3
BUS-128	Spreadsheets	2	4	0	4
EDP-103	Intro to Programming	3	0	0	3
ENG-102	Composition I	3	0	0	3
		--	--	--	--
		14	8	3	19

## THIRD QUARTER

ACC-221	Intermediate Acct I	5	0	0	5
BUS-124	Business Finance II	2	2	0	3
BUS-132	Advanced Spreadsheets	1	0	3	2
ENG-103	Composition II	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		14	2	3	16

## SUMMER QUARTER

ACC-122	Management Accounting	4	2	0	5
BUS-139	Multidimensional SpSheets	1	0	3	2
		--	--	--	--
		5	2	3	7

## FOURTH QUARTER

ACC-222	Intermediate Acct II	4	2	0	5
ACC-229	Federal Income Tax	5	0	0	5
BUS-115	Business Law I	4	0	0	4
BUS-282	Business Statistics	4	0	0	4
ECO-102	Macroeconomics	3	0	0	3
		--	--	--	--
		20	2	0	21

## FIFTH QUARTER

ACC-223	Intermediate Acct III	4	2	0	5
ACC-225	Cost Accounting	4	2	0	5
BUS-116	Business Law II	4	0	0	4
BUS-234	Management	2	0	3	3
	Elective	3	0	0	3
		--	--	--	--
		17	4	3	20

## ACCOUNTING (continued)

### SIXTH QUARTER

ACC-224	Advanced Accounting	4	2	0	5
<b>OR</b>					
ACC-227	Managerial Accounting	4	2	0	5
ACC-269	Auditing	5	0	0	5
ENG-204	Oral Communications	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		15	2	0	16

**Co-op Option:** Qualified students may elect to take up to six (6) credit hours of Cooperative Education in place of BUS-124 and/or free elective provided they acquire the approval of the Department Chairperson and Co-op Director.

**Important Notice:** Students intending to transfer to a four year college/ university see a Business Division counselor or Accounting Curriculum advisor before registering for any courses.

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TOTAL REQUIRED CREDITS.... 119

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## ADMINISTRATIVE OFFICE TECHNOLOGY

(T-030)

This curriculum prepares individuals to perform secretarial and administrative support duties in a variety of offices including those offices with computerized, automated functions.

Students in this curriculum study keyboarding and word/information processing to develop skills in the preparation of business correspondence, reports, statistical copy, manuscripts and business forms. Administrative support courses emphasize typical office tasks such as scheduling appointments, composing correspondence and performing reprographic duties. Training is also provided in analyzing and coordinating office duties and systems. Skills and knowledge are taught in the areas of electronic document storage and retrieval and computer software utilization.

Graduates of the program may be employed in offices in private business establishments involved in retailing, marketing, advertising, and manufacturing as well as offices in local, state, and federal government.

Upon completion of the program, the student will receive an **associate degree**.



**ADMINISTRATIVE OFFICE TECHNOLOGY (continued)**

**FIRST QUARTER**

BUS-110	Bus Math With Calculators	2	0	3	3
BUS-112	Records Management	5	0	0	5
BUS-191	Keyboarding Skills I	1	0	3	2
<b>OR</b>					
BUS-193	Keyboard Skillbuilding	1	0	3	2
ENG-101	Grammar	3	0	0	3
MAT-111	Basic Mathematics	5	0	0	5
		--	--	--	--
		16	0	6	18

**FOURTH QUARTER**

BUS-143	Bus Comm for Word Process	5	0	0	5
BUS-184	Terminology & Vocab II	5	0	0	5
BUS-206	Dict & Transcription II	3	2	0	4
BUS-211	Info Processing Applic I	4	0	3	5
ENG-204	Oral Communications	3	0	0	3
		--	--	--	--
		20	2	3	22

**SECOND QUARTER**

BUS-104	Keyboarding III	2	0	3	3
BUS-106	Shorthand	5	0	0	5
BUS-141	Business English	3	0	0	3
BUS-210	Info Processing Concepts	2	0	3	3
BUS-261	Machine Transcription I	1	0	6	3
		--	--	--	--
		13	0	12	17

**FIFTH QUARTER**

BUS-131	Microcomputer Office Appl	1	0	3	2
BUS-133	Microcomputer DOS	1	0	3	2
BUS-204	Info Processing Applic II	4	0	3	5
BUS-207	Dict & Transcription III	3	2	0	4
BUS-262	Machine Transcription II	2	0	3	3
		--	--	--	--
		11	2	12	16

**THIRD QUARTER**

BUS-105	Keyboarding IV	2	0	3	3
BUS-107	Dict & Transcription I	3	2	0	4
BUS-183	Terminology & Vocab I	5	0	0	5
BUS-214	Secretarial Procedures	3	2	0	4
ENG-102	Composition I	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		19	4	3	22

**SIXTH QUARTER**

BUS-134	Integrated Software Appli	1	0	3	2
BUS-205	Info Processing Appl III	2	0	3	3
BUS-270	Office Practice Seminar	3	0	0	3
BUS-290	Secretarial Internship	0	0	10	1
	Elective	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		12	0	16	15

**TOTAL REQUIRED CREDITS.... 120**

**SUMMER QUARTER**

BUS-130	Micro Data Management	1	0	3	2
BUS-150	Financial Accounting	4	2	0	5
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		8	2	3	10

\*\* Credit will be given for BUS 106 if high school grade is "B" or better. \*\*

# AIR CONDITIONING, HEATING, & REFRIGERATION TECHNOLOGY (T-036)

The Air Conditioning, Heating and Refrigeration Technology curriculum develops an understanding of the principles involved in designing, planning, installing, operating, troubleshooting and organizing maintenance of climate control equipment and systems. Graduates of the Air Conditioning, Heating, and Refrigeration Technology curriculum should be able to assist in planning installations, designing systems and organizing maintenance and work scheduling. In addition, they should be able to assist in installing, servicing and operating environmental control systems in residential and commercial establishments. Job opportunities exist with companies that specialize in residential, commercial and industrial air conditioning, heating and refrigeration systems, design, installation and service. The graduate should be able to assist in designing mechanical equipment, ductwork and electrical controls required in residential and commercial projects. With experience, the graduate should be able to design various air conditioning, heating and refrigeration systems and function efficiently in working with systems designers; engineers; mechanics; sales engineers and others in the field. The technician may be employed in areas of systems design, engineering assistance, estimating, sales, maintenance scheduling, installation and service management in the growing field of air conditioning, heating and cooling.

Upon completion of the program, the student will receive an **associate degree**.

## FIRST QUARTER

AHR-101A	Refrig. Fundamentals I	3	0	3	4
AND					
AHR-101B	Refrig. Fundamentals I	1	0	6	3
OR					
AHR-101X	Refrig. Fundamentals I	4	0	0	4
AND					
AHR-101Y	AHR-101 Lab	0	0	9	3
AHR-110X	Circuits and Controls I	3	0	0	3
AHR-110Y	AHR-110 Lab	0	0	6	2
DFT-101	Technical Drafting I	0	6	0	3
ENG-101	Grammar	3	0	0	3
		--	--	--	--
		10	6	15	18

## THIRD QUARTER

AHR-112X	Circuits & Controls III	2	0	0	2
AHR-112Y	AHR-112 Lab	0	0	6	2
AHR-145A	Warm Air Systems I	3	0	3	4
AND					
AHR-145B	Warm Air Systems I	1	0	6	3
OR					
AHR-145X	Warm Air Systems I	4	0	0	4
AND					
AHR-145Y	AHR-145 Lab	0	0	9	3
PHY-131X	Physics II	3	0	0	3
PHY-131Y	PHY-131 Lab	0	2	0	1
PSY-110	Human Relations	3	0	0	3
		--	--	--	--
		12	2	15	18

## SECOND QUARTER

AHR-102X	Refrig. Fundamentals II	4	0	0	4
AHR-102Y	AHR-102 Lab	0	0	9	3
AHR-111X	Circuits and Controls II	3	0	0	3
AHR-111Y	AHR-111 Lab	0	0	6	2
MAT-112	Algebra I	5	0	0	5
		--	--	--	--
		12	0	15	17

## SUMMER QUARTER

AHR-135X	Air Systems Fabrication	1	0	0	1
AHR-135Y	AHR-135 Lab	0	0	6	2
AHR-146X	Warm Air Systems II	4	0	0	4
AHR-146Y	AHR-146 Lab	0	0	6	2
PHY-132X	Physics III	3	0	0	3
PHY-132Y	PHY-132 Lab	0	2	0	1
		--	--	--	--
		8	2	12	13

## AIR CONDITIONING, HEATING, & REFRIGERATION TECHNOLOGY *(continued)*

### FOURTH QUARTER

AHR-201	Principles of Air Cond	4	0	6	6
AHR-220	Refrig. System Design	3	0	6	5
ENG-102	Composition I	3	0	0	3
WLD-106	Techniques of Welding	1	0	6	3
		--	--	--	--
		11	0	18	17

### SIXTH QUARTER

AHR-247	Advanced Heat Pumps	2	0	9	5
AHR-250	Service Problems	3	0	6	5
ENG-204	Oral Communications	3	0	0	3
	Elective	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		14	0	15	19

### FIFTH QUARTER

AHR-210	Hydronic Systems	3	0	9	6
AHR-221	Air Cond System Design	4	0	6	6
ENG-103	Composition II	3	0	0	3
	Elective	3	0	0	3
		--	--	--	--
		13	0	15	18

**TOTAL REQUIRED CREDITS.... 120**

**Co-op Option:** Qualified students may elect to take up to six (6) credit hours of Cooperative Education in place of six (6) hours of free electives provided they acquire approval from the Co-op Director and Department Chairperson.

## ARCHITECTURAL TECHNOLOGY

**(T-041)**

The Architectural Technology curriculum provides individuals with knowledge and skills that will lead to employment and advancement in the field of architectural technology. Technical courses are included which will enable the graduate to advance into related areas of work as job experience is obtained or to continue toward an advanced degree in an associated field of technology.

Architectural technicians translate the architect's design sketches into complete and accurate plans and drawings for construction purposes. The technician will be involved in work requiring a knowledge of drafting, construction materials, mechanical and structural systems, estimating, building codes, and specifications.

Initial employment opportunities exist with architectural and engineering firms, private utilities, contractors and municipal governments.

Upon completion of the program, the student will receive an **associate degree**.

### FIRST QUARTER

ARC-100	Sketching, Drawing & Comp	1	4	0	3
ARC-101	Arch Drafting & Dsgn I	2	0	6	4
ARC-111	Materials & Methods I	2	2	3	4
ENG-101	Grammar	3	0	0	3
MAT-112	Algebra I	5	0	0	5
		--	--	--	--
		13	6	9	19

### SECOND QUARTER

ARC-102	Arch Drafting & Dsgn II	2	0	6	4
ARC-110	Intro To Architecture	2	0	3	3
ARC-112	Materials & Methods II	3	4	0	5
ENG-102	Composition I	3	0	0	3
MAT-113	Algebra II	5	0	0	5
		--	--	--	--
		15	4	9	20

## ARCHITECTURAL TECHNOLOGY (continued)

### THIRD QUARTER

ARC-103	Arch Drafting & Dsgn III	2	2	6	5
ARC-120	Codes/Specs/Contracts	2	2	0	3
ARC-135	Int To Computer Aided Dft	0	0	3	1
CIV-101	Surveying I	2	0	6	4
PHY-130X	Technical Physics I	3	0	0	3
PHY-130Y	PHY-130 Lab	0	2	0	1
		--	--	--	--
		9	6	15	17

### FIFTH QUARTER

ARC-202	Arch Drafting & Dsgn V	2	2	6	5
ARC-212	Arch Presentations II	2	4	0	4
ARC-221	Arch Environment Sys I	1	2	3	3
CIV-110	Const. Methods & Mgt	3	2	0	4
ENG-204	Oral Communications	3	0	0	3
		--	--	--	--
		11	10	9	19

### SUMMER QUARTER

ARC-130	Architectural Estimating	3	4	0	5
ARC-140	Computer Aided Drafting	2	4	0	4
	<b>OR</b>				
ARC-140A	Computer Aided Drafting	1	2	0	2
	<b>AND</b>				
ARC-140B	Computer Aided Drafting	1	2	0	2
		--	--	--	--
		5	8	0	9

### SIXTH QUARTER

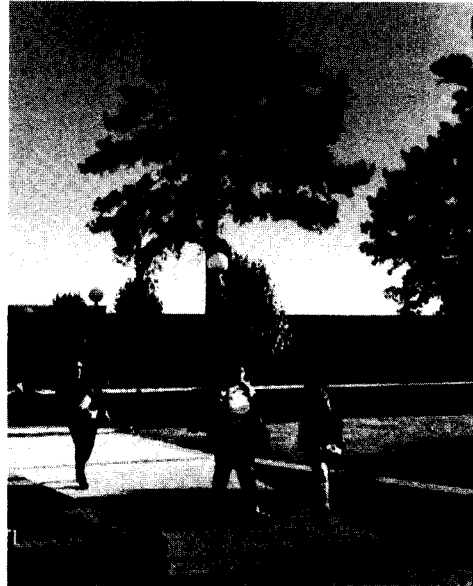
ARC-203	Arch Drafting & Dsgn VI	2	4	6	6
ARC-210	Project Seminar	2	6	0	5
ARC-220	Portfolio	1	4	0	3
ARC-222	Arch Environment Sys II	1	2	3	3
		--	--	--	--
		6	16	9	17

**TOTAL REQUIRED CREDITS.... 123**

### FOURTH QUARTER

ARC-201	Arch Drafting & Dsgn IV	2	2	6	5
ARC-211	Arch Presentations I	1	4	0	3
ART-221	Art Appreciation	5	0	0	5
ENG-103	Composition II	3	0	0	3
PSY-110	Human Relations	3	0	0	3
	Elective	3	0	0	3
		--	--	--	--
		17	6	6	22

**Co-op Option:** Qualified students may elect to take up to six (6) credit hours of Cooperative Education in place of ARC 222 and/or three (3) hours of elective credits provided they acquire approval from the Co-op Director and the Department Chairperson.



## ASSOCIATE DEGREE NURSING, REGISTERED NURSING (T-059)

The Associate Degree Nursing curriculum is designed to prepare graduates to integrate the principles and theories of nursing and the sciences in utilizing the nursing process in the practice of nursing. The practice of nursing by associate degree nursing graduates consists of assessing the patient's physical and mental health, including the patient's reaction to illness and treatment regimens; recording and reporting the results of the nursing assessment; planning, initiating, delivering, and evaluating appropriate nursing acts; teaching, delegating to or supervising other personnel in implementing the treatment regimen; collaborating with other health care providers in determining the appropriate health care for a patient; implementing the treatment and pharmaceutical regimen prescribed by any person authorized by state law to prescribe such a regimen; providing teaching and counseling about the patient's health care; reporting and recording the plan for care, nursing care given, and the patient's response to that care; and supervising, teaching, and evaluating those who perform or are preparing to perform nursing functions.

Graduates are eligible to take the National Council Licensure Examination (NCLEX-RN) which is required for practice as a registered nurse.

Individuals desiring a career in registered nursing should take biology, algebra and chemistry courses prior to entering the program.

Upon completion of the program, the student will receive an **associate degree**.

### FIRST QUARTER

BIO-106X	Human Anat & Physiology I	5	0	0	5
BIO-106Y	BIO-106 Lab	0	0	3	1
BUS-140	Micros in Healthcare	0	0	3	1
NUR-101	Nursing Child/Adult I	6	4	3	9
PSY-101	Intro to Psychology	3	0	0	3
		--	--	--	--
		14	4	9	19

### THIRD QUARTER

BIO-108X	Microbiology I	5	0	0	5
BIO-108Y	BIO-108 Lab	0	0	3	1
NUR-103	Nursing Child/Adult III	6	2	9	10
SOC-101	Intro to Sociology	3	0	0	3
		--	--	--	--
		14	2	12	19

### SECOND QUARTER

BIO-107X	Human Anat & PhysiologyII	5	0	0	5
BIO-107Y	BIO-107 Lab	0	0	3	1
NUR-102	Nursing Child/Adult II	6	4	3	9
PSY-231	Human Growth & Develop	5	0	0	5
		--	--	--	--
		16	4	6	20

### SUMMER QUARTER

NUR-104	Nursing Child/Adult IV	4	0	6	6
		--	--	--	--
		4	0	6	6



**ASSOCIATE DEGREE NURSING, REGISTERED NURSING (continued)**

**FOURTH QUARTER**

ENG-121	English Composition	5	0	0	5
NUR-205	Nursing Child/Adult V	6	2	12	11
		--	--	--	--
		11	2	12	16

**SIXTH QUARTER**

NUR-207	Nursing Child/Adult VII	6	0	12	10
NUR-208	Nursing Child/Adult VIII	3	0	3	4
	Humanities/Fine Arts Elec	3	0	0	3
		--	--	--	--
		12	0	15	17

**FIFTH QUARTER**

ENG-122	English Composition & Lit	5	0	0	5
NUR-206	Nursing Child/Adult VI	6	2	12	11
		--	--	--	--
		11	2	12	16

TOTAL REQUIRED CREDITS.... 113

**AUTOMOTIVE BODY REPAIR**

**(V-001)**

The Automotive Body Repair curriculum provides training in the use of the equipment and materials of the auto body mechanic trade. The student studies the construction of the automobile body and techniques of auto body repairing, rebuilding and refinishing.

Repairing, straightening, aligning, metal finishing and painting of automobile bodies and frames are typical jobs performed. Job titles include automobile body repairperson, automotive painter and frame and chassis repairperson. Persons completing this curriculum may find employment with franchised automobile dealers, independent garages, or may start their own business.

Upon completion, the student will receive a **diploma**.

**FIRST QUARTER**

AUT-1111	Auto Body Repair I	6	0	12	10
<b>OR</b>					
AUT-1111A	Auto Body Repair I	3	0	6	5
<b>AND</b>					
AUT-1111B	Auto Body Repair I	3	0	6	5
DFT-1101	Schematics & Diagrams	1	0	3	2
WLD-1180	Basic Welding	1	0	6	3
		--	--	--	--
		8	0	21	15

**SECOND QUARTER**

AUT-1112	Auto Body Repair II	6	0	12	10
<b>OR</b>					
AUT-1112A	Auto Body Repair II	3	0	6	5
<b>AND</b>					
AUT-1112B	Auto Body Repair II	3	0	6	5
PME-1110	Automotive Repair	3	0	6	5
WLD-1105	Auto Body Welding	2	0	6	4
		--	--	--	--
		11	0	24	19

## AUTOMOTIVE BODY REPAIR (continued)

### THIRD QUARTER

AUT-1113	Auto Body Repair III	8	0	12	12
<b>OR</b>					
AUT-1113A	Auto Body Repair III	4	0	6	6
<b>AND</b>					
AUT-1113B	Auto Body Repair III	4	0	6	6
ENG-1101	Comm Skills in Grammar	3	0	0	3
MAT-1101	General Math	3	2	0	4
		--	--	--	--
		14	2	12	19

### FOURTH QUARTER

AUT-1114	Auto Body Repair IV	7	0	15	12
<b>OR</b>					
AUT-1114A	Auto Body Repair IV	2	0	6	4
<b>AND</b>					
AUT-1114B	Auto Body Repair IV	2	0	6	4
<b>AND</b>					
AUT-1114C	Auto Body Repair IV	3	0	3	4
BUS-1103	Small Business Operations	3	0	0	3
ENG-1102	Vocational Communication	3	0	0	3
		--	--	--	--
		13	0	15	18

TOTAL REQUIRED CREDITS.... 71

## AUTOMOTIVE MECHANICS

V-003

The Automotive Mechanics curriculum provides a training program for developing the basic knowledge and skills needed to inspect, diagnose, repair and adjust automotive vehicles. Manual skills are developed in practical shop work and the technical understanding of the operating principles involved in the modern automobile are taught through class assignments, discussions and shop practices.

Automobile mechanics maintain and repair mechanical, electrical and body parts of passenger cars, trucks and buses. In some communities and rural areas they also may service tractors or marine engines and other gasoline-powered equipment. Mechanics inspect and test to determine the causes of faulty operation. They repair or replace defective parts to restore the vehicle or machine to proper operating condition and use shop manuals and other technical publications as references for technical data. Persons completing this curriculum may find employment with franchised automobile dealers, independent garages, or may start their own business.

Upon completion of the program, the student will receive an **advanced diploma**.

### FIRST QUARTER

ENG-1101	Comm Skills in Grammar	3	0	0	3
MAT-1101	General Math	3	2	0	4
PHY-1101X	Properties of Matter	3	0	0	3
PHY-1101Y	PHY-1101 Lab	0	2	0	1
PME-1101	Automotive Engines	3	0	12	7
<b>OR</b>					
PME-1101A	Automotive Engines	1	0	6	3
<b>AND</b>					
PME-1101B	Automotive Engines	2	0	6	4
		--	--	--	--
		12	4	12	18

### SECOND QUARTER

ENG-1102	Vocational Communications	3	0	0	3
PHY-1102X	Electricity	3	0	0	3
PHY-1102Y	PHY-1102 Lab	0	2	0	1
PME-1102	Engine Electrical Systems	6	0	9	9
<b>OR</b>					
PME-1102A	Engine Electrical Systems	4	0	3	5
<b>AND</b>					
PME-1102B	Engine Electrical Systems	2	0	6	4
		--	--	--	--
		12	2	9	16

**AUTOMOTIVE MECHANICS (continued)**

**THIRD QUARTER**

DFT-1180 Trade Drafting I	2	4	0	4
PHY-1103X Work, Energy & Power	3	0	0	3
PHY-1103Y PHY-1103 Lab	0	2	0	1
PME-1124 Power Train Systems	3	0	9	6
<b>OR</b>				
PME-1124A Power Train Systems	2	0	3	3
<b>AND</b>				
PME-1124B Power Train Systems	1	0	6	3
	--	--	--	--
	8	6	9	14

**SUMMER QUARTER**

BUS-127 Automotive PC Application	0	0	3	1
PME-1132 Auto Fuel Systems	3	0	3	4
	--	--	--	--
	3	0	6	5

**FOURTH QUARTER**

MEC-1198X Automotive Machine Shop	2	0	0	2
MEC-1198Y MEC-1198 Lab	0	0	6	2
PME-1123A Auto Chassis & Suspension	4	0	3	5
<b>AND</b>				
PME-1123B Auto Chassis & Suspension	1	0	6	3
<b>OR</b>				
PME-1123X Auto Chassis & Suspension	5	0	0	5
<b>AND</b>				
PME-1123Y PME-1123 Lab	0	0	9	3
PME-1181X Auto Tune Up	3	0	0	3
PME-1181Y PME-1181 Lab	0	0	3	1
WLD-1180 Basic Welding	1	0	6	3
	--	--	--	--
	11	0	24	19

**FIFTH QUARTER**

PME-1133X Computers & Emissions	3	0	0	3
PME-1133Y PME-1133 Lab	0	0	3	1
PME-1182A Automatic Transmissions	3	0	3	4
<b>AND</b>				
PME-1182B Automatic Transmissions	3	0	3	4
<b>OR</b>				
PME-1182X Automatic Transmissions	6	0	0	6
<b>AND</b>				
PME-1182Y PME-1182 Lab	0	0	6	2
PME-1183A Chassis Electrical Circ	2	0	3	3
<b>AND</b>				
PME-1183B Chassis Electrical Circ	2	0	3	3
<b>OR</b>				
PME-1183X Chassis Electrical Circ	4	0	0	4
<b>AND</b>				
PME-1183Y PME-1183 Lab	0	0	6	2
	--	--	--	--
	13	0	15	18

**SIXTH QUARTER**

PME-1125X Auto Servicing II	3	0	0	3
PME-1125Y PME-1125 Lab	0	0	9	3
PME-1134 Electronic Fuel Injection	3	0	0	3
PME-1135X Auto Air Conditioning	3	0	0	3
PME-1135Y PME-1135 Lab	0	0	3	1
PME-1170A Power Plant Trouble Shoot	2	0	3	3
<b>AND</b>				
PME-1170B Power Plant Trouble Shoot	1	0	3	2
<b>OR</b>				
PME-1170X Power Plant Trouble Shoot	3	0	0	3
<b>AND</b>				
PME-1170Y PME-1170 Lab	0	0	6	2
	--	--	--	--
	12	0	18	18

TOTAL REQUIRED CREDITS.... 108

**Co-op Option:** Cooperative Education may be substituted for PME 1170X and PME 1170Y or PME 1170A and PME 1170B upon approval of the Department Chairperson and the Co-op Director.

# AUTOMOTIVE SERVICE TECHNICIAN

(T-156)

The Automotive Service Technician curriculum is comprised of cooperative education training and related instruction in the classroom. The related instruction is an organized and systematic form of instruction designed to provide the student with knowledge of theoretical, technical, and general academic subjects related to the trade of the automotive technician.

The cooperative work phase of the program requires students to be employed full-time in supervised automotive mechanic positions to receive on-the-job experience. The cooperative work phase of the program will be supervised and evaluated.

Upon completion of the program, the student will receive an **associate degree**.

## FIRST QUARTER

AUT-101	Internal Comb Engines I	2	4	0	4
AUT-103	Electrical Systems I	2	4	0	4
AUT-106	Auto Power Train Sys I	2	4	0	4
ENG-101	Grammar	3	0	0	3
MAT-112	Algebra I	5	0	0	5
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		17	12	0	23

## SECOND QUARTER

COE-131	Automotive Co-Op Work Exp	0	0	30	3
		--	--	--	--
		0	0	30	3

## THIRD QUARTER

AUT-102	Internal Comb Engines II	2	2	0	3
AUT-104	Electrical Systems II	2	2	0	3
AUT-107	Auto Power Train Sys II	2	2	0	3
AUT-108	Basic Auto Fuel Systems	2	4	0	4
ENG-102	Composition I	3	0	0	3
PHY-131X	Physics II	3	0	0	3
PHY-131Y	PHY-131 Lab	0	2	0	1
PSY-110	Human Relations	3	0	0	3
		--	--	--	--
		17	12	0	23

## FOURTH QUARTER

COE-132	Automotive Co-Op Work Exp	0	0	30	3
		--	--	--	--
		0	0	30	3

## FIFTH QUARTER

COE-133	Automotive Co-Op Work Exp	0	0	30	3
		--	--	--	--
		0	0	30	3

## SIXTH QUARTER

AUT-105	Auto Chassis & Suspen Sys	2	4	0	4
AUT-110	Auto Heating & Air Cond	2	2	0	3
AUT-207	Engine & Pwr Tr Sys Diag	2	2	0	3
AUT-208	Electrical/Fuel Sys Diag	2	2	0	3
BUS-235	Small Business Management	2	0	3	3
ELN-100	Intro to Electronics	3	2	0	4
ENG-103	Composition II	3	0	0	3
		--	--	--	--
		16	12	3	23

## SEVENTH QUARTER

COE-134	Automotive Co-Op Work Exp	0	0	30	3
		--	--	--	--
		0	0	30	3

**AUTOMOTIVE SERVICE TECHNICIAN (continued)**

**EIGHTH QUARTER**

AUT-203	Automotive Electronics	3	2	0	4
AUT-205	Auto Chas & Susp Sys Diag	2	2	0	3
AUT-215	Inst & Chassis Elec Sys	2	4	0	4
AUT-216	Electronic Controlled Sys	3	2	0	4
BUS-127	Automotive PC Application	0	0	3	1
ENG-204	Oral Communications	3	0	0	3
	Elective	3	0	0	3
		--	--	--	--
		16	10	3	22

**NINTH QUARTER**

AUT-109	Auto Emissions Systems	2	2	0	3
AUT-217	Electronic Contr Sys Diag	3	2	0	4
AUT-218	Automotive Fuel Injection	3	2	0	4
WLD-106	Techniques of Welding	1	0	6	3
	Elective	3	0	0	3
		--	--	--	--
		12	6	6	17

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**TOTAL REQUIRED CREDITS.... 120**

**AUTOMOTIVE TECHNOLOGY**

**(T-176)**

Automotive Technology is designed to meet the need for preparing highly trained technicians to service and repair automobiles and light trucks equipped with highly technical electrical, electronics, and emission control systems. Emphasis is placed on the operation and servicing of the power train components, electrical systems, fuel systems, chassis and suspension and emission controls of gasoline and diesel engine vehicles. Upon completion of this curriculum, the student should have the theoretical knowledge and background to understand the systems of the newer model automobiles and should be prepared to work as a technician servicing automobiles and light duty trucks.

Upon completion of the program, the student will receive an **associate degree**.

**FIRST QUARTER**

AUT-151	Basic Engines	3	0	12	7
AUT-152	Automotive Brake Systems	2	0	6	4
ENG-101	Grammar	3	0	0	3
MAT-112	Algebra I	5	0	0	5
		--	--	--	--
		13	0	18	19

**THIRD QUARTER**

AUT-155	Automotive Power Trains	3	0	6	5
AUT-156	Fundamentals of Auto Comp	2	0	3	3
AUT-157	Emission & Elect Controls	2	0	3	3
AUT-158	Auto Heating & Air Cond	3	0	3	4
ELN-100	Intro to Electronics	3	2	0	4
		--	--	--	--
		13	2	15	19

**SECOND QUARTER**

AUT-153	Engine Electrical Systems	6	0	9	9
AUT-154	Automotive Fuel Systems	2	4	0	4
PHY-131X	Physics II	3	0	0	3
PHY-131Y	PHY-131 Lab	0	2	0	1
PSY-110	Human Relations	3	0	0	3
		--	--	--	--
		14	6	9	20

**FOURTH QUARTER**

AUT-159	Power Trains Service	1	0	3	2
AUT-160	Electronic Fuel Injection	2	4	0	4
AUT-161	Tune-up & Electr Controls	3	0	3	4
BUS-127	Automotive PC Application	0	0	3	1
		--	--	--	--
		6	4	9	11

## AUTOMOTIVE TECHNOLOGY (continued)

### FIFTH QUARTER

AUT-251	Susp & Computer Alignment	3	0	6	5
AUT-252X	Automotive Machine Shop	2	0	6	4
AUT-252Y	AUT-252 Lab	0	0	3	1
ENG-102	Composition I	3	0	0	3
WLD-106	Techniques of Welding	1	0	6	3
		--	--	--	--
		9	0	21	16

### SEVENTH QUARTER

AUT-255X	Automotive Servicing	2	0	6	4
AUT-255Y	AUT-255 Lab	0	0	3	1
AUT-256	Driveability & Elec Diag	2	0	6	4
ENG-204	Oral Communications	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		10	0	15	15

**TOTAL REQUIRED CREDITS.... 118**

### SIXTH QUARTER

AUT-253	Automatic Trans Rebuild	3	0	6	5
AUT-254	Electrical Power Accessor	4	0	6	6
ENG-103	Composition II	3	0	0	3
	Elective	4	0	0	4
		--	--	--	--
		14	0	12	18

**Co-op Option:** Qualified students may elect to take up to six (6) credit hours of Cooperative Education in place of AUT 252Y, AUT 255Y, and/or free electives provided they obtain the approval of the Co-op Director and Department Chairperson.

## BANKING AND FINANCE

(T-112)

The purposes of the Banking and Finance curriculum are to prepare the individual to enter the banking and finance industries, to provide an educational program for the banking employees wanting to receive the American Institute of Banking certificate, and to provide an educational program to upgrade or retrain individuals presently employed in the banking or finance industry.

These purposes will be fulfilled through study in areas such as banking and finance principles, theories and practices; teller operations; lending and collection procedures; financial analysis; marketing and public relations.

This curriculum will provide the opportunity for an individual to enter a variety of banking or finance jobs in retail banks, commercial banks, government lending agencies, mortgage banks and credit companies.

Upon completion of the program, the student will receive an **associate degree**.

### FIRST QUARTER

AIB-202	Principles of Banking	4	0	0	4
BUS-101	Introduction to Business	3	0	0	3
BUS-191	Keyboarding Skills I	1	0	3	2
<b>OR</b>					
BUS-192	Keyboarding Skills II	1	0	3	2
ENG-101	Grammar	3	0	0	3
MAT-111	Basic Mathematics	5	0	0	5
		--	--	--	--
		16	0	3	17

### SECOND QUARTER

AIB-210	Money and Banking	4	0	0	4
BUS-110	Bus Math With Calculators	2	0	3	3
BUS-115	Business Law I	4	0	0	4
ECO-102	Macroeconomics	3	0	0	3
ENG-102	Composition I	3	0	0	3
		--	--	--	--
		16	0	3	17

**BANKING AND FINANCE (continued)**

**THIRD QUARTER**

AIB-239	Marketing for Bankers	4	0	0	4
BUS-109	Desktop Computers	1	0	3	2
BUS-116	Business Law II	4	0	0	4
BUS-142	Business Communications	3	0	0	3
ECO-104	Microeconomics	3	0	0	3
	Elective	3	0	0	3
		--	--	--	--
		18	0	3	19

**FIFTH QUARTER**

AIB-203	Bank Investments	4	0	0	4
BUS-128	Spreadsheets	2	4	0	4
BUS-151	Management Accounting	4	2	0	5
	Major Elective	4	0	0	4
		--	--	--	--
		14	6	0	17

**SUMMER QUARTER**

AIB-209	Consumer Lending	4	0	0	4
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		7	0	0	7

**SIXTH QUARTER**

AIB-213	Trust Business	4	0	0	4
AIB-233	Analyzing Financial Stmt	4	0	0	4
BUS-234	Management	2	0	3	3
	Major Elective	4	0	0	4
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		17	0	3	18

**FOURTH QUARTER**

AIB-217	Corporate Banking	4	0	0	4
AIB-260	Law & Banking:Application	4	0	0	4
BUS-150	Financial Accounting	4	2	0	5
ENG-204	Oral Communications	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		18	2	0	19

**TOTAL REQUIRED CREDITS.... 114**

**Co-op Option:** Qualified students may elect to take up to three (3) credit hours of Cooperative Education in place of three (3) hours of elective credits provided they acquire approval from the Co-op Director and the Department Chairperson.

**BASIC LAW ENFORCEMENT TRAINING**

**(T-189)**

The Basic Law Enforcement Training curriculum certificate program prepares individuals to take the Basic Training Law Enforcement Officers certification examination mandated by the North Carolina Criminal Justice Education and Training Standards Commission and/or it prepares individuals to take the Justice Officers Basic Training certification examination mandated by the North Carolina Sheriffs' Education and Training Standards Commission. Successful completion of this curriculum certificate program requires that the student satisfy the minimum requirements for certification by the Criminal Justice Commission and/or the Sheriffs' Commission. The student satisfactorily completing this program should possess at least the minimum degree of general attributes, knowledge, and skills to function as an inexperienced law enforcement officer.

Job opportunities are available with state, county, and municipal governments in North Carolina. In addition, knowledge, skills, and abilities acquired in this course of study qualifies one for job opportunities with private enterprises in such areas as industrial, retail, and private security.

Upon completion of the program, the student will receive a **certificate**.

**BASIC LAW ENFORCEMENT TRAINING (continued)**

**FIRST QUARTER**

LCJ-100 Basic Law Enforcement Trn	15	0	27	24
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	15	0	27	24

**TOTAL REQUIRED CREDITS.... 24**

**BUSINESS ADMINISTRATION**

**(T-018)**

The Business Administration curriculum is designed to prepare an individual for entry into management positions.

The curriculum develops competencies in the application of management principles. Emphasis is placed on skill development in the areas of management functions, computer applications and analysis, critical thinking and decision-making techniques, marketing, finance, legal aspects of business, oral and written communications, and the utilization of human resources.

Through the development of management competencies, the graduate will be able to function as a contributing member of a management team.

Upon completion of the program, the student will receive an **associate degree**.

**FIRST QUARTER**

BUS-101	Introduction to Business	3	0	0	3
BUS-115	Business Law I	4	0	0	4
BUS-191	Keyboarding Skills I	1	0	3	2
<b>OR</b>					
BUS-192	Keyboarding Skills II	1	0	3	2
ENG-101	Grammar	3	0	0	3
MAT-111	Basic Mathematics	5	0	0	5
		--	--	--	--
		16	0	3	17

**THIRD QUARTER**

BUS-234	Management	2	0	3	3
BUS-247	Business Insurance I	3	0	0	3
ECO-104	Microeconomics	3	0	0	3
ENG-103	Composition II	3	0	0	3
MKT-239	Marketing	5	0	0	5
		--	--	--	--
		16	0	3	17

**SECOND QUARTER**

BUS-109	Desktop Computers	1	0	3	2
BUS-116	Business Law II	4	0	0	4
BUS-160	Business Math	5	0	0	5
ECO-102	Macroeconomics	3	0	0	3
ENG-102	Composition I	3	0	0	3
		--	--	--	--
		16	0	3	17

**SUMMER QUARTER**

BUS-272	Supervision	3	0	0	3
ECO-106	Money & Int'l Economics	3	0	0	3
		--	--	--	--
		6	0	0	6



## BUSINESS ADMINISTRATION (continued)

### FOURTH QUARTER

BUS-150	Financial Accounting	4	2	0	5
BUS-233	Human Resource Management	3	0	0	3
ENG-204	Oral Communications	3	0	0	3
	Elective	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		16	2	0	17

### SIXTH QUARTER

BUS-124	Business Finance II	2	2	0	3
BUS-236	Integrative Management	3	2	0	4
BUS-260	Government & Business	3	0	0	3
COE-101	Personal Develop & Comm	3	0	0	3
	Major Elective	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		17	4	0	19

### TOTAL REQUIRED CREDITS.... 111

### FIFTH QUARTER

BUS-123	Business Finance I	2	2	0	3
BUS-128	Spreadsheets	2	4	0	4
BUS-142	Business Communications	3	0	0	3
BUS-151	Management Accounting	4	2	0	5
MKT-285	Salesmanship	2	0	3	3
		--	--	--	--
		13	8	3	18

**Co-op Option:** Qualified students may elect to take up to six (6) credit hours of Cooperative Education in place of six (6) hours of elective credits (3 hours Elective; 3 hours Major Elective) provided they acquire approval from the Co-op Director and Department Chairperson.

## BUSINESS COMPUTER PROGRAMMING

(T-022)

The primary objective of the Business Computer Programming curriculum is to prepare individuals for gainful employment as computer programmers. The objective is fulfilled through study and application in areas such as computer and systems theories and concepts, data processing techniques, business operations, logic, flowcharting, programming procedures and languages and types, uses and operation of equipment.

Entry-level jobs as computer programmer and computer programmer trainee are available. With experience and additional education, the individual may enter jobs such as data processing manager, computer programmer manager, systems analyst and systems manager.

Upon completion of the program, the student will receive an **associate degree**.

### FIRST QUARTER

BUS-150	Financial Accounting	4	2	0	5
BUS-191	Keyboarding Skills I	1	0	3	2
<b>OR</b>					
BUS-193	Keyboard Skillbuilding	1	0	3	2
EDP-103	Intro to Programming	3	0	0	3
EDP-104	Intro to Data Processing	3	0	0	3
MAT-132	College Algebra	5	0	0	5
		--	--	--	--
		16	2	3	18

### SECOND QUARTER

BUS-128	Spreadsheets	2	4	0	4
BUS-151	Management Accounting	4	2	0	5
EDP-109	COBOL I	4	0	3	5
ENG-101	Grammar	3	0	0	3
MAT-133	Pre-Calculus I	5	0	0	5
		--	--	--	--
		18	6	3	22

## BUSINESS COMPUTER PROGRAMMING (continued)

### THIRD QUARTER

BUS-123	Business Finance I	2	2	0	3
BUS-282	Business Statistics	4	0	0	4
EDP-110	COBOL II	4	0	3	5
EDP-114	Operating Systems	3	0	3	4
ENG-102	Composition I	3	0	0	3
		--	--	--	--
		16	2	6	19

### FIFTH QUARTER

BUS-134	Integrated Software Appli	1	0	3	2
EDP-221	Sys Design & Development	3	0	6	5
	Major Elective	3	0	3	4
	Major Elective	3	0	3	4
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		13	0	15	18

### SUMMER QUARTER

EDP-212	Data Base Management	3	0	3	4
ENG-204	Oral Communications	3	0	0	3
		--	--	--	--
		6	0	3	7

### SIXTH QUARTER

EDP-216	Computer Programming Proj	2	0	9	5
EDP-224	System Administration	3	0	3	4
	Major Elective	3	0	3	4
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		11	0	15	16

### FOURTH QUARTER

EDP-201	4GL Programming	1	0	6	3
EDP-204	COBOL III	4	0	3	5
EDP-217	Data Communications	3	0	0	3
ENG-103	Composition II	3	0	0	3
	Elective	3	0	0	3
		--	--	--	--
		14	0	9	17

### TOTAL REQUIRED CREDITS.... 117

**Co-op Option:** A maximum of six (6) credits may be earned in EDP 202 and/or Cooperative Education in lieu of six (6) hours of the additional EDP courses.

## CARPENTRY AND CABINETMAKING

(V-007)

Carpenters construct, erect, install and repair structures of wood, plywood, and wallboard, using hand and power tools. This curriculum in carpentry is designed to prepare individuals with skills and knowledge of construction with wood. The curriculum includes mathematics, blueprint reading, methods of construction, information on building materials, and energy efficient construction.

Carpenters work on new construction and maintain and repair many types of existing structures, both residential and commercial. They have an understanding of building materials, concrete form construction, rough framing, roof and stair construction, the application of interior and exterior trim, insulation, and other energy saving materials, and the installation of cabinets and fixtures.

Most carpenters are employed by contractors in the building construction fields. When specializing in a particular phase of carpentry, the job may be designated according to the specialty as rough carpenter, framing carpenter, form carpenter, scaffolding carpenter, acoustical insulating carpenter, and finish carpenter.

Upon completion of the program, the student will receive a **diploma**.

## CARPENTRY AND CABINETMAKING (continued)

### FIRST QUARTER

CAR-1101 Carpentry	5	0	15	10
<b>OR</b>				
CAR-1101A Carpentry	1	0	6	3
<b>AND</b>				
CAR-1101B Carpentry	1	0	6	3
<b>AND</b>				
CAR-1101C Carpentry	3	0	3	4
DFT-1110 BPrint Read Bldg Trades	1	2	0	2
ENG-1101 Comm Skills in Grammar	3	0	0	3
MAT-1101 General Math	3	2	0	4
	--	--	--	--
	12	4	15	19

### FIFTH QUARTER

CAR-1110 Carpentry Shop Operations	2	0	0	2
CAR-1111 Cabinetmaking	3	0	15	8
<b>OR</b>				
CAR-1111A Cabinetmaking	3	0	3	4
<b>AND</b>				
CAR-1111B Cabinetmaking	0	0	6	2
<b>AND</b>				
CAR-1111C Cabinetmaking	0	0	6	2
DFT-1140 Cabinetry Sketch & Dft	4	2	0	5
	--	--	--	--
	9	2	15	15

### SECOND QUARTER

BUS-109 Desktop Computers	1	0	3	2
CAR-1102 Carpentry Framing	5	0	15	10
DFT-1111 BPrint Read & Sketching	1	2	0	2
ENG-1102 Vocational Communications	3	0	0	3
	--	--	--	--
	10	2	18	17

### SIXTH QUARTER

BUS-1103 Small Business Operations	3	0	0	3
CAR-1112 Custom Cabinetmaking	5	0	15	10
<b>OR</b>				
CAR-1112A Custom Cabinetmaking	3	0	3	4
<b>AND</b>				
CAR-1112B Custom Cabinetmaking	1	0	6	3
<b>AND</b>				
CAR-1112C Custom Cabinetmaking	1	0	6	3
DFT-1141 Cabinetry Design	4	2	0	5
	--	--	--	--
	12	2	15	18

### THIRD QUARTER

CAR-1103X Exterior Finish Carpentry	5	0	9	8
CAR-1103Y CAR-1103 Lab	0	0	6	2
CAR-1113 Carpentry Estimating	3	0	0	3
PHY-1103X Work, Energy & Power	3	0	0	3
PHY-1103Y PHY-1103 Lab	0	2	0	1
	--	--	--	--
	11	2	15	17

### TOTAL REQUIRED CREDITS.... 105

**Co-op Option:** Cooperative Education may be substituted for CAR 1103Y and CAR 1104Y upon approval from the Co-op Director and Department Chairperson.

**NOTE:** Students may leave the program upon completion of the fourth quarter and be awarded a diploma in carpentry (72 credits required). Students who complete all six quarters will be awarded an advanced diploma in carpentry and cabinetmaking (105 credits required).

### FOURTH QUARTER

BUS-1105 Construction Bus Oper	3	0	0	3
CAR-1104X Interior Finish Carpentry	5	0	9	8
CAR-1104Y CAR-1104 Lab	0	0	6	2
CAR-1114 Building Regulations	3	0	0	3
PSY-1101 Human Relations	3	0	0	3
	--	--	--	--
	14	0	15	19

# CIVIL ENGINEERING TECHNOLOGY

(T-038)

The Civil Engineering Technology curriculum provides the specialized background and related theory for technicians who work primarily with architects and engineers in the field of construction. The Civil Engineering Technician carries out many of the planning and supervising tasks necessary in the construction of transportation systems such as highways, pipelines, railroads, airfields, and transmission lines; structures for residential and commercial buildings, bridges, dams, and power plants; and water and waste treatment systems. The graduate may perform job tasks in planning, drafting, estimating, supervising, inspecting, or managing construction projects. Other duties might include ordering materials, interpreting plans and specifications, structural detailing and drafting work, and making engineering computation of earthwork, and storm drainage and property surveys.

Upon graduation from this program, the Civil Engineering Technician may qualify for various jobs such as surveying instrumentation and/or party chief, field or laboratory materials tester, construction foreman, field engineering technician or superintendent, expeditor, manager, estimator, construction materials or equipment salesperson, inspector, drafter or structural detailer. Graduates of this program may receive credit toward qualifying to be a land surveyor. They may also continue their education toward a bachelor's degree in engineering technology.

Upon completion of the program, the student will receive an **associate degree**.

## FIRST QUARTER

ARC-101	Arch Drafting & Dsgn I	2	0	6	4
CIV-101	Surveying I	2	0	6	4
CIV-107	Civil Engr Computations	3	0	3	4
ENG-101	Grammar	3	0	0	3
MAT-114	Algebra & Trigonometry I	5	0	0	5
		--	--	--	--
		15	0	15	20

## THIRD QUARTER

CIV-102	Surveying II	2	0	6	4
CIV-112	Construction Estimates	2	0	6	4
ENG-103	Composition II	3	0	0	3
MAT-116	Basic Calculus I	5	0	0	5
PHY-102X	Work, Energy & Power	3	0	0	3
PHY-102Y	PHY-102 Lab	0	2	0	1
		--	--	--	--
		15	2	12	20

## SECOND QUARTER

CIV-111	Const & Structural Draft	1	0	6	3
ENG-102	Composition I	3	0	0	3
MAT-115	Algebra & Trigonometry II	5	0	0	5
PHY-101X	Properties of Matter	3	0	0	3
PHY-101Y	PHY-101 Lab	0	2	0	1
PSY-110	Human Relations	3	0	0	3
		--	--	--	--
		15	2	6	18

## SUMMER QUARTER

CIV-103	Surveying III	2	0	6	4
CIV-114	Statics	5	0	0	5
		--	--	--	--
		7	0	6	9

## FOURTH QUARTER

CIV-110	Const. Methods & Mgt	3	2	0	4
CIV-202	Properties of Soil	4	0	3	5
CIV-219	Strength of Materials	4	0	3	5
PHY-103X	Electricity	3	0	0	3
PHY-103Y	PHY-103 Lab	0	2	0	1
		--	--	--	--
		14	4	6	18

**CIVIL ENGINEERING TECHNOLOGY (continued)**

**FIFTH QUARTER**

**TOTAL REQUIRED CREDITS.... 121**

CIV-108	Hydraulics & Drainage	4	0	3	5
CIV-221	Reinforced Concrete	5	0	0	5
CIV-227	Subdivision Design	1	0	6	3
CIV-231	Cement & Asphalt Concrete	3	0	3	4
CIV-271	City & Regional Planning	3	0	0	3
		--	--	--	--
		16	0	12	20

**Co-op Option:** Qualified students may elect to take up to six (6) credit hours of Cooperative Education in place of two (2) credit hours of free electives and/or ARC 101 provided they acquire approval from the Co-op Director and Department Chairperson.

**SIXTH QUARTER**

CIV-229	Municipal Engineering	3	0	3	4
CIV-230	Design of Roads & Pavemnt	3	0	3	4
ENG-204	Oral Communications	3	0	0	3
	Elective	2	0	0	2
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		14	0	6	16

**COMMERCIAL ART AND ADVERTISING DESIGN**

**(T-070)**

Students in the Commercial Art and Advertising Design curriculum study advertising, illustration, layout, typography, design, photography, graphic communications and production.

Commercial artists and advertising designers create and design layouts and art work for print and audiovisual media. They may design and prepare letterheads, brochures, illustrations and art for publication; produce package design; and prepare lettering, type and art for print and audiovisual media.

Job opportunities for graduates of this program may be in art and design studios, advertising agencies, department stores, industrial advertising departments, government agencies, television and film studios, and the printing and publishing industry.

Upon completion of the program, the student will receive an **associate degree**.

**FIRST QUARTER**

**SECOND QUARTER**

ART-221	Art Appreciation	5	0	0	5
BUS-118	Word Processing on Micro	1	0	3	2
CAT-103	Basic Drawing	0	6	0	3
CAT-104	Basic Design	3	0	3	4
CAT-105	Visual Organization	3	0	3	4
ENG-101	Grammar	3	0	0	3
		--	--	--	--
		15	6	9	21

CAT-106	Production Basics	3	0	3	4
CAT-107	Photo I - Comm Art Stu	3	0	3	4
	<b>OR</b>				
CAT-115	Intro To Photography I	1	2	0	2
	<b>AND</b>				
CAT-116	Intro To Photography II	1	2	0	2
CAT-108	Typography I	3	0	3	4
CAT-121	Life Study I	2	4	0	4
ENG-102	Composition I	3	0	0	3
MAT-111	Basic Mathematics	5	0	0	5
		--	--	--	--
		19	4	9	24

**COMMERCIAL ART AND ADVERTISING DESIGN (continued)**

**THIRD QUARTER**

CAT-117	Photo II - Comm Art Stu	3	0	3	4
CAT-118	Design Studio I	3	0	3	4
CAT-119	Production/Printing I	3	0	3	4
CAT-122	Life Study II	2	4	0	4
ENG-103	Composition II	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		17	4	9	22

**FIFTH QUARTER**

CAT-215	Illustration II	2	4	0	4
CAT-216	Computer Op for Graph Dsg	2	0	3	3
CAT-219	Production/Printing II	3	0	3	4
	Elective	3	0	0	3
		--	--	--	--
		10	4	6	14

**SUMMER QUARTER**

ART-107	Watercolor I	1	2	0	2
CAT-127	Photo III - Comm Art Stu	3	4	0	5
ENG-204	Oral Communications	3	0	0	3
		--	--	--	--
		7	6	0	10

**SIXTH QUARTER**

CAT-225	Advanced Design/Illus	2	4	0	4
CAT-235	Design Studio II	2	4	0	4
CAT-240	Portfolio	3	0	3	4
MKT-287	Commercial Display	2	4	0	4
		--	--	--	--
		9	12	3	16

**TOTAL REQUIRED CREDITS.... 124**

**FOURTH QUARTER**

CAT-204	Layout	3	0	3	4
CAT-205	Illustration I	3	0	3	4
CAT-206	Typography II	3	0	3	4
MKT-243	Advertising Principles	5	0	0	5
		--	--	--	--
		14	0	9	17

**Co-op Option:** Qualified students may elect to take up to six (6) credit hours of Cooperative Education in lieu of three (3) hours of major course work and/or three (3) hours of free electives provided they acquire approval from the Co-op Director and Department Chairperson.

**COSMETOLOGY**

**(V-009)**

The field of Cosmetology is based on scientific principles. The Cosmetology curriculum provides instruction and practice in manicuring, shampooing, permanent waving, facials, massages, scalp treatments, hair cutting and styling and wig service.

Upon completion of this program and successful passing of a comprehensive examination administered by the North Carolina State Board of Cosmetic Arts, a license is given. The cosmetologist is called upon to advise men and women on problems of make up and care of the hair, skin and hands including the nails. Employment opportunities are available in beauty salons, private clubs, department stores, women's specialty shops, as well as setting up one's own business.

Upon completion of the program, the student will receive a **diploma**.

**COSMETOLOGY (continued)**

**FIRST QUARTER**

COS-1101	Intro To Cosmetology	3	0	0	3
COS-1102	Mannequin Practice	1	0	33	12
PSY-1101	Human Relations	3	0	0	3
		--	--	--	--
		7	0	33	18

**THIRD QUARTER**

COS-1105	Cosmetology Theory II	3	0	0	3
COS-1106	Cosmetology Skills II	1	0	33	12
ENG-1102	Vocational Communications	3	0	0	3
		--	--	--	--
		7	0	33	18

**SECOND QUARTER**

COS-1103	Cosmetology Theory I	4	0	0	4
COS-1104	Cosmetology Skills I	2	0	30	12
ENG-1101	Comm Skills in Grammar	3	0	0	3
		--	--	--	--
		9	0	30	19

**SUMMER QUARTER**

BUS-1103	Small Business Operations	3	0	0	3
COS-1107	Adv Cosmetology Theory	4	0	0	4
COS-1108	Advanced Practice	1	0	24	9
		--	--	--	--
		8	0	24	16

**TOTAL REQUIRED CREDITS.... 71**  
**TOTAL CONTACT HOURS.....1661**

**CRIMINAL JUSTICE - PROTECTIVE SERVICES TECHNOLOGY**

**(T-129)**

The Criminal Justice Technology curriculum is designed so that it may be a multi-faceted program of study. It may consist of study options in corrections, law enforcement and security services.

The curriculum is designed with a core of courses to afford one the opportunity to acquire basic knowledge, skills and attitudes in the generally accepted subject areas associated with a two-year study of correctional services, law enforcement services and security services. It includes subjects such as interpersonal communications, law, psychology and sociology.

In addition to core subjects, the correctional services option provides an opportunity to study other generally accepted subjects indigenous to a two-year correctional services program such as confinement facility administration, correctional law, counseling, probation-parole services and rehabilitation options. Similarly, the law enforcement option provides an opportunity to study other generally accepted subjects included in a two-year law enforcement services program such as criminal behavior, criminal investigation, patrol operation, traffic management, and other aspects of law enforcement administration and operations. The security services option provides an opportunity to study other generally accepted subjects related to a two-year security services program such as accident prevention and safety management, common carrier protection, fire prevention, private security, industrial security, retail security, security systems and surveillance.

Upon completion of the program, the student will receive an **associate degree**.

**CRIMINAL JUSTICE - PROTECTIVE SERVICES TECHNOLOGY (continued)**

**FIRST QUARTER**

ENG-121	English Composition	5	0	0	5
LCJ-101	Intro to Criminal Justice	5	0	0	5
LCJ-102	Constitutional Law	5	0	0	5
SOC-101	Intro to Sociology	3	0	0	3
		--	--	--	--
		18	0	0	18

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**SECOND QUARTER**

ENG-122	English Composition & Lit	5	0	0	5
LCJ-103	Criminology	5	0	0	5
LCJ-108	Criminal Law	5	0	0	5
POL-102	State & Local Government	3	0	0	3
PSY-101	Intro to Psychology	3	0	0	3
		--	--	--	--
		21	0	0	21

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**THIRD QUARTER**

LCJ-104	Law Enforcement Oper	3	0	0	3
	<b>OR</b>				
LCJ-105	Intro to Corrections	3	0	0	3
LCJ-111	Interpersonal Comm for CJ	3	2	0	4
LCJ-114	Organizational Theory	5	0	0	5
POL-103	National Government	3	0	0	3
REC-124	Fitness Management	3	2	0	4
		--	--	--	--
		17	4	0	19

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**SUMMER QUARTER**

BUS-109	Desktop Computers	1	0	3	2
ENG-204	Oral Communications	3	0	0	3
PSY-204	Abnormal Psychology	3	0	0	3
		--	--	--	--
		7	0	3	8

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**FOURTH QUARTER**

LCJ-109	Criminal Evidence & Proc	3	0	0	3
	<b>OR</b>				
LCJ-212	Prisoners Rights	3	0	0	3
LCJ-202	Judicial Process	4	2	0	5
LCJ-210	Criminal Investigation I	3	2	0	4
	<b>OR</b>				
LCJ-106	Correctional Counseling	3	2	0	4
MAT-131	College Mathematics	5	0	0	5
	Major Elective	3	0	0	3
		--	--	--	--
		18	4	0	20

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**FIFTH QUARTER**

BIO-121X	General Biology I	5	0	0	5
BIO-121Y	BIO-121 Lab	0	2	0	1
LCJ-200	Criminal Justice Planning	4	2	0	5
LCJ-208	Identification Techniques	2	2	0	3
	<b>OR</b>				
LCJ-107	Comm Based Corrections	3	0	0	3
LCJ-209	Juvenile Delinquency	5	0	0	5
		--	--	--	--
		16	6	0	19

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**SIXTH QUARTER**

LCJ-211	Community Relat & Ethics	4	2	0	5
LCJ-219	Intro to Criminalistics	1	4	0	3
	<b>OR</b>				
LCJ-112	Confinement Facilities Mg	3	0	0	3
LCJ-221	Substance Abuse	5	0	0	5
	Elective	2	0	0	2
		--	--	--	--
		12	6	0	15

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**TOTAL REQUIRED CREDITS.... 120**



**CRIMINAL JUSTICE - PROTECTIVE SERVICES TECHNOLOGY (continued)**

**Co-op Option:** Qualified students may elect to take up to five (5) credit hours of Cooperative Education in place of five (5) credit hours of major electives or electives provided they acquire approval from the Department Chairperson and Co-op Director.

**NOTE:** Non-transfer courses may be substituted with the approval of the Department Chairperson.

**DENTAL ASSISTING**

**(V-011)**

The Dental Assisting curriculum prepares graduates to assist the dentist in providing treatment services. Functions performed by the dental assistant include dental health teaching, preparing dental materials, preparing the patient for treatment, taking dental X-rays, maintaining dental supplies and equipment, assisting the Dentist, providing selected services for the patient, making appointments, maintaining patient records and other office management procedures. Graduates may be employed by dental office, dental clinics, public health clinics, federal service clinics, dental schools, state health departments, dental manufacturers and insurance companies.

Graduates are eligible to take the examination given by the Dental Assisting National Board, Incorporated to become a Certified Dental Assistant.

Individuals desiring a career in dental assisting should, if possible, take biology, mathematics and typing courses prior to entering the program.

Upon completion of the program, the student will receive a **diploma**.

**FIRST QUARTER**

BIO-1005	Anatomy & Physiology	2	0	0	2
DEN-1004	Dental Anatomy	4	0	0	4
DEN-1011X	Clinical Procedures I	2	0	0	2
DEN-1011Y	DEN-1011 Lab	0	2	0	1
		--	--	--	--
		8	2	0	9

**SECOND QUARTER**

BIO-1013	Microbiology	2	0	0	2
DEN-1002X	Dental Materials I	2	0	0	2
DEN-1002Y	DEN-1002 Lab	0	0	3	1
DEN-1014X	Dental Roentgenology	2	0	0	2
DEN-1014Y	DEN-1014 Lab	0	6	0	3
DEN-1015	Pharmacology	2	0	0	2
DEN-1021X	Clinical Procedures II	3	0	0	3
DEN-1021Y	DEN-1021 Lab	0	6	0	3
ENG-1102	Vocational Communications	3	0	0	3
		--	--	--	--
		14	12	3	21

**THIRD QUARTER**

DEN-1012X	Dental Materials II	2	0	0	2
DEN-1012Y	DEN-1012 Lab	0	0	3	1
DEN-1023X	Dental Health Education	2	0	0	2
DEN-1023Y	DEN-1023 Lab	0	0	3	1
DEN-1025	Oral Pathology	2	0	0	2
DEN-1026X	Dental Office Emergencies	1	0	0	1
DEN-1026Y	DEN-1026 Lab	0	2	0	1
DEN-1034X	Clinical Procedures III	4	0	0	4
DEN-1034Y	DEN-1034 Lab	0	4	3	3
PSY-1101	Human Relations	3	0	0	3
		--	--	--	--
		14	6	9	20

**FOURTH QUARTER**

DEN-1031	Dental Office Practice I	1	0	21	8
DEN-1032	Dental Office Management	4	0	0	4
DEN-1033	Professional Development	1	0	0	1
DEN-109	Dental Computers	0	0	3	1
ENG-1103	Report Writing	3	0	0	3
		--	--	--	--
		9	0	24	17

**DENTAL ASSISTING (continued)**

**FIFTH QUARTER**

DEN-1041	Dental Office Practice II	1	0	18	7	<b>TOTAL REQUIRED CREDITS.... 74</b>
		--	--	--	--	
		1	0	18	7	

**DENTAL HYGIENE**

**(T-054)**

The Dental Hygiene curriculum prepares graduates to take patient histories, teach oral hygiene, clean teeth, take X-rays and apply preventive agents under the supervision of a dentist. Dental hygienists may be employed in dentists' offices, clinics, schools, public health agencies, industry and educational institutions.

Graduates are eligible to take the National Board Dental Hygiene Examination, which is administered by the American Dental Association, Joint Commission on Dental Examinations; and the State Board Clinical Examination, which is administered by the North Carolina Board of Dental Examiners. A passing grade on both examinations is required for practice as a Registered Dental Hygienist in North Carolina.

Individuals desiring a career in dental hygiene should take biology, algebra, and chemistry courses prior to entering the program.

Upon completion of the program, the student will receive an **associate degree**.

**FIRST QUARTER**

BIO-106X	Human Anat & Physiology I	5	0	0	5
BIO-106Y	BIO-106 Lab	0	0	3	1
BIO-110X	Bio Chem for Health Sci	3	0	0	3
BIO-110Y	BIO-110 Lab	0	0	3	1
DEN-111X	Dental Hygiene I	4	0	0	4
DEN-111Y	DEN-111 Lab	0	0	3	1
DEN-112	Dental Anat & Physiology	3	0	0	3
ENG-101	Grammar	3	0	0	3
		--	--	--	--
		18	0	9	21

**THIRD QUARTER**

BIO-108X	Microbiology I	5	0	0	5
BIO-108Y	BIO-108 Lab	0	0	3	1
DEN-122	Head & Neck Anatomy	2	0	0	2
DEN-131X	Dental Hygiene III	2	0	0	2
DEN-131Y	DEN-131 Lab	0	0	9	3
DEN-214	Periodontology	3	0	0	3
PSY-101	Intro to Psychology	3	0	0	3
		--	--	--	--
		15	0	12	19

**SECOND QUARTER**

BIO-107X	Human Anat & Physiology II	5	0	0	5
BIO-107Y	BIO-107 Lab	0	0	3	1
DEN-113	Histology	3	0	0	3
DEN-121X	Dental Hygiene II	3	0	0	3
DEN-121Y	DEN-121 Lab	0	0	6	2
DEN-133X	Radiology	3	0	0	3
DEN-133Y	DEN-133 Lab	0	0	3	1
ENG-102	Composition I	3	0	0	3
		--	--	--	--
		17	0	12	21

**SUMMER QUARTER**

DEN-116	Dental Emergency Care	2	0	0	2
DEN-141X	Dental Hygiene IV	1	0	0	1
DEN-141Y	DEN-141 Lab	0	0	6	2
ENG-204	Oral Communications	3	0	0	3
NUT-101	Nutrition	3	0	0	3
		--	--	--	--
		9	0	6	11

**DENTAL HYGIENE (continued)**

**FOURTH QUARTER**

DEN-211X	Dental Hygiene V	1	0	0	1
DEN-211Y	DEN-211 Lab	0	0	12	4
DEN-213	General & Oral Pathology	6	0	0	6
DEN-215	Dental Health Education	3	0	0	3
DEN-222X	Dental Materials	3	0	0	3
DEN-222Y	DEN-222 Lab	0	0	3	1
		--	--	--	--
		13	0	15	18

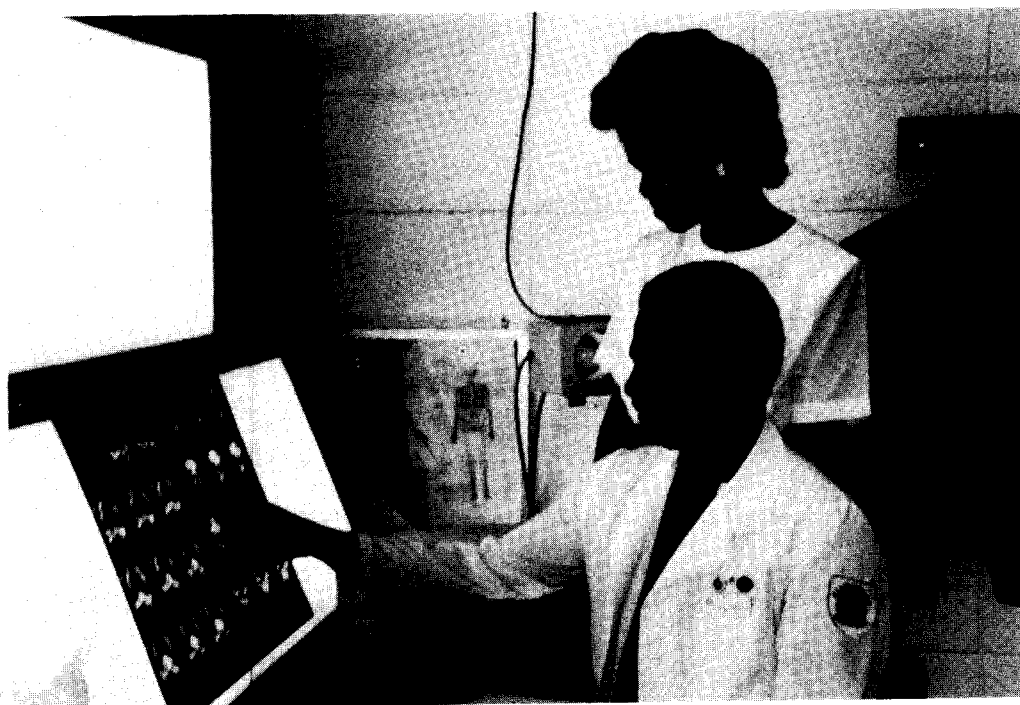
**SIXTH QUARTER**

DEN-224	Office Management	1	0	0	1
DEN-225X	Chairside Assisting	1	0	0	1
DEN-225Y	DEN-225 Lab	0	2	0	1
DEN-231X	Dental Hygiene VII	1	0	0	1
DEN-231Y	DEN-231 Lab	0	0	15	5
DEN-232	Ethics & Jurisprudence	2	0	0	2
DEN-233	Dental Specialties	2	0	0	2
	Humanities/Fine Arts Elec	3	0	0	3
		--	--	--	--
		10	2	15	16

**FIFTH QUARTER**

DEN-212X	Community Dental Health	3	0	0	3
DEN-212Y	DEN-212 Lab	0	0	3	1
DEN-221X	Dental Hygiene VI	1	0	0	1
DEN-221Y	DEN-221 Lab	0	0	15	5
DEN-223	Pharm & Anesthesiology	3	0	0	3
SOC-101	Intro to Sociology	3	0	0	3
		--	--	--	--
		10	0	18	16

**TOTAL REQUIRED CREDITS... 122**



# DEVELOPMENTAL STUDIES

T-099

The Developmental Studies program is designed as a "bridge" between high school and vocational/technical education. Courses are given to students to help them become able to enter the curriculum of their choice. People usually take Developmental Studies for one of the following reasons:

1. They did not complete the math and/or science courses in high school which they need to get into their chosen program.
2. They want to become better in certain specific subjects.
3. They want a good general review before enrolling in their chosen curriculum.

Whatever the reason, Developmental Studies will "bridge the gap" between high school and vocational/technical school.

Developmental courses in English and reading, math, science, social studies, and personal growth and development are offered to students based on the needs of the individual student. Special interest courses are also offered as elective exploratory courses. A placement test measuring achievement in reading, writing and math skills is used to determine the needed level of course work. Counselors work with students to help them plan the number and level of courses needed to be successful in their chosen program.

Admission to the regular vocational/technical programs will be based on how well the student does in the Developmental Studies courses. So, it is the student's opportunity and responsibility to do his/her best work in Developmental Studies.

Developmental Studies at FTCC is more than "prep" or "make-up" courses; this program also cares for the student as a person. Opportunities for personal growth and development are offered in classroom courses and in the support services available to the Developmental Studies student. Career/life planning, personal guidance and counseling, health services, and many other "extras" help the student to succeed in the classroom. Developmental Studies at FTCC cares for the whole person.

## LEVEL I

### FIRST QUARTER

ENG 94	Prescriptive Reading	3	2	0	4
ENG 80	Applied Reading Skills	3	2	0	4
MAT 91	Basic Math I	3	2	0	4
	Level I Science/Elective	3	2	0	4
		--	--	--	--
		12	8	0	16

### THIRD QUARTER

ENG 96	Vocabulary and Reading II	3	2	0	4
ENG 98	Composition	3	2	0	4
MAT 93	Basic Math II	3	2	0	4
	Level I Science/Elective	3	2	0	4
		--	--	--	--
		12	8	0	16

### SECOND QUARTER

ENG 95	Vocabulary and Reading I	3	2	0	4
ENG 97	Grammar and Composition	3	2	0	4
MAT 92	Basic Math II	3	2	0	4
	Level I Science/Elective	3	2	0	4
		--	--	--	--
		12	8	0	16

**DEVELOPMENTAL STUDIES (continued)**

**LEVEL II**

**FIRST QUARTER**

ENG 94	Prescriptive Reading	3	2	0	4
ENG 80	Applied Reading Skills	3	2	0	4
MAT 95	Algebra I	3	2	0	4
	Level II Science/Elective	3	2	0	4
		--	--	--	--
		12	8	0	16

**THIRD QUARTER**

ENG 96	Vocabulary and Reading I	3	2	0	4
ENG 98	Composition	3	2	0	4
MAT 97	Algebra III, Trigonometry	3	2	0	4
	Level II Science/Elective	3	2	0	4
		--	--	--	--
		12	8	0	16

**SECOND QUARTER**

ENG 95	Vocabulary	3	2	0	4
ENG 97	Grammar and Composition	3	2	0	4
MAT 96	Algebra II	3	2	0	4
	Level II Science/Elective	3	2	0	4
		--	--	--	--
		12	8	0	16

**DRAFTING - MECHANICAL**

**(V-017)**

The Drafting - Mechanical curriculum prepares individuals to enter the field of mechanical drafting. Courses are arranged in sequence to develop drafting skills and proficiency in mathematics and science. The draftsman associates with many levels of personnel -- administrators, engineers and skilled workers -- and must be able to communicate effectively with them.

The mechanical drafting graduate performs the duties of a general drafter, specializing in making rough drafting sketches of proposed mechanical devices and then draws necessary details. The drafter also prepares accurate scale drawings of parts for machines from specifications.

Upon completion of the program, the student will receive a **diploma**.

**FIRST QUARTER**

DFT-1170	Basic Drafting	2	2	3	4
DFT-1171	Basic Industrial Drafting	2	0	3	3
DFT-161	Computer Aided Dft I	1	0	3	2
ENG-1101	Comm Skills in Grammar	3	0	0	3
MAT-1102	Algebra	3	2	0	4
MEC-1110	Machine Processes I	1	0	3	2
		--	--	--	--
		12	4	12	18

**SECOND QUARTER**

DFT-1172	Technical Sketching	2	0	3	3
DFT-1173	Industrial Drafting I	1	2	3	3
DFT-162	Computer Aided Dft II	1	0	3	2
ENG-1102	Vocational Communications	3	0	0	3
MAT-1104	Trigonometry	3	2	0	4
MEC-1111	Intro to Mfg Processes	2	0	3	3
PHY-1101X	Properties of Matter	3	0	0	3
PHY-1101Y	PHY-1101 Lab	0	2	0	1
		--	--	--	--
		15	6	12	22

**DRAFTING - MECHANICAL (continued)**

**THIRD QUARTER**

DFT-1125	Descriptive Geometry I	2	2	0	3
DFT-1160	Manufacturing & Drafting	1	0	3	2
DFT-1190X	Industrial Drafting II	1	2	0	2
DFT-1190Y	DFT-1190 Lab	0	0	3	1
DFT-1191	Tool Drafting I/Computer	1	0	6	3
MEC-1108	Industrial Materials	1	0	3	2
PHY-1103X	Work, Energy & Power	3	0	0	3
PHY-1103Y	PHY-1103 Lab	0	2	0	1
		--	--	--	--
		9	6	15	17

**FOURTH QUARTER**

DFT-1126	Descriptive Geometry II	2	2	0	3
DFT-1192	Design Draft & Tolerances	3	2	0	4
DFT-1193X	Industrial Drafting III	1	0	3	2
DFT-1193Y	DFT 1193 Lab	0	0	3	1
DFT-1194	Tool Drafting II/Computer	2	2	3	4
DFT-1195	Steel Fabrication Draft	3	0	3	4
		--	--	--	--
		11	6	12	18

**TOTAL REQUIRED CREDITS.... 75**

**Co-op Option:** Qualified students may elect to take up to two (2) credit hours of Cooperative Education in place of DFT 1190Y and/or DFT 1193Y upon approval of the Co-op Director and the Department Chairperson.

**EARLY CHILDHOOD ASSOCIATE**

**(T-073)**

The Early Childhood Associate curriculum prepares individuals to work with programs and/or centers concerned with the care and development of infants and young children. Through study and application in such areas as child growth and development, physical and nutritional needs of children, care and guidance of children and communication with children and their parents, individuals will be able to function effectively in various programs and/or centers dealing with preschool children.

Job opportunities are available in such areas as day care centers, nursery schools, kindergartens, child development centers, hospitals, rehabilitation clinics, evaluation clinics, camps and recreational centers.

Upon completion of the program, the student will receive an **associate degree**.

**FIRST QUARTER**

EDU-125	Intro to Preschool Educ	3	0	0	3
EDU-126	Child Health, Safety, Nut	3	2	0	4
EDU-127	Creative Curr Act I	3	2	0	4
ENG-121	English Composition	5	0	0	5
PSY-101	Intro to Psychology	3	0	0	3
		--	--	--	--
		17	4	0	19

**SECOND QUARTER**

EDU-128	Prin of Day Care Operat	3	0	0	3
EDU-129	Pediatric First-Aid & CPR	3	2	0	4
EDU-130	Creative Curr Act II	3	2	0	4
ENG-122	English Composition & Lit	5	0	0	5
PSY-202	Human Growth & Develop	3	0	0	3
		--	--	--	--
		17	4	0	19

## EARLY CHILDHOOD ASSOCIATE *(continued)*

### THIRD QUARTER

EDU-131	Discipline in the School	3	0	0	3
EDU-132	Language Arts Techniques	3	0	0	3
EDU-133	Food Prep in Child Care	2	0	3	3
REC-236	Low Organized Games	1	0	3	2
	Elective or Co-op	3	0	0	3
	Related Elective	3	0	0	3
		--	--	--	--
		15	0	6	17

### FIFTH QUARTER

BUS-150	Financial Accounting	4	2	0	5
EDU-228	Techniques of Counseling	3	0	0	3
EDU-229	Pgm Plng for Infants/Todd	3	0	0	3
SOC-102	Marriage & Family	3	0	0	3
	Elective or Co-op	3	0	0	3
		--	--	--	--
		16	2	0	17

### SUMMER QUARTER

ENG-204	Oral Communications	3	0	0	3
SOC-101	Intro to Sociology	3	0	0	3
		--	--	--	--
		6	0	0	6

### SIXTH QUARTER

BUS-233	Human Resource Management	3	0	0	3
BUS-234	Management	2	0	3	3
EDU-230	Computer Literacy	3	0	0	3
EDU-231	Child Care Applications	0	0	6	2
EDU-232	Parent Education	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		14	0	9	17

### FOURTH QUARTER

EDU-225	Working w/Except Children	3	0	0	3
EDU-226	Pgm Planning in Preschool	3	0	0	3
EDU-227	Childrens Literature	3	0	0	3
MAT-111	Basic Mathematics	5	0	0	5
REC-250	Community Health Resource	3	0	0	3
		--	--	--	--
		17	0	0	17

**TOTAL REQUIRED CREDITS.... 112**

**Co-op Option:** Qualified students may elect to take up to six (6) credit hours of Cooperative Education in place of six (6) credit hours of electives provided they acquire the approval of the Co-op Director and Department Chairperson.

## ELECTRICAL INSTALLATION AND MAINTENANCE (V-018)

The Electrical Installation and Maintenance curriculum is designed to provide a training program in the basic knowledge, fundamentals and practices involved in the electrical trades. A large segment of the program is laboratory and shop instruction designed to give the student practical knowledge and application experience in the fundamentals taught in class.

The graduate of this curriculum is qualified to enter an electrical trade as an on-the-job trainee or apprentice, assisting in the layout, installation, check out and maintenance of systems in residential, commercial or industrial settings.

Upon completion of the program, the student will receive a **diploma**.

## ELECTRICAL INSTALLATION AND MAINTENANCE (continued)

### FIRST QUARTER

DFT-1113	BPrint Read - Electrical	1	2	0	2
ELC-1112	ACDC Current	5	0	15	10
<b>OR</b>					
ELC-1112A	ACDC Current	2	0	6	4
<b>AND</b>					
ELC-1112B	ACDC Current	2	0	6	4
<b>AND</b>					
ELC-1112C	ACDC Current	1	0	3	2
MAT-1101	General Math	3	2	0	4
PHY-1103X	Work, Energy & Power	3	0	0	3
PHY-1103Y	PHY-1103 Lab	0	2	0	1
		--	--	--	--
		12	6	15	20

### THIRD QUARTER

ELC-1124X	Residential Wiring	5	0	6	7
<b>AND</b>					
ELC-1124Y	ELC-1124 Lab	0	0	3	1
<b>OR</b>					
ELC-1124A	Residential Wiring	3	0	3	4
<b>AND</b>					
ELC-1124B	Residential Wiring	2	0	6	4
ELN-1118	Industrial Electronics I	3	0	6	5
ENG-1102	Vocational Communications	3	0	0	3
PSY-1101	Human Relations	3	0	0	3
		--	--	--	--
		14	0	15	19

### SECOND QUARTER

BUS-109	Desktop Computers	1	0	3	2
ELC-1113	ACDC Machines & Controls	5	0	15	10
<b>OR</b>					
ELC-1113A	ACDC Machines & Controls	1	0	3	2
<b>AND</b>					
ELC-1113B	ACDC Machines & Controls	2	0	6	4
<b>AND</b>					
ELC-1113C	ACDC Machines & Controls	2	0	6	4
ELC-1133	National Electrical Code	4	0	0	4
ENG-1101	Comm Skills in Grammar	3	0	0	3
		--	--	--	--
		13	0	18	19

### FOURTH QUARTER

BUS-1103	Small Business Operations	3	0	0	3
ELC-1125X	Commercial & Indus Wiring	5	4	3	8
<b>AND</b>					
ELC-1125Y	ELC-1125 Lab	0	0	3	1
<b>OR</b>					
ELC-1125A	Commercial & Indus Wiring	3	2	3	5
<b>AND</b>					
ELC-1125B	Commercial & Indus Wiring	2	2	3	4
ELN-1119	Industrial Electronics II	3	0	6	5
	Elective	2	0	0	2
		--	--	--	--
		13	4	12	19

**TOTAL REQUIRED CREDITS.... 77**

**Co-op Option:** Qualified students may elect to take up to four (4) credit hours of Cooperative Education in place of two (2) credit hours of free electives and/or ELC 1124Y and/or ELC 1125Y provided they obtain the approval of the Co-op Director and Department Chairperson.





**EARLY CHILDHOOD ASSOCIATE (continued)**

**THIRD QUARTER**

EDU-131	Discipline in the School	3	0	0	3
EDU-132	Language Arts Techniques	3	0	0	3
EDU-133	Food Prep in Child Care	2	0	3	3
REC-236	Low Organized Games	1	0	3	2
	Elective or Co-op	3	0	0	3
	Related Elective	3	0	0	3
		--	--	--	--
		15	0	6	17

**FIFTH QUARTER**

BUS-150	Financial Accounting	4	2	0	5
EDU-228	Techniques of Counseling	3	0	0	3
EDU-229	Pgm Plng for Infants/Todd	3	0	0	3
SOC-102	Marriage & Family	3	0	0	3
	Elective or Co-op	3	0	0	3
		--	--	--	--
		16	2	0	17

**SUMMER QUARTER**

ENG-204	Oral Communications	3	0	0	3
SOC-101	Intro to Sociology	3	0	0	3
		--	--	--	--
		6	0	0	6

**SIXTH QUARTER**

BUS-233	Human Resource Management	3	0	0	3
BUS-234	Management	2	0	3	3
EDU-230	Computer Literacy	3	0	0	3
EDU-231	Child Care Applications	0	0	6	2
EDU-232	Parent Education	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		14	0	9	17

**FOURTH QUARTER**

EDU-225	Working w/Except Children	3	0	0	3
EDU-226	Pgm Planning in Preschool	3	0	0	3
EDU-227	Childrens Literature	3	0	0	3
MAT-111	Basic Mathematics	5	0	0	5
REC-250	Community Health Resource	3	0	0	3
		--	--	--	--
		17	0	0	17

**TOTAL REQUIRED CREDITS.... 112**

**Co-op Option:** Qualified students may elect to take up to six (6) credit hours of Cooperative Education in place of six (6) credit hours of electives provided they acquire the approval of the Co-op Director and Department Chairperson.

**ELECTRICAL INSTALLATION AND MAINTENANCE (V-018)**

The Electrical Installation and Maintenance curriculum is designed to provide a training program in the basic knowledge, fundamentals and practices involved in the electrical trades. A large segment of the program is laboratory and shop instruction designed to give the student practical knowledge and application experience in the fundamentals taught in class.

The graduate of this curriculum is qualified to enter an electrical trade as an on-the-job trainee or apprentice, assisting in the layout, installation, check out and maintenance of systems in residential, commercial or industrial settings.

Upon completion of the program, the student will receive a **diploma**.

# ELECTRONICS ENGINEERING TECHNOLOGY

(T-045)

The Electronics curriculum provides a basic background in electronic related theory, with practical applications of electronics for business and industry. Courses are designed to develop competent electronics technicians who may work as assistants to engineers or as liaisons between engineers and skilled craftspersons.

The electronics technician will start in one or more of the following areas: research, design, development, production, maintenance or sales. The graduate may begin as an electronics technician, an engineering aide, laboratory technician, supervisor or equipment specialist.

Upon completion of the program, the student will receive an **associate degree**.

## FIRST QUARTER

CHM-101X	Chemistry I	3	0	0	3
CHM-101Y	CHM-101 Lab	0	2	0	1
ELC-101X	Fundamentals of Elect I	4	0	0	4
ELC-101Y	ELC-101 Lab	0	6	0	3
ENG-101	Grammar	3	0	0	3
MAT-114	Algebra & Trigonometry I	5	0	0	5
		--	--	--	--
		15	8	0	19

## SUMMER QUARTER

ELN-106	Passive Networks I	2	2	0	3
ELN-206	Active Network Analy I	2	0	3	3
		--	--	--	--
		4	2	3	6

## SECOND QUARTER

DFT-101	Technical Drafting I	0	6	0	3
ELC-103X	Fundamentals of Elect II	2	0	0	2
ELC-103Y	ELC-103 Lab	0	0	3	1
ELN-103X	Active Devices I	2	0	0	2
ELN-103Y	ELN-103 Lab	0	2	0	1
ENG-102	Composition I	3	0	0	3
MAT-115	Algebra & Trigonometry II	5	0	0	5
PHY-101X	Properties of Matter	3	0	0	3
PHY-101Y	PHY-101 Lab	0	2	0	1
		--	--	--	--
		15	10	3	21

## FOURTH QUARTER

ELN-207	Active Network Analy II	2	0	3	3
ELN-209	Passive Networks II	3	0	0	3
ELN-214	Computer Principles	2	4	0	4
ENG-204	Oral Communications	3	0	0	3
MAT-117	Basic Calculus II	3	0	0	3
PHY-104X	Light & Sound	3	0	0	3
PHY-104Y	PHY-104 Lab	0	2	0	1
		--	--	--	--
		16	6	3	20

## FIFTH QUARTER

ELN-216	Microcomputers	6	0	6	8
ELN-220	Electronic Systems	4	4	0	6
	Elective	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		16	4	6	20

## THIRD QUARTER

ELN-102X	Basic Logic Circuits	2	0	0	2
ELN-102Y	ELN-102 Lab	0	2	0	1
ELN-104X	Active Devices II	4	0	0	4
ELN-104Y	ELN-104 Lab	0	0	3	1
ELN-110	Circuit Analysis w/Pascal	3	2	0	4
MAT-116	Basic Calculus I	5	0	0	5
PHY-102X	Work, Energy & Power	3	0	0	3
PHY-102Y	PHY-102 Lab	0	2	0	1
		--	--	--	--
		17	6	3	21

## ELECTRONICS ENGINEERING TECHNOLOGY *(continued)*

### SIXTH QUARTER

TOTAL REQUIRED CREDITS.... 126

ELN-235	Indus Mechanisms & Instr	5	6	0	8
ELN-240	Industrial Applic & Micro	4	0	3	5
ENG-103	Composition II	3	0	0	3
PSY-110	Human Relations	3	0	0	3
		--	--	--	--
		15	6	3	19

**Co-op Option:** Qualified students may elect to take up to three (3) credit hours of Cooperative Education in place of three (3) hours of elective credits provided they acquire approval from the Co-op Director and Department Chairperson.

## EMERGENCY MEDICAL SCIENCE

(T-139)

The Emergency Medical Science Curriculum is designed to prepare graduates, while under the direct supervision of a physician or Mobile Intensive Care Nurse, to perform patient assessments and render emergency care in the pre-hospital and hospital setting. Students will learn basic and advanced life support skills through a combination of classroom teaching, with practice in laboratory sessions and clinical experience, with emergency medical services and community hospitals.

As students progress through the curriculum, they become eligible to take certifying examinations for EMT, EMT-D, EMT-I, EMT-AI, and EMT-P given by the North Carolina Office of Emergency Medical Services and/or the National Registry of Emergency Medical Technicians.

Graduates may be employed in ambulance or rescue squad services, flight transport services, specialty care areas of hospitals, industry, medical supply companies, educational institutions, and governmental agencies. Individuals desiring a career in emergency medical science should take biology and mathematics. It would be beneficial to have had chemistry prior to entering the program.

Upon completion of the program, the student will receive an **associate degree**.

### FIRST QUARTER

BIO-106X	Human Anat & Physiology I	5	0	0	5
BIO-106Y	BIO-106 Lab	0	0	3	1
EMS-120	Intro to Emer Med Science	4	2	0	5
ENG-102	Composition I	3	0	0	3
ENG-115	Medical Terminology & Voc	3	0	0	3
		--	--	--	--
		15	2	3	17

### THIRD QUARTER

EMS-130	Emergency Skills II	5	4	0	7
EMS-131	Clinical I	0	0	6	2
EMS-132	Med Comm: Extrication/Res	2	2	0	3
PHM-102	Pharmacology I	5	0	0	5
		--	--	--	--
		12	6	6	17

### SECOND QUARTER

BIO-107X	Human Anat & Physiology II	5	0	0	5
BIO-107Y	BIO-107 Lab	0	0	3	1
EMS-121	Emergency Skills I	3	2	6	6
ENG-103	Composition II	3	0	0	3
PSY-101	Intro to Psychology	3	0	0	3
		--	--	--	--
		14	2	9	18

### FOURTH QUARTER

EMS-140	Emergency Skills III	4	2	0	5
EMS-141	Clinical II	0	0	12	4
PHM-103	Pharmacology II	5	0	0	5
PSY-202	Human Growth & Develop	3	0	0	3
		--	--	--	--
		12	2	12	17

**EMERGENCY MEDICAL SCIENCE (continued)**

**FIFTH QUARTER**

EMS-220	Cardiology	5	2	0	6
EMS-221	Clinical III	0	0	12	4
ENG-204	Oral Communications	3	0	0	3
	Elective	3	0	0	3
		--	--	--	--
		11	2	12	16

**EIGHTH QUARTER**

BUS-150	Financial Accounting	4	2	0	5
BUS-272	Supervision	3	0	0	3
EMS-236	Practicum	0	0	10	1
EMS-237	Seminar	3	0	0	3
		--	--	--	--
		10	2	10	12

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**TOTAL REQUIRED CREDITS.... 128**

**SIXTH QUARTER**

BIO-108X	Microbiology I	5	0	0	5
BIO-108Y	BIO-108 Lab	0	0	3	1
EMS-230	Emergency Skills IV	3	0	0	3
EMS-231	Clinical IV	0	0	12	4
PSY-204	Abnormal Psychology	3	0	0	3
		--	--	--	--
		11	0	15	16

**Co-op Option:** Qualified students may elect to take up to three (3) credit hours of Cooperative Education in place of three (3) hours of elective credits provided they acquire approval from the Co-op Director and the Department Chairperson.

**SEVENTH QUARTER**

EMS-232	Water Rescue	2	2	0	3
EMS-233	Emergency Skills V	2	2	0	3
EMS-234	Clinical V	0	0	9	3
EMS-235	Methods of Instruction	2	2	0	3
SOC-101	Intro to Sociology	3	0	0	3
		--	--	--	--
		9	6	9	15



# FOODSERVICE MANAGEMENT

(T-074)

The Foodservice Management curriculum trains students at the supervisory or "middle management" level in foodservice with particular emphasis on institutional foodservice. Students completing the first year of this curriculum and desiring additional study in supervision and management may continue for the second year or exit after the fourth quarter with a diploma as a Foodservice Specialist.

In addition to having a sound foundation in the science of food preparation and service, students will develop an understanding of the basic science and principles of quantity food preparation, an appreciation of accuracy and the use of standards in production, an increased knowledge of the space and equipment requirements for quantity food production and service operations of various types, and some ability to evaluate the effectiveness of the operation of a foodservice department. Also, students will understand pricing and cost controls, principles of nutrition as applied to institutional menu planning, safe methods of work performance and appreciation of sanitation and hygiene in a foodservice operation.

The career opportunities available to a graduate of the Foodservice Management curriculum are dietetic assistant, food science supervisor, foodservice manager, dietary technician, unit manager, and chef-manager. Employment opportunities are available in hospitals, nursing homes, child care centers, college and university foodservices, school foodservices, industrial cafeterias, private clubs, airline foodservices, food processing manufacturers, foodservice contract companies and commercial restaurants.

Upon completion of the program, the student will receive an **associate degree**.

## FIRST QUARTER

ENG-101	Grammar	3	0	0	3
FSO-101	Intro to Foodservice	2	0	0	2
FSO-102X	Food Preparation I	3	0	0	3
FSO-102Y	FSO-102 Lab	0	0	6	2
FSO-103X	Equipment Layout & Design	3	0	0	3
FSO-103Y	FSO-103 Lab	0	2	0	1
FSO-104	Sanitation and Safety	3	0	0	3
FSO-107X	Baking I	2	0	0	2
FSO-107Y	FSO-107 Lab	0	0	6	2
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		16	2	12	21

## THIRD QUARTER

FSO-108	Food Serv Personnel Mgmt	3	0	0	3
FSO-114	Garnishing	1	0	3	2
FSO-122X	Food Preparation III	2	0	0	2
FSO-122Y	FSO-122 Lab	0	0	9	3
FSO-217X	Baking III	2	0	0	2
FSO-217Y	FSO-217 Lab	0	0	9	3
MAT-111	Basic Mathematics	5	0	0	5
	--	--	--	--	--
		13	0	21	20

## SECOND QUARTER

ENG-102	Composition I	3	0	0	3
FSO-106	Nutrition & Menu Planning	4	0	0	4
FSO-112X	Food Preparation II	3	0	0	3
FSO-112Y	FSO-112 Lab	0	0	6	2
FSO-113	Dining Room Service	2	2	0	3
FSO-117X	Baking II	2	0	0	2
FSO-117Y	FSO-117 Lab	0	0	6	2
PSY-110	Human Relations	3	0	0	3
	--	--	--	--	--
		17	2	12	22

## SUMMER QUARTER

FSO-110	Food Serv Internship I	0	0	20	2
FSO-111	Seminar I	1	0	0	1
	Major Elective	2	0	0	2
	--	--	--	--	--
		3	0	20	5

## FOODSERVICE MANAGEMENT *(continued)*

### FOURTH QUARTER

BUS-150	Financial Accounting	4	2	0	5
ENG-103	Composition II	3	0	0	3
FSO-202	Food Preparation IV	2	0	6	4
FSO-203	Organization & Management	3	0	0	3
FSO-205	Diet Therapy Menu Plng	3	0	0	3
		--	--	--	--
		15	2	6	18

### SIXTH QUARTER

ENG-204	Oral Communications	3	0	0	3
FSO-207	Food Merchandising	3	2	0	4
FSO-210	Food Serv Internship II	0	0	20	2
FSO-211	Seminar II	2	0	0	2
SOC-251	Social Culture	5	0	0	5
		--	--	--	--
		13	2	20	16

**TOTAL REQUIRED CREDITS....117**

### FIFTH QUARTER

BUS-123	Business Finance I	2	2	0	3
BUS-235	Small Business Management	2	0	3	3
FSO-204	Food Purch & Cost Control	3	0	0	3
FSO-212	Food Preparation V	1	0	6	3
	Elective	3	0	0	3
		--	--	--	--
		11	2	9	15

**Co-op Option:** Qualified students may elect to take up to three (3) credit hours of Cooperative Education in place of three (3) hours of electives provided they acquire the approval of the Co-op Director and Department Chairperson.

## FOODSERVICE SPECIALIST

**(V-053)**

The Foodservice Specialist curriculum trains students in the art and science of quantity food preparation with particular emphasis on institutional foodservice. Using a career ladder concept, it is an open-ended curriculum allowing students more flexibility in their training. In addition to development of knowledge and skills in the art and science of food preparation, the student must develop an understanding and appreciation of food and equipment purchasing, financial control, recordkeeping, basic nutrition and menu planning, and supervision.

A graduate of this curriculum should be qualified for entry into positions as assistant cook, short order cook, cook, chef's assistant, cook manager, baker, assistant baker and pastry cook. Employment needs for graduates of this program are found in hospitals, nursing homes, child care centers, colleges and university foodservices, school foodservice, industrial cafeterias, private clubs, airline foodservices, food processing manufacturers, foodservice contract companies and commercial restaurants.

Upon completion of the program, the student will receive a **diploma**.

**FOODSERVICE SPECIALIST (continued)**

**FIRST QUARTER**

ENG-101	Grammar	3	0	0	3
FSO-101	Intro to Foodservice	2	0	0	2
FSO-102X	Food Preparation I	3	0	0	3
FSO-102Y	FSO-102 Lab	0	0	6	2
FSO-103X	Equipment Layout & Design	3	0	0	3
FSO-103Y	FSO-103 Lab	0	2	0	1
FSO-104	Sanitation and Safety	3	0	0	3
FSO-107X	Baking I	2	0	0	2
FSO-107Y	FSO-107 Lab	0	0	6	2
		--	--	--	--
		16	2	12	21

**THIRD QUARTER**

FSO-108	Food Serv Personnel Mgmt	3	0	0	3
FSO-114	Garnishing	1	0	3	2
FSO-122X	Food Preparation III	2	0	0	2
FSO-122Y	FSO-122 Lab	0	0	9	3
FSO-217X	Baking III	2	0	0	2
FSO-217Y	FSO-217 Lab	0	0	9	3
MAT-111	Basic Mathematics	5	0	0	5
		--	--	--	--
		13	0	21	20

**SECOND QUARTER**

BUS-109	Desktop Computers	1	0	3	2
ENG-102	Composition I	3	0	0	3
FSO-106	Nutrition & Menu Planning	4	0	0	4
FSO-112X	Food Preparation II	3	0	0	3
FSO-112Y	FSO-112 Lab	0	0	6	2
FSO-113	Dining Room Service	2	2	0	3
FSO-117X	Baking II	2	0	0	2
FSO-117Y	FSO-117 Lab	0	0	6	2
		--	--	--	--
		15	2	15	21

**SUMMER QUARTER**

FSO-110	Food Serv Internship I	0	0	20	2
FSO-111	Seminar I	1	0	0	1
PSY-110	Human Relations	3	0	0	3
	Major Elective	1	0	3	2
		--	--	--	--
		5	0	23	8

**TOTAL REQUIRED CREDITS.... 70**

**FUNERAL SERVICE EDUCATION**

**(T-057)**

The Funeral Service Education curriculum provides students with the opportunity to acquire the funeral service education necessary to become proficient in basic funeral service skills. In addition to the general education courses offered in the curriculum, technical courses, such as human anatomy and physiology, funeral law, embalming theory and practice, restorative arts and funeral home operation are taught.

Graduates of the curriculum will be qualified for employment as embalmers and funeral directors, and as sales representatives for equipment firms.

Upon completion of the program, the student will receive an **associate degree**.

**FIRST QUARTER**

ENG-101	Grammar	3	0	0	3
FSE-101	Intro to Funeral Service	3	0	0	3
MAT-111	Basic Mathematics	5	0	0	5
SOC-101	Intro to Sociology	3	0	0	3
		--	--	--	--
		14	0	0	14

**SECOND QUARTER**

BUS-115	Business Law I	4	0	0	4
ENG-102	Composition I	3	0	0	3
FSE-121	Funeral Service Practices	3	0	0	3
FSE-122	Anatomy for Funeral Serv	3	0	0	3
PSY-101	Intro to Psychology	3	0	0	3
		--	--	--	--
		16	0	0	16

**FUNERAL SERVICE EDUCATION (continued)**

**THIRD QUARTER**

BIO-105X	Fundamentals of Microbio	3	0	0	3
BIO-105Y	BIO-105 Lab	0	2	0	1
BUS-116	Business Law II	4	0	0	4
ENG-204	Oral Communications	3	0	0	3
FSE-209	Intro to Embalming Pract	3	0	0	3
PSY-110	Human Relations	3	0	0	3
		--	--	--	--
		16	2	0	17

**FIFTH QUARTER**

BUS-150	Financial Accounting	4	2	0	5
BUS-209	Microcomputer Application	0	0	3	1
FSE-211	Embalming Theory II	3	0	0	3
FSE-213	Embalming Practicum II	0	0	10	1
	<b>OR</b>				
FSE-223	Embalming Practice II	0	0	3	1
FSE-215	Restorative Arts II	2	4	0	4
FSE-224	Funeral Home Operations	4	0	0	4
		--	--	--	--
		13	6	13	18

**SUMMER QUARTER**

BUS-109	Desktop Computers	1	0	3	2
FSE-115	Funeral Law	3	0	0	3
INS-215	Life Insurance	5	0	0	5
SOC-241	Death & Dying	5	0	0	5
		--	--	--	--
		14	0	3	15

**SIXTH QUARTER**

BUS-235	Small Business Management	2	0	3	3
FSE-268	Funeral Counseling	3	0	0	3
FSE-280	Professional Practicum	0	0	20	2
FSE-282	Seminar	3	0	0	3
	Elective	3	0	0	3
		--	--	--	--
		11	0	23	14

**FOURTH QUARTER**

FSE-206	Embalming Chemistry	3	2	0	4
FSE-210	Embalming Theory I	3	0	0	3
FSE-212	Embalming Practicum I	0	0	10	1
	<b>OR</b>				
FSE-222	Embalming Practice I	0	0	3	1
FSE-214	Restorative Arts I	2	4	0	4
FSE-257	Pathology I	3	0	0	3
PSY-241	Grief Psychology	5	0	0	5
		--	--	--	--
		16	6	10	20

**TOTAL REQUIRED CREDITS.... 114**

**Co-op Option:** Qualified students may elect to take up to three (3) credit hours of Cooperative Education in place of three (3) credit hours of elective provided approval is obtained from the Department Chairperson and Co-op Director.

**General Education**

**(G-020)**

The General Education curriculum program consists of basic course work in English, literature, fine arts, philosophy, social science, science, and mathematics leading to an Associate Degree in General Education (A.D.G.E.). It is designed principally for students who desire two years of general education beyond the high school level.

Upon completion of the program, the student will receive an **associate degree**.



**General Education (continued)**

**FIRST QUARTER**

ENG-121	English Composition	5	0	0	5
HIS-121	Western Civilization I	5	0	0	5
MAT-132	College Algebra	5	0	0	5
		--	--	--	--
		15	0	0	15

**FIFTH QUARTER**

ENG-241	World Literature I	5	0	0	5
	Humanities/Fine Arts Elec	5	0	0	5
	Major Elective	4	0	0	4
	Major Elective	5	0	0	5
		--	--	--	--
		19	0	0	19

**SECOND QUARTER**

ENG-122	English Composition & Lit	5	0	0	5
HIS-122	Western Civilization II	5	0	0	5
PSY-121	General Psychology	5	0	0	5
		--	--	--	--
		15	0	0	15

**SIXTH QUARTER**

ART-221	Art Appreciation	5	0	0	5
	<b>OR</b>				
MUS-221	Music Appreciation	5	0	0	5
ENG-242	World Literature II	5	0	0	5
	Social/Behav Science Elec	5	0	0	5
		--	--	--	--
		15	0	0	15

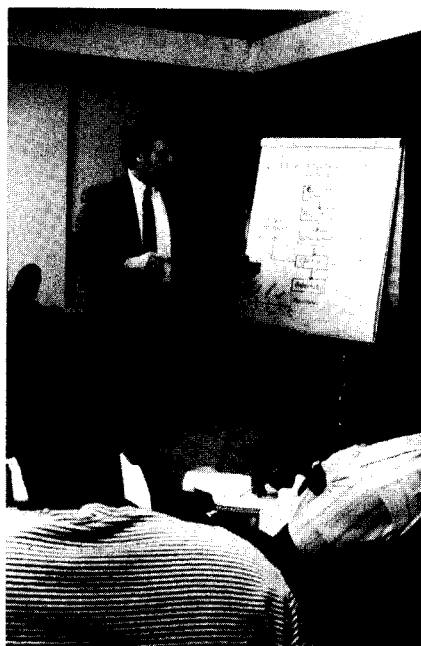
**THIRD QUARTER**

BIO-121X	General Biology I	5	0	0	5
BIO-121Y	BIO-121 Lab	0	2	0	1
ENG-131	Speech Communications	5	0	0	5
SOC-121	General Sociology	5	0	0	5
		--	--	--	--
		15	2	0	16

**TOTAL REQUIRED CREDITS.... 96**

**FOURTH QUARTER**

CHM-221X	General Chemistry I	5	0	0	5
	<b>AND</b>				
CHM-221Y	CHM-221 Lab	0	2	0	1
	<b>OR</b>				
PHY-221X	General Physics I	5	0	0	5
	<b>AND</b>				
PHY-221Y	PHY-221 Lab	0	2	0	1
POL-221	American Government	5	0	0	5
	Major Elective	5	0	0	5
		--	--	--	--
		15	2	0	16



# GENERAL OCCUPATIONAL TECHNOLOGY

(T-114)

The General Occupational Technology curriculum is designed to meet the needs of full-time and/or part-time employees in business and industry. This program of study provides these individuals with an opportunity to upgrade their skills and/or to earn an associate degree by taking courses suited to their occupational needs. The curriculum consists of a basic core of courses in communications, mathematics and social science. The balance of the curriculum consists of a sequence of technical courses individually tailored to satisfy the requirements of the student and/or the student's employer.

Upon completion of the program, the student will receive an **associate degree**.

## FIRST QUARTER

ENG-101	Grammar	3	0	0	3
	Mathematics Elective	5	0	0	5
	Major Elective	3	0	0	3
	Major Elective	3	0	0	3
	Major Elective	3	0	0	3
		--	--	--	--
		17	0	0	17

## FOURTH QUARTER

Major Elective	3	0	0	3
Related Elective	3	0	0	3
	--	--	--	--
	6	0	0	6

## SECOND QUARTER

ENG-102	Composition I	3	0	0	3
	Mathematics Elective	5	0	0	5
	Major Elective	3	0	0	3
	Major Elective	3	0	0	3
	Major Elective	3	0	0	3
		--	--	--	--
		17	0	0	17

## FIFTH QUARTER

ENG-204	Oral Communications	3	0	0	3
PSY-101	Intro to Psychology	3	0	0	3
	Major Elective	3	0	0	3
	Major Elective	3	0	0	3
	Major Elective	3	0	0	3
	Related Elective	3	0	0	3
		--	--	--	--
		18	0	0	18

## THIRD QUARTER

ENG-103	Composition II	3	0	0	3
SOC-101	Intro to Sociology	3	0	0	3
	Major Elective	3	0	0	3
	Major Elective	3	0	0	3
	Major Elective	3	0	0	3
	Related Elective	3	0	0	3
		--	--	--	--
		18	0	0	18

## SIXTH QUARTER

Major Elective	3	0	0	3
Major Elective	3	0	0	3
Major Elective	3	0	0	3
Major Elective	3	0	0	3
Related Elective	5	0	0	5
	--	--	--	--
	17	0	0	17

**GENERAL OCCUPATIONAL TECHNOLOGY (continued)**

**SEVENTH QUARTER**

**TOTAL REQUIRED CREDITS.... 111**

BUS-234	Management	2	0	3	3
	Computer Electives	2	4	0	4
	Elective	2	0	0	2
	Major Elective	3	0	0	3
	Major Elective	3	0	0	3
	Major Elective	3	0	0	3
		--	--	--	--
		15	4	3	18

**Co-op Option:** Qualified students may elect to take up to four (4) credit hours of Cooperative Education in place of four (4) credit hours of major or related elective provided they acquire the approval of the Co-op Director and the Department Chairperson.

**GENERAL OFFICE**

**(T-033)**

The purposes of the General Office curriculum are to prepare the individual to enter clerical office occupations, provide an educational program for individuals wanting education for upgrading (moving from one position to another) or retraining (moving from present position to a clerical position) and provide an opportunity for individuals wanting to fulfill professional or general interest needs.

These purposes will be fulfilled through skill development in the areas of typewriting, filing and business machines. Through these skills and through development of personal competencies and qualities, the individual will be able to function effectively in office-related activities.

Upon completion of the program, the student will receive an **associate degree**.

**FIRST QUARTER**

BUS-191	Keyboarding Skills I	1	0	3	2
<b>OR</b>					
BUS-193	Keyboard Skillbuilding	1	0	3	2
ENG-101	Grammar	3	0	0	3
MAT-111	Basic Mathematics	5	0	0	5
	Social/Behav Science Elec	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		15	0	3	16

**THIRD QUARTER**

BUS-105	Keyboarding IV	2	0	3	3
BUS-141	Business English	3	0	0	3
BUS-214	Secretarial Procedures	3	2	0	4
BUS-261	Machine Transcription I	1	0	6	3
ENG-102	Composition I	3	0	0	3
		--	--	--	--
		12	2	9	16

**SECOND QUARTER**

BUS-104	Keyboarding III	2	0	3	3
BUS-110	Bus Math With Calculators	2	0	3	3
BUS-183	Terminology & Vocab I	5	0	0	5
BUS-210	Info Processing Concepts	2	0	3	3
	Elective	3	0	0	3
		--	--	--	--
		14	0	9	17

**SUMMER QUARTER**

BUS-112	Records Management	5	0	0	5
BUS-130	Micro Data Management	1	0	3	2
BUS-262	Machine Transcription II	2	0	3	3
		--	--	--	--
		8	0	6	10

**GENERAL OFFICE (continued)**

**FOURTH QUARTER**

BUS-143	Bus Comm for Word Process	5	0	0	5
BUS-150	Financial Accounting	4	2	0	5
BUS-184	Terminology & Vocab II	5	0	0	5
BUS-211	Info Processing Applic I	4	0	3	5
		--	--	--	--
		18	2	3	20

**SIXTH QUARTER**

BUS-134	Integrated Software Appli	1	0	3	2
BUS-205	Info Processing Appl III	2	0	3	3
BUS-270	Office Practice Seminar	3	0	0	3
BUS-283	Advanced Desktop Publish	1	0	3	2
BUS-290	Secretarial Internship	0	0	10	1
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		10	0	19	14

**FIFTH QUARTER**

BUS-131	Microcomputer Office Appl	1	0	3	2
BUS-133	Microcomputer DOS	1	0	3	2
BUS-136	Desktop Publishing	1	0	3	2
BUS-204	Info Processing Applic II	4	0	3	5
ENG-204	Oral Communications	3	0	0	3
		--	--	--	--
		10	0	12	14

**TOTAL REQUIRED CREDITS.... 107**

**HORTICULTURE BUSINESS TECHNOLOGY**

**(T-131)**

The purpose of the Horticulture Business curriculum is to assist students in acquiring the knowledge, skills and attitudes to be successful in the production, operation and sales of horticulture plants. The curriculum combines technical horticulture courses with business, accounting, supervision and sales principles.

Upon completion of this curriculum, graduates are qualified for employment opportunities in the greenhouse production of horticulture plants, greenhouse management, operation of garden shops and limited horticulture service activities such as lawn and garden establishments and maintenance.

Upon completion of the program, the student will receive an **associate degree**.

**FIRST QUARTER**

ENG-101	Grammar	3	0	0	3
HOR-120	Plant Materials I	4	2	0	5
HOR-135	Plant Science	5	2	0	6
MAT-111	Basic Mathematics	5	0	0	5
		--	--	--	--
		17	4	0	19

**SECOND QUARTER**

BUS-115	Business Law I	4	0	0	4
ECO-104	Microeconomics	3	0	0	3
ENG-102	Composition I	3	0	0	3
HOR-110	Soil Science & Fertilizer	4	2	0	5
HOR-153	Greenhouse Management	3	2	0	4
		--	--	--	--
		17	4	0	19

## HORTICULTURE BUSINESS TECHNOLOGY (continued)

### THIRD QUARTER

BUS-150	Financial Accounting	4	2	0	5
ENG-103	Composition II	3	0	0	3
HOR-121	Plant Materials II	4	2	0	5
HOR-210	Vegetable & Fruit Prod	3	2	0	4
HOR-224	Landscape Management	2	4	0	4
		--	--	--	--
		16	10	0	21

### FIFTH QUARTER

BUS-235	Small Business Management	2	0	3	3
HOR-157	Sm Equip Oper Rep & Maint	1	4	0	3
HOR-201	Landscape Horticulture II	3	4	0	5
HOR-215	Survey/Irrigation Design	2	4	0	4
	Elective	3	0	0	3
		--	--	--	--
		11	12	3	18

### SUMMER QUARTER

AGR-201	Agricultural Chemicals	3	2	0	4
MKT-225	Techniques in Selling	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		9	2	0	10

### SIXTH QUARTER

HOR-220	Computers in Horticulture	1	0	3	2
HOR-258	Turf Management	3	2	0	4
HOR-299	Internship	0	0	20	2
MKT-239	Marketing	5	0	0	5
	Major Elective	1	0	0	1
	Major Elective	3	2	0	4
		--	--	--	--
		13	4	23	18

### FOURTH QUARTER

ENG-204	Oral Communications	3	0	0	3
HOR-200	Landscape Horticulture I	3	4	0	5
HOR-228	Plant Disease & Parasites	3	2	0	4
HOR-254	Plant Propagation	3	2	0	4
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		15	8	0	19

**TOTAL REQUIRED CREDITS.... 124**

**Co-op Option:** Qualified students may elect to take up to six (6) hours of Cooperative Education in place of HOR 299 and/or four (4) hours of additional horticulture courses provided they acquire approval from the Co-op Director and Department Chairperson.

## INDUSTRIAL MANAGEMENT TECHNOLOGY

**(T-049)**

The Industrial Management curriculum is designed to provide an individual with the ability to function effectively in supervisory and middle-management positions in industry. This program emphasizes study and application in areas such as business and industrial management, production methods and schedules, inventory control, work analysis, motivation techniques, and human relations.

This curriculum is designed to prepare the individual to enter supervisory or middle-management positions, to provide an educational program for upgrading or retraining, and to provide an opportunity for the individual wanting to fulfill professional or general interest needs.

Upon completion of the program, the student will receive an **associate degree**.

**INDUSTRIAL MANAGEMENT TECHNOLOGY (continued)**

**FIRST QUARTER**

BUS-101	Introduction to Business	3	0	0	3
ECO-102	Macroeconomics	3	0	0	3
ENG-101	Grammar	3	0	0	3
ISC-120	Principles of Indus Mgmt	3	0	0	3
MAT-112	Algebra I	5	0	0	5
		--	--	--	--
		17	0	0	17

**FOURTH QUARTER**

BUS-150	Financial Accounting	4	2	0	5
ENG-204	Oral Communications	3	0	0	3
ISC-102	Industrial Safety	2	2	0	3
ISC-202	Quality Control	3	0	0	3
ISC-236	Management Science	2	2	0	3
		--	--	--	--
		14	6	0	17

**SECOND QUARTER**

BUS-191	Keyboarding Skills I	1	0	3	2
<b>OR</b>					
BUS-192	Keyboarding Skills II	1	0	3	2
EDP-103	Intro to Programming	3	0	0	3
ENG-102	Composition I	3	0	0	3
ISC-140	Manufacturing Process	3	0	0	3
MAT-113	Algebra II	5	0	0	5
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		18	0	3	19

**FIFTH QUARTER**

BUS-151	Management Accounting	4	2	0	5
BUS-234	Management	2	0	3	3
ISC-201	Production & Inv Control	2	2	0	3
ISC-221	Intro to Ind Engineering	3	2	0	4
	Elective	3	0	0	3
		--	--	--	--
		14	6	3	18

**THIRD QUARTER**

BUS-128	Spreadsheets	2	4	0	4
BUS-233	Human Resource Management	3	0	0	3
BUS-282	Business Statistics	4	0	0	4
ENG-103	Composition II	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		15	4	0	17

**SIXTH QUARTER**

ISC-205	Purchasing	3	0	0	3
ISC-234	Industrial Mgmt Seminar	2	0	3	3
ISC-241	Industrial Training	3	0	0	3
ISC-250	Computer Aided Mfg	3	4	0	5
	Elective	3	0	0	3
		--	--	--	--
		14	4	3	17

**TOTAL REQUIRED CREDITS.... 111**

**SUMMER QUARTER**

ISC-204	Value Analysis	2	2	0	3
ISC-252	Materials Handling	3	0	0	3
		--	--	--	--
		5	2	0	6

**Co-op Option:** Qualified students may elect to take up to six (6) credit hours of Cooperative Education in place of six (6) credit hours of electives provided they acquire the approval of the Co-op Director and Department Chairperson.

# INDUSTRIAL MECHANICS

(V-033)

The curriculum in Industrial Mechanics prepares students with a broad background in industrial skills required by industry for its mechanics. The individual develops skills in the repair and maintenance of industrial equipment, basic welding and cutting, refrigeration and air conditioning, direct and alternating current, machines and their controls and related courses.

Upon completion of the program, the student will receive a **diploma**.

## FIRST QUARTER

ELC-1130	Industrial Motor Repair	3	0	6	5
ELN-100	Intro to Electronics	3	2	0	4
ENG-1101	Comm Skills in Grammar	3	0	0	3
ISC-102	Industrial Safety	2	2	0	3
MAT-1101	General Math	3	2	0	4
MEC-1135	Hydraulics & Pneumatics	3	0	3	4
		--	--	--	--
		17	6	9	23

## THIRD QUARTER

ELC-1131	Preventive Maintenance	3	0	3	4
MEC-1137	Rigging & Moving	2	0	6	4
WLD-1121	Arc Welding	3	0	15	8
	<b>OR</b>				
WLD-1121A	Arc Welding	2	0	6	4
	<b>AND</b>				
WLD-1121B	Arc Welding	1	0	9	4
		--	--	--	--
		8	0	24	16

## SECOND QUARTER

DFT-1113	BPrint Read - Electrical	1	2	0	2
ELM-1140	Electromech. Devices	3	0	6	5
	<b>OR</b>				
ELM-1140A	Electromech. Devices	2	0	3	3
	<b>AND</b>				
ELM-1140B	Electromech. Devices	1	0	3	2
ENG-1102	Vocational Communications	3	0	0	3
MEC-1136	Mechanical Ind. Systems	2	0	6	4
WLD-1120A	Oxy-Acetylene Welding	2	0	6	4
		--	--	--	--
		11	2	18	18

## FOURTH QUARTER

AHR-1120	Air Cond & Heating Maint	3	0	9	6
	<b>OR</b>				
AHR-1120A	Air Cond & Heating Maint	2	0	3	3
	<b>AND</b>				
AHR-1120B	Air Cond & Heating Maint	1	0	6	3
ELC-1132	Ind. Instrumentation	2	0	6	4
MEC-1112	Machine Shop Processes	1	0	6	3
		--	--	--	--
		6	0	21	13

**TOTAL REQUIRED CREDITS.... 70**

\* ENG-1101, MAT-1101, DFT-1113, ENG-1102 previously taken in E.I.M. Program.

**INDUSTRIAL MANAGEMENT TECHNOLOGY (continued)**

**FIRST QUARTER**

BUS-101	Introduction to Business	3	0	0	3
ECO-102	Macroeconomics	3	0	0	3
ENG-101	Grammar	3	0	0	3
ISC-120	Principles of Indus Mgmt	3	0	0	3
MAT-112	Algebra I	5	0	0	5
		--	--	--	--
		17	0	0	17

**FOURTH QUARTER**

BUS-150	Financial Accounting	4	2	0	5
ENG-204	Oral Communications	3	0	0	3
ISC-102	Industrial Safety	2	2	0	3
ISC-202	Quality Control	3	0	0	3
ISC-236	Management Science	2	2	0	3
		--	--	--	--
		14	6	0	17

**SECOND QUARTER**

BUS-191	Keyboarding Skills I	1	0	3	2
<b>OR</b>					
BUS-192	Keyboarding Skills II	1	0	3	2
EDP-103	Intro to Programming	3	0	0	3
ENG-102	Composition I	3	0	0	3
ISC-140	Manufacturing Process	3	0	0	3
MAT-113	Algebra II	5	0	0	5
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		18	0	3	19

**FIFTH QUARTER**

BUS-151	Management Accounting	4	2	0	5
BUS-234	Management	2	0	3	3
ISC-201	Production & Inv Control	2	2	0	3
ISC-221	Intro to Ind Engineering	3	2	0	4
	Elective	3	0	0	3
		--	--	--	--
		14	6	3	18

**THIRD QUARTER**

BUS-128	Spreadsheets	2	4	0	4
BUS-233	Human Resource Management	3	0	0	3
BUS-282	Business Statistics	4	0	0	4
ENG-103	Composition II	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		15	4	0	17

**SIXTH QUARTER**

ISC-205	Purchasing	3	0	0	3
ISC-234	Industrial Mgmt Seminar	2	0	3	3
ISC-241	Industrial Training	3	0	0	3
ISC-250	Computer Aided Mfg	3	4	0	5
	Elective	3	0	0	3
		--	--	--	--
		14	4	3	17

**TOTAL REQUIRED CREDITS.... 111**

**SUMMER QUARTER**

ISC-204	Value Analysis	2	2	0	3
ISC-252	Materials Handling	3	0	0	3
		--	--	--	--
		5	2	0	6

**Co-op Option:** Qualified students may elect to take up to six (6) credit hours of Cooperative Education in place of six (6) credit hours of electives provided they acquire the approval of the Co-op Director and Department Chairperson.



# INSURANCE

(T-128)

The Insurance curriculum is designed to prepare an individual for entry into the insurance field. Objectives of this curriculum are to provide the individual with knowledge and skills in the principles of life and health insurance, social insurance, property and liability insurance, governmental influences on the insurance industry, governmental influences of the insurance industry on the economy, and organization and management in business operations.

Employment opportunities are available in areas such as insurance sales agent, claims adjuster, special agent, claims examiner and rate clerk.

Upon completion of the program, the student will receive an **associate degree**.

## FIRST QUARTER

BUS-101	Introduction to Business	3	0	0	3
BUS-191	Keyboarding Skills I	1	0	3	2
<b>OR</b>					
BUS-192	Keyboarding Skills II	1	0	3	2
ECO-102	Macroeconomics	3	0	0	3
EDP-104	Intro to Data Processing	3	0	0	3
ENG-101	Grammar	3	0	0	3
MAT-111	Basic Mathematics	5	0	0	5
		--	--	--	--
		18	0	3	19

## SECOND QUARTER

BUS-115	Business Law I	4	0	0	4
BUS-234	Management	2	0	3	3
ECO-104	Microeconomics	3	0	0	3
ENG-102	Composition I	3	0	0	3
MAT-131	College Mathematics	5	0	0	5
	Related Elective	3	0	0	3
		--	--	--	--
		20	0	3	21

## THIRD QUARTER

BUS-109	Desktop Computers	1	0	3	2
BUS-116	Business Law II	4	0	0	4
ENG-103	Composition II	3	0	0	3
MKT-239	Marketing	5	0	0	5
	Related Elective	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		19	0	3	20

## SUMMER QUARTER

INS-220	Financial Services	2	2	0	3
	Major Elective	5	0	0	5
		--	--	--	--
		7	2	0	8

## FOURTH QUARTER

INS-221	Income Tax	2	2	0	3
INS-222	Economics	2	2	0	3
INS-223	Fin Stmt Analy/Ins Ben	2	2	0	3
	Elective	3	0	0	3
	Related Elective	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		15	6	0	18



**INSURANCE (continued)**

**FIFTH QUARTER**

INS-224	Insur Environment & Oper	2	2	0	3
<b>AND</b>					
INS-225	Grp Benefits & Social Ins	2	2	0	3
<b>AND</b>					
INS-226	Pension & Retirement Plns	2	2	0	3
<b>OR</b>					
INS-235	Personal Risk Mgmt/Ins I	2	2	0	3
<b>AND</b>					
INS-236	Personal Risk Mgmt/Ins II	2	2	0	3
<b>AND</b>					
INS-237	Multi-Line Ins Laws/Oper	2	2	0	3
<b>OR</b>					
INS-227	Employee Benefits	2	2	0	3
<b>AND</b>					
INS-229	Wealth Accumulation Plng	2	2	0	3
<b>AND</b>					
INS-232	Financial Planning Applic	2	2	0	3
	Related Elective	3	0	0	3
	Related Elective	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		15	6	0	18

**SIXTH QUARTER**

INS-228	Investments	2	2	0	3
INS-230	Estate & Gift Tax Plng	2	2	0	3
INS-231	Plng for Business Owners	2	2	0	3
	Elective	3	0	0	3
	Related Elective	3	0	0	3
		--	--	--	--
		12	6	0	15

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**TOTAL REQUIRED CREDITS.... 119**

**Co-op Option:** Qualified students may elect to take up to six (6) credit hours of Cooperative Education in place of six (6) hours of elective credits provided approval is obtained from the Co-op Director and the Department Chairperson.

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**MACHINIST TECHNOLOGY**

**(T-121)**

The Machinist Technology curriculum is a comprehensive program designed to provide an opportunity for persons interested in machining and production work, to develop skill in the theory and use of the wide range of hand and power machine tools used in industry. The curriculum offers basic skill development courses in the first half of the program with a concentration on shop practices and metal properties to provide employable skills. Those students desiring an in-depth study of machine technology can continue their studies with a concentration on mathematics, advanced machine theory, graphics and humanities electives.

Employment opportunities in this field exist for general machinists, tool and die makers, set-up persons, layout persons and supervisors or foremen.

Upon completion of the program, the student will receive an **associate degree**.

**FIRST QUARTER**

DFT-101	Technical Drafting I	0	6	0	3
MAT-112	Algebra I	5	0	0	5
MEC-100	Industrial Specifications	3	0	0	3
MEC-101X	Theory & Practice I	3	0	0	3
MEC-101Y	MEC-101 Lab	0	0	12	4
		--	--	--	--
		11	6	12	18

**SECOND QUARTER**

ENG-101	Grammar	3	0	0	3
MAT-113	Algebra II	5	0	0	5
MEC-102X	Theory & Practice II	3	0	0	3
MEC-102Y	MEC-102 Lab	0	2	6	3
MEC-103X	Theory & Practice III	3	0	0	3
MEC-103Y	MEC-103 Lab	0	2	6	3
		--	--	--	--
		14	4	12	20

## MACHINIST TECHNOLOGY (continued)

### THIRD QUARTER

DFT-102	Technical Drafting II	0	6	0	3
MAT-150	Geometry	5	0	0	5
MEC-104X	Theory & Practice IV	3	0	0	3
MEC-104Y	MEC-104 Lab	0	0	9	3
MEC-105	Physical Metallurgy	3	2	0	4
		--	--	--	--
		11	8	9	18

### SIXTH QUARTER

ENG-103	Composition II	3	0	0	3
MEC-203X	Numerical Ctrl in Mfg III	2	0	0	2
MEC-203Y	MEC-203 Lab	0	0	15	5
PHY-132X	Physics III	3	0	0	3
PHY-132Y	PHY-132 Lab	0	2	0	1
PSY-110	Human Relations	3	0	0	3
		--	--	--	--
		11	2	15	17

### FOURTH QUARTER

ENG-102	Composition I	3	0	0	3
MEC-106	Precision Machines	1	4	9	6
MEC-201X	Numerical Cntrl in Mfg I	3	0	0	3
MEC-201Y	MEC-201 Lab	0	0	3	1
WLD-106	Techniques of Welding	1	0	6	3
		--	--	--	--
		8	4	18	16

### SEVENTH QUARTER

ENG-204	Oral Communications	3	0	0	3
MEC-212	Advanced CAD/CAM	1	2	12	6
MEC-213	CAD/CAM Applications	1	4	0	3
	Elective	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		11	6	12	18

**TOTAL REQUIRED CREDITS.... 126**

### FIFTH QUARTER

MAT-151	Trigonometry I	5	0	0	5
MEC-202X	Numerical Cntrl in Mfg II	2	0	0	2
MEC-202Y	MEC-202 Lab	0	4	6	4
MEC-211	Basic CAD/CAM	1	4	3	4
PHY-130X	Technical Physics I	3	0	0	3
PHY-130Y	PHY-130 Lab	0	2	0	1
		--	--	--	--
		11	10	9	19

**Co-op Option:** Qualified students may elect to take up to three (3) credit hours of Cooperative Education in place of three (3) hours of elective credits provided they acquire approval from the Co-op Director and Department Chairperson.

## MARKETING AND RETAILING

**(T-020)**

The Marketing and Retailing curriculum is designed to prepare the individual for entry into middle-management positions in various marketing and retailing businesses and industries. This purpose will be fulfilled through study and application in areas such as marketing and merchandising techniques, management, selling, advertising, retailing, and credit and collection procedures.

Through knowledge and skills, the individual will be able to perform marketing and distribution activities and through the development of personal competencies and qualities will be provided the opportunity to enter an array of marketing and distribution jobs.

Upon completion of the program, the student will receive an **associate degree**.

**MARKETING AND RETAILING (continued)**

**FIRST QUARTER**

BUS-101	Introduction to Business	3	0	0	3
BUS-191	Keyboarding Skills I	1	0	3	2
<b>OR</b>					
BUS-192	Keyboarding Skills II	1	0	3	2
ENG-101	Grammar	3	0	0	3
MAT-111	Basic Mathematics	5	0	0	5
MKT-239	Marketing	5	0	0	5
		--	--	--	--
		17	0	3	18

**FOURTH QUARTER**

BUS-150	Financial Accounting	4	2	0	5
ECO-102	Macroeconomics	3	0	0	3
ENG-103	Composition II	3	0	0	3
MKT-241	Market Research	2	2	0	3
MKT-285	Salesmanship	2	0	3	3
		--	--	--	--
		14	4	3	17

**SECOND QUARTER**

BUS-109	Desktop Computers	1	0	3	2
BUS-115	Business Law I	4	0	0	4
BUS-160	Business Math	5	0	0	5
ENG-102	Composition I	3	0	0	3
MKT-251	Consumer Behavior	3	0	0	3
		--	--	--	--
		16	0	3	17

**FIFTH QUARTER**

BUS-123	Business Finance I	2	2	0	3
BUS-142	Business Communications	3	0	0	3
BUS-233	Human Resource Management	3	0	0	3
MKT-255	Public Relations	3	0	0	3
	Elective	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		17	2	0	18

**THIRD QUARTER**

BUS-116	Business Law II	4	0	0	4
COE-101	Personal Develop & Comm	3	0	0	3
ENG-204	Oral Communications	3	0	0	3
MKT-245	Retailing	5	0	0	5
MKT-254	Promotion	3	0	0	3
		--	--	--	--
		18	0	0	18

**SIXTH QUARTER**

MKT-240	Advanced Marketing	2	2	0	3
MKT-249	Buying and Merchandising	1	4	0	3
MKT-256	Marketing Leadership	3	0	0	3
<b>OR</b>					
BUS-231	Women in Management	3	0	0	3
	Elective	3	0	0	3
	Major Elective	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		15	6	0	18

**SUMMER QUARTER**

BUS-234	Management	2	0	3	3
MKT-243	Advertising Principles	5	0	0	5
		--	--	--	--
		7	0	3	8

**TOTAL REQUIRED CREDITS.... 114**

**Co-op Option:** Qualified students may elect to take up to six (6) credit hours of Cooperative Education in place of six (6) hours of elective credits provided they acquire approval from the Co-op Director and Department Chairperson.

# MASONRY

(V-070)

The Masonry curriculum prepares individuals to work in the construction industry as bricklayers and masons. The mason must have a knowledge of basic mathematics, blueprint reading, and must also know the methods used in laying out a masonry job for residential, commercial and industrial construction.

Masons are employed by contractors in the building construction field to lay brick and blocks made of tile, concrete, glass, gypsum or terra cotta. The mason is also capable of constructing or repairing walls, partitions, arches, sewers, furnaces, and other masonry structures.

Upon completion of the program, the student will receive a **diploma**.

## FIRST QUARTER

DFT-1110	BPrint Read Bldg Trades	1	2	0	2
ENG-1101	Comm Skills in Grammar	3	0	0	3
MAS-1100	Intro to Bricklaying	2	0	6	4
MAS-1101	Masonry Concepts	2	0	6	4
MAS-1102	Fund of Bricklaying I	2	0	6	4
MAT-1101	General Math	3	2	0	4
		--	--	--	--
		13	4	18	21

## THIRD QUARTER

ENG-1102	Vocational Communications	3	0	0	3
MAS-1108X	Fund of Masonry I	6	0	12	10
	<b>AND</b>				
MAS-1108Y	MAS-1108 Lab	0	0	6	2
	<b>OR</b>				
MAS-1108A	Fund of Masonry I	2	0	6	4
	<b>AND</b>				
MAS-1108B	Fund of Masonry I	2	0	6	4
	<b>AND</b>				
MAS-1108C	Fund of Masonry I	2	0	6	4
		--	--	--	--
		9	0	18	15

## SECOND QUARTER

MAS-1107	Fund of Bricklaying II	4	0	18	10
	<b>OR</b>				
MAS-1107A	Fund of Bricklaying II	2	0	6	4
	<b>AND</b>				
MAS-1107B	Fund of Bricklaying II	1	0	6	3
	<b>AND</b>				
MAS-1107C	Fund of Bricklaying II	1	0	6	3
MAS-1110	Masonry Estimating	3	0	0	3
MAS-1113	Masonry Regulations	4	0	0	4
PHY-1103X	Work, Energy & Power	3	0	0	3
PHY-1103Y	PHY-1103 Lab	0	2	0	1
		--	--	--	--
		14	2	18	21

## FOURTH QUARTER

BUS-1103	Small Business Operations	3	0	0	3
MAS-1109X	Fund of Masonry II	6	0	12	10
	<b>AND</b>				
MAS-1109Y	MAS-1109 Lab	0	0	6	2
	<b>OR</b>				
MAS-1109A	Fund of Masonry II	2	0	6	4
	<b>AND</b>				
MAS-1109B	Fund of Masonry II	2	0	6	4
	<b>AND</b>				
MAS-1109C	Fund of Masonry II	2	0	6	4
		--	--	--	--
		9	0	18	15

**TOTAL REQUIRED CREDITS.... 72**

**Co-op Option:** Cooperative Education may be substituted for MAS 1108Y and MAS 1109Y upon approval from the Co-op Director and Department Chairperson.

## NURSING ASSISTANT

(V-072)

The Nursing Assistant curriculum prepares graduates to assist registered and practical nurses and physicians in carrying out nursing care and services for patients. The nursing assistant performs health care procedures such as bathing and feeding patients, providing comfort measures, positioning patients, preparing patients for physical examinations and special tests, observing and recording vital signs, admitting, transferring and discharging patients, and collecting specimens.

Graduates may be employed in homes, hospitals, clinics, doctors' offices, nursing homes and extended care facilities.

Individuals desiring a career in nursing assistant should, if possible, take English, biology and social science courses prior to entering the program.

Upon completion of the program, the student will receive a **certificate**.

### FIRST QUARTER

NUR-3023	Nursing Assistant I	2	2	6	5
NUR-3025	Home Care	2	2	0	3
		--	--	--	--
		4	4	6	8

### SECOND QUARTER

NUR-3024	Nursing Assistant II	3	4	9	8
		--	--	--	--
		3	4	9	8

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TOTAL REQUIRED CREDITS.... 16

## PARALEGAL TECHNOLOGY

(T-120)

The Paralegal Technology curriculum trains individuals to work under the general direction of lawyers, to relieve lawyers of routine matters, and to assist them in the conduct of more complicated and difficult tasks. The legal technician should be capable of doing independent legal work under the supervision of a lawyer, supervise secretaries in their work for the lawyer, and search out information and court facts for the lawyer. Training will include general subjects such as English, accounting and psychology, as well as specialized legal courses such as legal definitions, court systems, laws, and techniques of investigation.

Graduates of the Paralegal Technology curriculum should be able to directly assist a lawyer or group of lawyers in most facets of law, but they must always work under the supervision of a lawyer. The legal technician will not be qualified to give legal advice, enter into courtroom procedure, or be involved in litigation except as an assistant to the lawyer. Paralegal graduates will be able to assist in work on probate matters, conducting investigations, searching public records, preparation of tax forms, serving and filing legal documents, bookkeeping, library research, and providing office management assistance. Employment opportunities are available in public and private law firms and with individual lawyers.

Upon completion of the program, the student will receive an **associate degree**.

### FIRST QUARTER

ENG-101	Grammar	3	0	0	3
LEG-101	Intro to Paralegalism	3	0	0	3
LEG-115	Contract Law & the UCC	3	0	0	3
LEG-135	Civil Litigation I	5	0	0	5
MAT-111	Basic Mathematics	5	0	0	5
		--	--	--	--
		19	0	0	19

### SECOND QUARTER

BUS-150	Financial Accounting	4	2	0	5
ENG-102	Composition I	3	0	0	3
LEG-130	Legal Research	4	2	0	5
LEG-136	Civil Litigation II	3	0	0	3
PHI-222	Introduction to Logic	5	0	0	5
		--	--	--	--
		19	4	0	21

**PARALEGAL TECHNOLOGY (continued)**

**THIRD QUARTER**

BUS-191	Keyboarding Skills I	1	0	3	2
<b>OR</b>					
BUS-192	Keyboarding Skills II	1	0	3	2
ENG-103	Composition II	3	0	0	3
LEG-105	Partnership & Corp Law	3	0	0	3
LEG-113	Family Law	3	2	0	4
LEG-117	Tort Law	3	0	0	3
LEG-131	Legal Writing	2	4	0	4
		--	--	--	--
		15	6	3	19

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**FIFTH QUARTER**

BUS-209	Microcomputer Application	0	0	3	1
LEG-140	Bankruptcy & Collections	2	2	0	3
LEG-215	Property II-Title Search	2	4	0	4
LEG-220	Remedies	3	0	0	3
	Related Elective	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		13	6	3	17

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**SUMMER QUARTER**

LEG-118	Elements of Criminal Law	2	0	0	2
LEG-204	Investigation	4	0	0	4
LEG-225	Law Office Management	2	0	0	2
	Elective	3	0	0	3
		--	--	--	--
		11	0	0	11

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**SIXTH QUARTER**

LEG-216	Property III-RE Closing	3	0	0	3
LEG-290	Internship	0	0	30	3
LEG-291	Seminar	3	0	0	3
	Major Elective	3	0	0	3
	Related Elective	3	0	0	3
		--	--	--	--
		12	0	30	15

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**TOTAL REQUIRED CREDITS.... 122**

**FOURTH QUARTER**

BUS-114	Word Processing Operator	1	2	0	2
<b>OR</b>					
BUS-118	Word Processing on Micro	1	0	3	2
ENG-204	Oral Communications	3	0	0	3
LCJ-110	Investigative Photography	1	4	0	3
LEG-119	Criminal Procedure	3	0	0	3
LEG-214	Property I - Real Estate	4	0	0	4
LEG-224	Wills, Trusts & Estates	4	2	0	5
		--	--	--	--
		16	8	0	20

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**Co-op Option:** Qualified students may elect to take up to three (3) credit hours of Cooperative Education in place of three (3) hours of elective credits provided approval is obtained from the Co-op Director and the Department Chairperson.

# PHARMACY TECHNOLOGY

(T-161)

The Pharmacy Technology curriculum prepares individuals to assist the pharmacist in duties that a non-professional can legally perform and to function within the boundaries prescribed by the pharmacist and the employing agency. Graduates may maintain patient's records; fill routine prescription orders; maintain inventories of drugs and supplies; set up, package, and label medication doses; prepare stock solutions and intravenous additives; assist with over-the-counter drugs and health aids; and perform clerical duties, including insurance forms and forms required by third-party payees.

Graduates may be employed in hospitals, in nursing homes, in private and chain drug stores, by drug manufacturers, in research laboratories and in wholesale drug companies.

Individuals desiring a career in pharmacy technology should, if possible, take biology, algebra, chemistry and typing courses prior to entering the program.

Upon completion of the program, the student will receive a **diploma**.

## FIRST QUARTER

BUS-191	Keyboarding Skills I	1	0	3	2
<b>OR</b>					
BUS-192	Keyboarding Skills II	1	0	3	2
ENG-121	English Composition	5	0	0	5
PHM-101	Intro to Pharmacy	5	0	0	5
PHM-109X	Hospital Pharmacy	3	0	0	3
PHM-109Y	PHM-109 Lab	0	2	0	1
PHM-110	Pharmaceutical Calc	5	0	0	5
		--	--	--	--
		19	2	3	21

## THIRD QUARTER

BIO-105X	Fundamentals of Microbio	3	0	0	3
BIO-105Y	BIO-105 Lab	0	2	0	1
PHM-103	Pharmacology II	5	0	0	5
PHM-105	Pharmaceutical Prep II	3	4	0	5
PHM-210	Hospital Clinical II	0	0	15	5
PSY-110	Human Relations	3	0	0	3
		--	--	--	--
		14	6	15	22

## SECOND QUARTER

BIO-200X	Human Biology	4	0	0	4
BIO-200Y	BIO-200 Lab	0	2	0	1
PHM-102	Pharmacology I	5	0	0	5
PHM-104	Pharmaceutical Prep I	3	4	0	5
PHM-200	Hospital Clinical I	0	0	15	5
		--	--	--	--
		12	6	15	20

## FOURTH QUARTER

ENG-204	Oral Communications	3	0	0	3
PHM-107	Community Pharmacy	3	0	6	5
PHM-111	Pharmacy Seminar	2	0	0	2
SOC-101	Intro to Sociology	3	0	0	3
		--	--	--	--
		11	0	6	13

**TOTAL REQUIRED CREDITS.... 76**



# PHYSICAL THERAPIST ASSISTANT

(T-062)

The Physical Therapist Assistant curriculum prepares the graduate to assist the professional physical therapist in a variety of direct patient care services, delegated by the supervising therapist, to restore function by alleviation or prevention of physical impairment and other activities essential to the operation of a physical therapy service. The graduate is eligible to take the licensing examination given by the North Carolina Board of Physical Therapy Examiners.

Employment opportunities are available in general hospitals, rehabilitation centers, extended care facilities, specialty hospitals, home health agencies, private clinics and public school systems.

Suggested preparatory courses for individuals desiring a career in physical therapy assisting would include biology, algebra and possibly chemistry.

Upon completion of the program, the student will receive an **associate degree**.

## FIRST QUARTER

BIO-106X	Human Anat & Physiology I	5	0	0	5
BIO-106Y	BIO-106 Lab	0	0	3	1
ENG-115	Medical Terminology & Voc	3	0	0	3
PHY-110X	Topical Physics	4	0	0	4
PHY-110Y	PHY-110 Lab	0	2	0	1
PTH-101	Intro to Physical Therapy	2	0	6	4
		--	--	--	--
		14	2	9	18

## SECOND QUARTER

BIO-107X	Human Anat & Physiology II	5	0	0	5
BIO-107Y	BIO-107 Lab	0	0	3	1
ENG-121	English Composition	5	0	0	5
PTH-102	Physical Therapy Proc I	2	0	9	5
REC-101	First Aid & Safety	3	2	0	4
		--	--	--	--
		15	2	12	20

## THIRD QUARTER

BUS-191	Keyboarding Skills I	1	0	3	2
<b>OR</b>					
BUS-192	Keyboarding Skills II	1	0	3	2
ENG-122	English Composition & Lit	5	0	0	5
PTH-103	Physical Therapy Proc II	3	0	6	5
PTH-110	Therapeutic Exercises	3	0	6	5
		--	--	--	--
		12	0	15	17

## SUMMER QUARTER

PTH-201	Path/Phys for PT Assist	4	0	0	4
PTH-202	Functional Anatomy	2	2	0	3
		--	--	--	--
		6	2	0	7

## FOURTH QUARTER

ENG-204	Oral Communications	3	0	0	3
PSY-121	General Psychology	5	0	0	5
PTH-104	Physical Therapy Proc III	3	0	9	6
PTH-210	Psychology of Adjustment	3	0	0	3
		--	--	--	--
		14	0	9	17

## FIFTH QUARTER

MAT-131	College Mathematics	5	0	0	5
PTH-105	Physical Therapy Proc IV	3	0	12	7
PTH-215	Community Health/Welfare	3	0	0	3
	Elective	3	0	0	3
		--	--	--	--
		14	0	12	18

**PHYSICAL THERAPIST ASSISTANT (continued)**

**SIXTH QUARTER**

**TOTAL REQUIRED CREDITS.... 114**

PTH-106	Physical Therapy Seminar	3	0	0	3
PTH-298	Clinical Education	1	0	39	14
		--	--	--	--
		4	0	39	17

**PLUMBING AND PIPEFITTING**

**(V-037)**

The Plumbing and Pipefitting curriculum is designed to train individuals to repair or install plumbing systems in residences and small commercial buildings. Courses in plumbing practices and pipefitting are included to provide practical experience as well as courses in theory that one must know to advance and keep up to date with new innovations. Other courses in communication skills, physics, human relations and business operations are provided to assist the individual in occupational growth.

Plumbers are employed by contractors in the building construction fields to install pipe systems which carry water, steam, air or other liquids or gases for sanitation, heating, industrial production and various other uses. They also alter and repair existing pipe systems and install plumbing fixtures, appliances, and heating and refrigeration units.

Upon completion of the program, the student will receive a **diploma**.

**FIRST QUARTER**

DFT-1110	BPrint Read Bldg Trades	1	2	02
ENG-1101	Comm Skills in Grammar	3	0	0 3
MAT-1116	Math for Plumbers	3	2	0 4
PLU-1110	Plumbing Pipework	5	0	15 10
		--	--	-- --
		12	4	15 19

**THIRD QUARTER**

BUS-1103	Small Business Operations	3	0	0 3
PLU-1112	Install of Plumb Fixtures	3	0	9 6
PLU-1113X	Plu.Maint.: Residential	2	0	0 2
PLU-1113Y	PLU-1113 Lab	0	0	6 2
WLD-1180	Basic Welding	1	0	6 3
		--	--	-- --
		9	0	21 16

**SECOND QUARTER**

DFT-1115	BPrint Read - Plumbing	1	2	0 2
ENG-1102	Vocational Communications	3	0	0 3
PLU-1111	Domestic Water Systems	2	0	9 5
PLU-1115	Steam & Water Boilers	3	0	9 6
	Related Elective	4	0	0 4
		--	--	-- --
		13	2	18 20

**FOURTH QUARTER**

PLU-1114X	Plu.Maint.: Commercial	2	0	0 2
PLU-1114Y	PLU-1114 Lab	0	0	6 2
PLU-1125	Industrial Piping	3	0	6 5
PLU-1127	Plumbing Estimates	2	0	3 3
WLD-1181	MIG & TIG	1	0	6 3
		--	--	-- --
		8	0	21 15

**TOTAL REQUIRED CREDITS.... 70**

**Co-op Option:** Cooperative Education may be substituted for PLU 1113Y and PLU 1114Y upon approval from the Co-op Director and Department Chairperson.

# POSTAL SERVICE TECHNOLOGY

(T-141)

The Postal Service Technology curriculum is designed to provide opportunities for advancement for present and future employees of the U.S. Postal Service. Graduates of the program will be prepared to work in a variety of positions. The course of study includes postal organization, mail processing, employee and customer services, mail delivery and collection, problem analysis, related business/management subjects and general education courses.

Upon completion of the program, the student will receive an **associate degree**.

## FIRST QUARTER

BUS-101	Introduction to Business	3	0	0	3
BUS-191	Keyboarding Skills I	1	0	3	2
ECO-102	Macroeconomics	3	0	0	3
ENG-101	Grammar	3	0	0	3
POS-101	Postal History & Organiz	3	0	0	3
POS-103	Postal Serv Mail Proc I	3	0	0	3
		--	--	--	--
		16	0	3	17

## FOURTH QUARTER

BUS-116	Business Law II	4	0	0	4
BUS-150	Financial Accounting	4	2	0	5
ENG-204	Oral Communications	3	0	0	3
POS-202	Postal Service Finance	3	0	0	3
	Elective	3	0	0	3
		--	--	--	--
		17	2	0	18

## SECOND QUARTER

BUS-109	Desktop Computers	1	0	3	2
BUS-142	Business Communications	3	0	0	3
BUS-272	Supervision	3	0	0	3
ECO-104	Microeconomics	3	0	0	3
ENG-102	Composition I	3	0	0	3
POS-105	Postal Serv Mail Proc II	3	0	0	3
		--	--	--	--
		16	0	3	17

## FIFTH QUARTER

BUS-151	Management Accounting	4	2	0	5
BUS-260	Government & Business	3	0	0	3
POS-203	Postal Customer Service	3	0	0	3
POS-205	Postal Delivery & Collect	3	0	0	3
	Elective	3	0	0	3
		--	--	--	--
		16	2	0	17

## THIRD QUARTER

BUS-115	Business Law I	4	0	0	4
ENG-103	Composition II	3	0	0	3
MAT-111	Basic Mathematics	5	0	0	5
POS-201	Postal Serv Labor Relat	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		18	0	0	18

## SIXTH QUARTER

BUS-234	Management	2	0	3	3
POS-207	Postal Serv Empl Relation	3	0	0	3
POS-208	Postal Problem Analysis	3	0	0	3
PSY-110	Human Relations	3	0	0	3
REC-101	First Aid & Safety	3	2	0	4
	Elective	3	0	0	3
		--	--	--	--
		17	2	3	19

**TOTAL REQUIRED CREDITS.... 106**

**Co-op Option:** Qualified students may elect to take up to nine (9) credit hours of Cooperative Education in place of nine (9) hours of elective credits provided they acquire approval from the Co-op Director and Department Chairperson.

## PRACTICAL FOODSERVICE

(V-158)

Practical Foodservice is a program of study designed to provide training for basic entry level jobs in institutional and commercial foodservice. The student develops the necessary knowledge and skills through the study of basic food preparation, sanitation, and safety. The program also includes the study of developmental subjects. This provides the student with the opportunity to improve reading ability, spelling, basic communication skills, basic mathematics, personal development, and human relation skills.

Job opportunities for graduates of this program are available as cook's helpers, baker's helpers, or breakfast cooks in restaurants, hospitals, schools, nursing homes, and other foodservice operations.

Upon completion of the program, the student will receive a **certificate**.

### FIRST QUARTER

ENG-1101	Comm Skills in Grammar	3	0	0	3
FSO-105	Sanitation & Equipment	3	2	0	4
FSO-109	Principles of Food Prep	3	0	12	7
		--	--	--	--
		9	2	12	14

### THIRD QUARTER

FSO-122X	Food Preparation III	2	0	0	2
FSO-122Y	FSO-122 Lab	0	0	9	3
FSO-125	Catering	2	0	0	2
PSY-110	Human Relations	3	0	0	3
SOC-251	Social Culture	5	0	0	5
		--	--	--	--
		12	0	9	15

### SECOND QUARTER

COE-101	Personal Develop & Comm	3	0	0	3
ENG-1102	Vocational Communications	3	0	0	3
FSO-101	Intro to Foodservice	2	0	0	2
FSO-113	Dining Room Service	2	2	0	3
MAT-1101	General Math	3	2	0	4
		--	--	--	--
		13	4	0	15

TOTAL REQUIRED CREDITS.... 44

## PRACTICAL NURSING

(V-038)

The Practical Nursing curriculum graduates are prepared to take the National Council Licensure Examination required to practice as a licensed practical nurse. The Practical Nursing curriculum is designed to develop competencies in practicing the following five components of practice as defined by the North Carolina Nursing Practice Act, 1981: participating in assessing the client's physical and mental health including the client's reaction to illnesses and treatment regimens; recording and reporting the results of the nursing assessment; participating in implementing the health care plan developed by the registered nurse and/or prescribed by any person authorized by State law to prescribe such a plan, by performing tasks delegated by and performed under the supervision or under orders or directions of a registered nurse, physician licensed to practice medicine, dentist, or other person authorized by state law to provide such supervision; reinforcing the teaching and counseling of a registered nurse, physician licensed to practice medicine in North Carolina, or dentist; and reporting and recording the nursing care rendered and the client's response to that care.

Licensed practical nurses may be employed in hospitals, nursing homes, clinics, doctors' offices, industry, and public health agencies.

Individuals desiring a career in practical nursing should be encouraged to take math and science courses in high school.

Upon completion of the program, the student will receive a **diploma**.

**PRACTICAL NURSING (continued)**

**1990-1991**

**FIRST QUARTER**

BIO-1101	Body Structure & Function	7	0	0	7
ENG-1101	Comm Skills in Grammar	3	0	0	3
MAT-1105	Math for Nurses	2	2	0	3
PNE-1101	Nursing Skills I	4	4	9	9
		--	--	--	--
		16	6	9	22

**THIRD QUARTER**

PNE-1104	Nursing Care of Children	4	0	6	6
PNE-1105	Nursing Care of Mother	4	0	6	6
PNE-1106	Mental Health	3	0	0	3
PNE-1107	Nutrition	3	0	0	3
	<b>OR</b>				
NUR-1110	Nursing Transition	3	0	0	3
		--	--	--	--
		14	0	12	18

**SECOND QUARTER**

ENG-1102	Vocational Communications	3	0	0	3
PNE-1102	Nursing Skills II	3	4	0	5
PNE-1103	Medical & Surg Nursing I	6	0	12	10
		--	--	--	--
		12	4	12	18

**FOURTH QUARTER**

PNE-1108	Medical & Surg Nursing II	7	2	12	12
PNE-1109	Vocational Development	4	0	0	4
SOC-101	Intro to Sociology	3	0	0	3
		--	--	--	--
		14	2	12	19

**TOTAL REQUIRED CREDITS.... 77**

**1991-1992**

**FIRST QUARTER**

BIO-106X	Human Anat & Physiology I	5	0	0	5
BIO-106Y	BIO-106 Lab	0	0	3	1
ENG-121	English Composition	5	0	0	5
MAT-1105	Math for Nurses	2	2	0	3
PNE-1101	Nursing Skills I	4	4	9	9
		--	--	--	--
		16	6	12	23

**THIRD QUARTER**

PNE-1104	Nursing Care of Children	4	0	6	6
PNE-1105	Nursing Care of Mother	4	0	6	6
PNE-1106	Mental Health	3	0	0	3
PNE-1107	Nutrition	3	0	0	3
	<b>OR</b>				
NUR-1110	Nursing Transition	3	0	0	3
		--	--	--	--
		14	0	12	18

**SECOND QUARTER**

BIO-107X	Human Anat & Physiology II	5	0	0	5
BIO-107Y	BIO-107 Lab	0	0	3	1
PNE-1102	Nursing Skills II	3	4	0	5
PNE-1103	Medical & Surg Nursing I	6	0	12	10
		--	--	--	--
		14	4	15	21

**FOURTH QUARTER**

PNE-1108	Medical & Surg Nursing II	6	2	12	11
PNE-1109	Vocational Development	4	0	0	4
SOC-101	Intro to Sociology	3	0	0	3
		--	--	--	--
		13	2	12	18

**TOTAL REQUIRED CREDITS.... 80**

# PUBLIC ADMINISTRATION

(T-146)

The Public Administration curriculum is designed to prepare the individual for entry into middle-management positions in state and local governments and non-profit organizations.

The purposes of the Public Administration curriculum are to prepare the individual for entry into middle-management positions in state and local government and non-profit organizations, provide an inservice educational program for individuals currently employed, and provide a program designed to inform concerned citizens about how government functions.

These purposes will be fulfilled through study and application in areas such as practice and practical relationships in public administration, budgetary functions and public policy. Through knowledge and skills, the individual will be able to perform governmental activities and through the development of personal competencies and qualities will be provided the opportunity to enter the public administration profession.

Upon completion of the program, the student will receive an **associate degree**.

## FIRST QUARTER

BUS-109	Desktop Computers	1	0	3	2
BUS-138	Intro to Public Admin	3	0	0	3
ECO-102	Macroeconomics	3	0	0	3
EDP-104	Intro to Data Processing	3	0	0	3
ENG-101	Grammar	3	0	0	3
MAT-111	Basic Mathematics	5	0	0	5
		--	--	--	--
		18	0	3	19

## SECOND QUARTER

BUS-150	Financial Accounting	4	2	0	5
BUS-237	Public Personnel Admin	3	0	0	3
ECO-104	Microeconomics	3	0	0	3
ENG-102	Composition I	3	0	0	3
POL-103	National Government	3	0	0	3
		--	--	--	--
		16	2	0	17

## THIRD QUARTER

ACC-139	Governmental Accounting	4	2	0	5
BUS-297	Ethics in Government	3	0	0	3
ENG-103	Composition II	3	0	0	3
POL-102	State & Local Government	3	0	0	3
SOC-101	Intro to Sociology	3	0	0	3
		--	--	--	--
		16	2	0	17

## SUMMER QUARTER

BUS-240	Public Finance	3	0	0	3
	Elective	3	0	0	3
		--	--	--	--
		6	0	0	6

## FOURTH QUARTER

BUS-115	Business Law I	4	0	0	4
BUS-234	Management	2	0	3	3
BUS-250	Public Budgeting	3	0	0	3
BUS-260	Government & Business	3	0	0	3
PSY-101	Intro to Psychology	3	0	0	3
		--	--	--	--
		15	0	3	16

## FIFTH QUARTER

BUS-116	Business Law II	4	0	0	4
BUS-233	Human Resource Management	3	0	0	3
BUS-238	Problems of Public Admin	3	0	0	3
PSY-110	Human Relations	3	0	0	3
	Elective	3	0	0	3
		--	--	--	--
		16	0	0	16

**PUBLIC ADMINISTRATION (continued)**

**SIXTH QUARTER**

BUS-128	Spreadsheets	2	4	0	4
BUS-241	Public Policy Analysis	3	0	0	3
BUS-272	Supervision	3	0	0	3
BUS-295	Public Admin Seminar	1	0	0	1
BUS-296	Intern In Public Admin	0	0	10	1
ENG-204	Oral Communications	3	0	0	3
		--	--	--	--
		12	4	10	15

**TOTAL REQUIRED CREDITS.... 106**

**Co-op Option:** Qualified students may elect to take up to seven (7) credit hours of Cooperative Education in place of seven (7) hours of electives and/or BUS 296 provided they acquire approval from the Co-op Director and Department Chairperson.

**RADIOLOGIC TECHNOLOGY (RADIOGRAPHY)**

**(T-061)**

The Radiologic Technology curriculum prepares graduates to be competent Medical Radiographers. The radiographer is a skilled person qualified by technological education to provide patient services using imaging modalities (as directed by physicians qualified to order and/or perform radiologic procedures) by: By Applying knowledge of the principles of radiation protection for the patient, self and others; By Applying knowledge of anatomy, positioning, and radiographic techniques to accurately demonstrate anatomical structures on a radiograph; By Determining exposure factors to achieve optimum radiographic technique with a minimum of radiation exposure to the patient; By Examining radiographs for the purpose of evaluating techniques, positioning, and other pertinent technical qualities; By Exercising discretion and judgment in the performance of medical imaging procedures; By Providing patient care essential to radiologic procedures; and By Recognizing emergency patient conditions and initiating life saving first aid.

Graduates may be employed in radiology departments in hospitals, clinics, physicians' offices, research and medical laboratories, federal and state agencies and industry.

Graduates are eligible to take the national examination given by the American Registry of Radiologic Technologists for certification and registration as medical radiographers.

Individuals desiring a career in radiologic technology should take courses in biology, algebra, and chemistry and/or physics prior to entering the program.

Upon completion of the program, the student will receive an **associate degree**.

**FIRST QUARTER**

BIO-106X	Human Anat & Physiology I	5	0	0	5
BIO-106Y	BIO-106 Lab	0	0	3	1
ENG-121	English Composition	5	0	0	5
RDT-101	Radiologic Technology I	4	0	3	5
RDT-111	Clinical Education I	0	0	12	4
		--	--	--	--
		14	0	18	20

**SECOND QUARTER**

BIO-107X	Human Anat & PhysiologyII	5	0	0	5
BIO-107Y	BIO-107 Lab	0	0	3	1
PHY-120	Radiographic Physics I	3	0	0	3
RDT-102	Radiologic Technology II	3	6	0	6
RDT-112	Clinical Education II	0	0	12	4
		--	--	--	--
		11	6	15	19

## RADIOLOGIC TECHNOLOGY (RADIOGRAPHY) (continued)

### THIRD QUARTER

ENG-122	English Composition & Lit	5	0	0	5
PHY-121	Radiographic Physics II	3	0	0	3
RDT-103	Radiologic Technology III	3	6	0	6
RDT-113	Clinical Education III	0	0	15	5
		--	--	--	--
		11	6	15	19

### SIXTH QUARTER

PSY-121	General Psychology	5	0	0	5
RDT-205	Radiologic Technology V	7	0	0	7
RDT-216	Clinical Education VI	0	0	24	8
		--	--	--	--
		12	0	24	20

### FOURTH QUARTER

RDT-114	Clinical Education IV	0	0	33	11
REC-101	First Aid & Safety	3	2	0	4
		--	--	--	--
		3	2	33	15

### SEVENTH QUARTER

ENG-204	Oral Communications	3	0	0	3
RDT-207	Pathology for RDT	3	0	0	3
RDT-217	Clinical Education VII	1	0	33	12
		--	--	--	--
		7	0	33	18

### FIFTH QUARTER

EDP-104	Intro to Data Processing	3	0	0	3
RDT-204	Radiologic Technology IV	7	0	0	7
RDT-215	Clinical Education V	0	0	24	8
	Elective	3	0	0	3
		--	--	--	--
		13	0	24	21

### EIGHTH QUARTER

RDT-206	Radiologic Technology VI	5	0	0	5
RDT-218	Clinical Education VIII	0	0	30	10
		--	--	--	--
		5	0	30	15

TOTAL REQUIRED CREDITS.... 147

## REAL ESTATE

(T-127)

The purposes of the Real Estate curriculum are to prepare the individual to enter the real estate industry, provide an educational program for persons directly involved in various phases of the real estate industry, and provide an opportunity for individuals wanting to fulfill professional or general interest needs.

These purposes will be fulfilled through a thorough introduction to real estate principles, practices, industry ethics, finance, law, appraisal techniques and trends.

The curriculum will provide the opportunity for an individual to enter public or private employment in real estate areas such as sales, finance, development, market analysis, valuation and property management. Advanced real estate job opportunities are available in areas such as brokerage, management, appraising or consulting.

Upon completion of the program, the student will receive an **associate degree**.



**REAL ESTATE (continued)**

**FIRST QUARTER**

BUS-101	Introduction to Business	3	0	0	3
BUS-191	Keyboarding Skills I	1	0	3	2
<b>OR</b>					
BUS-192	Keyboarding Skills II	1	0	3	2
ECO-102	Macroeconomics	3	0	0	3
ENG-101	Grammar	3	0	0	3
MAT-111	Basic Mathematics	5	0	0	5
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		15	0	3	16

**FOURTH QUARTER**

ACC-229	Federal Income Tax	5	0	0	5
BUS-115	Business Law I	4	0	0	4
RLS-164	Real Estate Law	3	0	0	3
RLS-192	Intro to RE Appraisal	3	0	0	3
RLS-221	Real Estate Invest & Tax	3	0	0	3
		--	--	--	--
		18	0	0	18

**SECOND QUARTER**

BUS-150	Financial Accounting	4	2	0	5
ECO-104	Microeconomics	3	0	0	3
ENG-102	Composition I	3	0	0	3
RLS-202	Real Estate Mathematics	3	0	0	3
RLS-285	Real Estate Fundamentals	4	2	0	5
		--	--	--	--
		17	4	0	19

**FIFTH QUARTER**

BUS-116	Business Law II	4	0	0	4
BUS-247	Business Insurance I	3	0	0	3
RLS-216	Real Estate Selling Tech	3	2	0	4
	Major Elective	3	0	0	3
		--	--	--	--
		13	2	0	14

**THIRD QUARTER**

BUS-151	Management Accounting	4	2	0	5
EDP-104	Intro to Data Processing	3	0	0	3
ENG-103	Composition II	3	0	0	3
MKT-239	Marketing	5	0	0	5
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		18	2	0	19

**SIXTH QUARTER**

BUS-142	Business Communications	3	0	0	3
RLS-209	Real Estate Finance	3	2	0	4
RLS-231	Real Estate Brokerage	3	2	0	4
	Elective	3	0	0	3
	Major Elective	3	0	0	3
		--	--	--	--
		15	4	0	17

**TOTAL REQUIRED CREDITS.... 115**

**Co-op Option:** Qualified students may elect to take up to six (6) credit hours of Cooperative Education in place of six (6) hours of elective credits provided they acquire approval from the Co-op Director and Department Chairperson.

**SUMMER QUARTER**

BUS-272	Supervision	3	0	0	3
ENG-204	Oral Communications	3	0	0	3
PSY-101	Intro to Psychology	3	0	0	3
	Elective	3	0	0	3
		--	--	--	--
		12	0	0	12

# REAL ESTATE APPRAISAL

T-224

The purpose of the Real Estate Appraisal curriculum is to provide the pre-licensing and the pre-certification appraisal education requirements approved by the N.C. Real Estate Commission.

The courses required by the N.C. Real Estate Commission for prelicensing as a "State-licensed" appraiser are covered in this curriculum. These courses are Introduction of Real Estate Appraisal, Valuation Principles and Procedures, and Applied Residential Property Valuation.

The courses required by the N.C. Real Estate Commission for pre-certification as a "State-certified" appraiser are also provided. These courses are Introduction to Income Property Appraisal, Advanced Income Capitalization Procedures, and Applied Income Property Valuation. A good math background is very important in this curriculum. It is recommended that a student have mastered competencies found in a basic algebra course before taking Advanced Income Capitalization Procedures.

The courses required for the "State-licensed" appraiser and the "State-certified" appraiser must be completed in sequential order.

In addition to meeting the education requirements to become a "State-licensed" appraiser and/or a "State-certified" appraiser, an individual must pass the appraisal examinations given by the N.C. Real Estate Commission and meet the appraisal experience requirements. A "State-licensed" or "State-certified" appraiser will be able to identify himself or herself to the public as being state licensed and/or state certified, and will be qualified to perform appraisals in federally-related transactions.

Upon completion of the program, the student will receive a **certificate**.

## FIRST QUARTER

RLS-192	Intro to RE Appraisal	3	0	0	3
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		3	0	0	3

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## FOURTH QUARTER

RLS-292	Intro to Income Prop Appr	3	0	0	3
		--	--	--	--
		3	0	0	3

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## SECOND QUARTER

RLS-193	Valuation Princ & Proce	3	0	0	3
		--	--	--	--
		3	0	0	3

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## FIFTH QUARTER

RLS-293	Adv Income Capital. Proc	3	0	0	3
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		3	0	0	3

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## THIRD QUARTER

RLS-194	Appl Res Prop Valuation	2	2	0	3
		--	--	--	--
		2	2	0	3

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## SIXTH QUARTER

RLS-294	App Income Prop Valuation	2	2	0	3
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		2	2	0	3

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**TOTAL REQUIRED CREDITS.... 18**

# RECREATION ASSOCIATE

(T-094)

The Recreation Associate curriculum trains individuals to plan and direct recreational activities for all age groups. The program is divided to meet the needs of those who work with the following categories of people and facilities: pre-school, school-age, adults, senior citizens, and public and private recreational sites and facilities. Practical administration will be provided in all areas of instruction.

Employment opportunities for professionally trained leaders exist in: community programs, projects for local governments, YMCAs, YWCAs, Boys Clubs, Boy Scouts, Girl Scouts, hospitals, nursing homes, penal institutions, state parks, federal parks, industry, public and private resorts, summer camps, rehabilitation programs and regional institutions.

Upon completion of the program, the student will receive an **associate degree**.

## FIRST QUARTER

MAT-111	Basic Mathematics	5	0	0	5
REC-111	Intro to Recreation	5	0	0	5
REC-112	Arts & Crafts I	1	0	3	2
REC-124	Fitness Management	3	2	0	4
		--	--	--	--
		14	2	3	16

## SUMMER QUARTER

Major Elective	3	0	0	3
Major Elective	3	0	0	3
	--	--	--	--
	6	0	0	6

## SECOND QUARTER

ENG-121	English Composition	5	0	0	5
PSY-101	Intro to Psychology	3	0	0	3
REC-119	Team Sports	2	4	0	4
REC-201	Group Leadership	3	0	0	3
REC-221	Indiv Lifetime Rec Activ	1	0	3	2
REC-236	Low Organized Games	1	0	3	2
		--	--	--	--
		15	4	6	19

## FOURTH QUARTER

BIO-200X	Human Biology	4	0	0	4
BIO-200Y	BIO-200 Lab	0	2	0	1
BUS-109	Desktop Computers	1	0	3	2
REC-109	Facility Management	3	0	0	3
REC-220	Camp Counseling	2	0	3	3
REC-250	Community Health Resource	3	0	0	3
REC-251	Gerontology	3	0	0	3
	Humanities/Fine Arts Elec	5	0	0	5
		--	--	--	--
		21	2	6	24

## THIRD QUARTER

ENG-122	English Composition & Lit	5	0	0	5
REC-101	First Aid & Safety	3	2	0	4
REC-202	Intro to Ill/Handicapped	5	0	0	5
	Major Elective	3	0	0	3
		--	--	--	--
		16	2	0	17

## FIFTH QUARTER

REC-108	Maintenance in Recreation	2	0	3	3
REC-120	Cultural Art	2	0	3	3
REC-122	Public Relations in Rec	2	4	0	4
REC-212	Adaptive Phys Ed & Rec	3	2	0	4
REC-225	Scheduling Activities	3	0	0	3
SOC-101	Intro to Sociology	3	0	0	3
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		15	6	6	20

**RECREATION ASSOCIATE (continued)**

**SIXTH QUARTER**

REC-121	Program Plan & Organiz	5	0	0	5
REC-223	Folk/Square/Social Dance	1	4	0	3
REC-231	Social Recreation	1	4	0	3
	Elective	3	0	0	3
	Major Elective	2	0	3	3
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		12	8	3	17

**TOTAL REQUIRED CREDITS.... 119**

**Co-op Option:** Qualified students may elect to take up to three (3) credit hours of Cooperative Education in place of three (3) credit hours of electives provided they acquire the approval of the Co-op Director and Department Chairperson.

**RESPIRATORY CARE TECHNOLOGY (TECHNICIAN AND/OR THERAPIST)**

**(T-091)**

Respiratory Care Technology offers career education for individuals interested in becoming a respiratory therapy technician or respiratory therapist.

The respiratory therapist is qualified to assume primary responsibility for respiratory and cardiac care, including the supervision of technicians. The therapist makes patient care decisions concerning the use of life-support systems, oxygen therapy and other breathing treatments. They also perform heart and lung studies. Graduates of the therapist program receive an associate degree.

The technician performs tasks which include oxygen therapy, breathing treatments and equipment maintenance. Graduates of the technician program receive a diploma.

Graduates of accredited programs are eligible to apply for admission to the entry-level examination. Graduates of an accredited therapist program are also eligible to take the advanced practitioner examinations. These examinations are given by the National Board for Respiratory Care.

Graduates may be employed in hospitals, clinics, nursing homes, education, industry, and home care.

Upon completion of the program, the student will receive an **associate degree**.

**FIRST QUARTER**

BIO-106X	Human Anat & Physiology I	5	0	0	5
BIO-106Y	BIO-106 Lab	0	0	3	1
CHM-101X	Chemistry I	3	0	0	3
CHM-101Y	CHM-101 Lab	0	2	0	1
ENG-115	Medical Terminology & Voc	3	0	0	3
MAT-114	Algebra & Trigonometry I	5	0	0	5
RTH-105	Resp Ther Theory/Equip	1	0	3	2
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		17	2	6	20

**SECOND QUARTER**

BIO-107X	Human Anat & PhysiologyII	5	0	0	5
BIO-107Y	BIO-107 Lab	0	0	3	1
PHY-110X	Topical Physics	4	0	0	4
PHY-110Y	PHY-110 Lab	0	2	0	1
RTH-106	Resp Ther Theory/Equip II	1	2	12	6
RTH-151	Pharmacology	3	0	0	3
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		13	4	15	20

**RESPIRATORY CARE TECHNOLOGY (TECHNICIAN AND/OR THERAPIST)**  
(continued)

**THIRD QUARTER**

BUS-109	Desktop Computers	1	0	3	2
ENG-121	English Composition	5	0	0	5
RTH-107	Resp Ther Theory/EquipIII	1	0	3	2
RTH-111	Clinical Practice I	1	0	15	6
RTH-131	Clinical Applications I	1	0	3	2
RTH-152	Pulmonary Pathophysiology	3	0	0	3
		--	--	--	--
		12	0	24	20

**FIFTH QUARTER**

ENG-122	English Composition & Lit	5	0	0	5
PSY-110	Human Relations	3	0	0	3
RTH-214	Clinical Practice IV	1	0	15	6
RTH-234	Clinical Application IV	2	0	3	3
RTH-262	Cardiopulmonary Evaluat	2	2	0	3
		--	--	--	--
		13	2	18	20

**SUMMER QUARTER**

RTH-112	Clinical Practice II	1	0	30	11
RTH-132	Clinical Applications II	1	0	3	2
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		2	0	33	13

**SIXTH QUARTER**

RTH-215	Clinical Practice V	1	0	24	9
RTH-235	Clinical Application V	2	0	3	3
RTH-263	Department Organiz/Admin	2	0	0	2
		--	--	--	--
		5	0	27	14

**TOTAL REQUIRED CREDITS.... 127**

**FOURTH QUARTER**

ENG-204	Oral Communications	3	0	0	3
RTH-213	Clinical Practice III	1	0	15	6
RTH-233	Clinical Application III	1	0	3	2
RTH-261	Neonatal/Peds Resp Care	2	2	0	3
SOC-101	Intro to Sociology	3	0	0	3
	Elective	3	0	0	3
		--	--	--	--
		13	2	18	20

**SURGICAL TECHNOLOGY**

**(V-071)**

The Surgical Technology curriculum prepares graduates to assist in the care of surgical patients in the operating room, and functions of the surgical team by arranging supplies and instruments, maintaining aseptic conditions, preparing patients for surgery and assisting the surgeon during operations in the use of materials and equipment. First assisting the surgeon by a surgical technologist is permitted only by individual hospital policy.

Graduates are eligible to take the certification examination for Certified Surgical Technologists given by the Association of Surgical Technologists Inc. Surgical technologists may practice in the hospital's operating, emergency, labor and delivery rooms; central sterile processing department; ambulatory surgical services; and physician's offices.

Individuals desiring a career in surgical technology should take biology and mathematics courses prior to entering the program.

Upon completion of the program, the student will receive a **diploma**.

## SURGICAL TECHNOLOGY (continued)

### FIRST QUARTER

BIO-1091X	Anatomy & Physiology I	3	0	0	3
BIO-1091Y	BIO-1091 Lab	0	2	0	1
BIO-1092X	Microbiology	3	0	0	3
BIO-1092Y	BIO-1092 Lab	0	2	0	1
ENG-1101	Comm Skills in Grammar	3	0	0	3
SUR-1080	Nursing Procedures	5	0	3	6
SUR-1090	Operating Room Techniques	2	0	3	3
		--	--	--	--
		16	4	6	20

### THIRD QUARTER

PSY-1101	Human Relations	3	0	0	3
SUR-1085	Pharmacology	3	0	0	3
SUR-1095	Clinic Practice II	0	0	15	5
SUR-1097	Surgical Procedures II	6	0	0	6
SUR-1099	Seminar II	2	0	0	2
		--	--	--	--
		14	0	15	19

### SECOND QUARTER

BIO-1096X	Anatomy & Physiology II	3	0	0	3
BIO-1096Y	BIO-1096 Lab	0	2	0	1
SUR-1093	Surgical Procedures I	6	0	0	6
SUR-1094	Clinic Practice I	0	0	15	5
SUR-1098	Seminar I	2	0	0	2
		--	--	--	--
		11	2	15	17

### SUMMER QUARTER

SUR-1100	Surgical Procedures III	4	0	0	4
SUR-1101	Clinic Practice III	0	0	24	8
SUR-1102	Seminar III	2	0	0	2
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		6	0	24	14

**TOTAL REQUIRED CREDITS.... 70**

## SURVEYING TECHNOLOGY

(T-125)

This program is designed to provide training for technicians in the many areas of surveying. Surveyors are involved in land surveying, route surveying, photogrammetry, mapping, and other areas of land description and measurements. Nearly all construction of buildings, bridges, dams, highways, airfields, and other engineered projects requires one or more types of surveying.

Students will be trained as technicians to work with skilled professionals as instrument men, party chiefs, surveying aides, highway surveyors, mappers, and in many other surveying activities. Graduates of this program will be prepared to pursue the requirements necessary to become a registered land surveyor.

Upon completion of the program, the student will receive an **associate degree**.

### FIRST QUARTER

ARC-101	Arch Drafting & Dsgn I	2	0	6	4
CIV-101	Surveying I	2	0	6	4
CIV-107	Civil Engr Computations	3	0	3	4
ENG-101	Grammar	3	0	0	3
MAT-114	Algebra & Trigonometry I	5	0	0	5
		--	--	--	--
		15	0	15	20

### SECOND QUARTER

ENG-102	Composition I	3	0	0	3
MAT-115	Algebra & Trigonometry II	5	0	0	5
PHY-101X	Properties of Matter	3	0	0	3
PHY-101Y	PHY-101 Lab	0	2	0	1
PSY-110	Human Relations	3	0	0	3
	Elective	3	0	0	3
		--	--	--	--
		17	2	0	18

**SURVEYING TECHNOLOGY (continued)**

**THIRD QUARTER**

CIV-102	Surveying II	2	0	6	4
CIV-112	Construction Estimates	2	0	6	4
ENG-103	Composition II	3	0	0	3
MAT-116	Basic Calculus I	5	0	0	5
PHY-102X	Work, Energy & Power	3	0	0	3
PHY-102Y	PHY-102 Lab	0	2	0	1
		--	--	--	--
		15	2	12	20

**FIFTH QUARTER**

CIV-108	Hydraulics & Drainage	4	0	3	5
CIV-124	Surveying Law	3	0	3	4
CIV-227	Subdivision Design	1	0	6	3
CIV-231	Cement & Asphalt Concrete	3	0	3	4
CIV-271	City & Regional Planning	3	0	0	3
		--	--	--	--
		14	0	15	19

**SUMMER QUARTER**

ARC-140	Computer Aided Drafting	2	4	0	4
CIV-103	Surveying III	2	0	6	4
		--	--	--	--
		4	4	6	8

**SIXTH QUARTER**

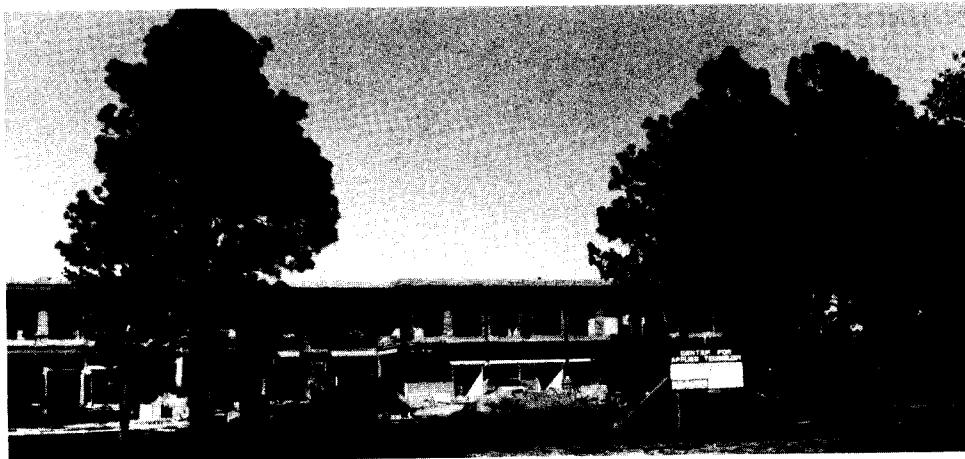
CIV-204	Surveying IV	2	0	6	4
CIV-229	Municipal Engineering	3	0	3	4
CIV-230	Design of Roads & Pavemnt	3	0	3	4
ENG-204	Oral Communications	3	0	0	3
	Social/Behav Science Elec	3	0	0	3
		--	--	--	--
		14	0	12	18

**FOURTH QUARTER**

CIV-104	Topo and Photogrammetry	3	0	3	4
CIV-110	Const. Methods & Mgt	3	2	0	4
CIV-202	Properties of Soil	4	0	3	5
CIV-210	Const. & Site Surveying	3	0	3	4
		--	--	--	--
		13	2	9	17

**TOTAL REQUIRED CREDITS.... 120**

**Co-op Option:** Qualified students may elect to take up to eight (8) credit hours of Cooperative Education in place of CIV 101 and/or ARC 101 provided they acquire approval from the Co-op Director and Department Chairperson.



# TOOL AND DIE MAKING

(V-048)

STUDENTS ACCEPTED FOR THE V048 TOOL AND DIE MAKING CURRICULUM MUST HAVE COMPLETED THE V032 MACHINIST CURRICULUM OR BE ABLE TO DEMONSTRATE JOURNEYMAN-LEVEL MACHINIST SKILLS.

The Tool and Die Making curriculum prepares machinists for the machining of tools and dies for the mass production of parts. These parts may be produced by punching, stamping or molding them into the required sizes and shapes. It is the responsibility of tool and die makers to produce the special tools and fixtures for these production operations. They may also produce the gauges and other inspection tools used in checking mass produced parts.

Students enrolling in the Tool and Die Making program should gain the necessary skills and related information to make it possible for them to obtain entry level employment in this field. Typical jobs which might be secured in the manufacturing field include toolmaker trainee, diemaker trainee, moldmaker trainee, tool repairer, tool set-up repairer and tool inspector. Tool and die makers analyze a variety of specifications, lay out metal stock and set up and operate machine tools. They fit and assemble parts to make and repair metal working dies, cutting tools, jigs, fixtures, gauges and machinists' hand tools. They compute dimensions, decide on machining to be done and plan layout and assembly operations.

Upon completion of the program, the student will receive a **diploma**.

## FIRST QUARTER

ENG-1101	Comm Skills in Grammar	3	0	0	3
MAT-151	Trigonometry I	5	0	0	5
MEC-1154	Die Making I	2	0	6	4
MEC-1160	Intro to Plastic Molding	2	2	6	5
MEC-1290	EDM Machining I	2	2	3	4
		--	--	--	--
		14	4	15	21

## THIRD QUARTER

MEC-1152	Gauges & Special Tools	1	0	6	3
MEC-1156	Die Making III	2	0	6	4
MEC-1162	Mold Making II	2	0	6	4
PHY-130X	Technical Physics I	3	0	0	3
PHY-130Y	PHY-130 Lab	0	2	0	1
		--	--	--	--
		8	2	18	15

## SECOND QUARTER

MAT-152	Trigonometry II	5	0	0	5
MEC-1155	Die Making II	2	0	9	5
MEC-1161	Mold Making I	2	2	6	5
MEC-1291	EDM Machining II	2	2	0	3
		--	--	--	--
		11	4	15	18

## SUMMER QUARTER

ENG-1102	Vocational Communications	3	0	0	3
ISC-102	Industrial Safety	2	2	0	3
MEC-1153	Tool Making	1	0	9	4
MEC-1163	Mold Making III	1	0	9	4
		--	--	--	--
		7	2	18	14

**TOTAL REQUIRED CREDITS.... 68**



# WASTE WATER TREATMENT PLANT OPERATOR

(V-087)

The Waste Water Treatment Plant Operator curriculum is designed to provide essential training in the basic skills required in the operation of water and wastewater treatment plants. Practical applications are stressed using local treatment plant facilities. Mathematics, chemistry, wastewater characteristics and treatment, and treatment processes and operations are included in the program.

The graduate of the program may be employed as a waste water and water treatment plant operator, laboratory assistant, plant maintenance assistant, and water quality analyst.

Upon completion of the program, the student will receive a **diploma**.

## FIRST QUARTER

CHM-1101X Chemistry	3	0	0	3
CHM-1101Y CHM-1101 Lab	0	2	0	1
ENG-1101 Comm Skills in Grammar	3	0	0	3
ENV-1100 Basic Biology	2	0	3	3
ENV-1110 Introduction to Ecology	2	0	3	3
MAT-1101 General Math	3	2	0	4
	--	--	--	--
	13	4	6	17

## THIRD QUARTER

DFT-101 Technical Drafting I	0	6	0	3
ENV-1101 Water Laboratory Control	2	0	6	4
ENV-1103 Waste Laboratory Control	2	0	6	4
ENV-1105 Maintenance	2	0	3	3
PSY-1101 Human Relations	3	0	0	3
	--	--	--	--
	9	6	15	17

## SECOND QUARTER

ENG-1102 Vocational Communications	3	0	0	3
ENV-1102 Water Plant Operations	3	2	0	4
ENV-1104 Waste Plant Operations	3	2	0	4
ENV-1106 Environmental Microbio	2	0	3	3
MAT-1102 Algebra	3	2	0	4
	--	--	--	--
	14	6	3	18

## FOURTH QUARTER

ENV-1108 Control Systems	3	0	3	4
ENV-1109 Water & Waste Dist Sys	3	0	3	4
ENV-1111 Industrial Wastes	2	0	3	3
ENV-1180 Intro to Plant Operations	2	0	6	4
Major Elective	3	0	0	3
	--	--	--	--
	13	0	15	18

**TOTAL REQUIRED CREDITS.... 70**

# WELDING

(V-050)

The Welding curriculum gives students sound understanding of the principles, methods, techniques and skills essential for successful employment in the welding field and metals industry. Welders join metals by applying intense heat, and sometimes pressure to form a permanent bond between intersecting metals.

Welding offers employment in practically any industry: ship building, automotive, aircraft, guided missiles, heavy equipment, railroads, construction, pipefitting, production shops, job shops and many others.

Upon completion of the program, the student will receive a **diploma**.

**WELDING (continued)**

**FIRST QUARTER**

DFT-1104	BPrint Read - Mechanical	1	2	0	2
ENG-1101	Comm Skills in Grammar	3	0	0	3
MAT-1101	General Math	3	2	0	4
MEC-1104	Structure of Metals	3	2	0	4
WLD-1120	Oxy-Acetylene Welding	3	0	12	7
<b>OR</b>					
WLD-1120A	Oxy-Acetylene Welding	2	0	.6	4
<b>AND</b>					
WLD-1120B	Oxy-Acetylene Welding	1	0	6	3
		--	--	--	--
		13	6	12	20

**THIRD QUARTER**

DFT-1118	Pattern Devel & Layout	3	0	0	3
PSY-1101	Human Relations	3	0	0	3
WLD-1123	Inert Gas Welding	1	0	3	2
WLD-1124	Pipe Welding	4	0	12	8
<b>NOR</b>					
WLD-1124A	Pipe Welding	2	0	6	4
<b>AND</b>					
WLD-1124B	Pipe Welding	2	0	6	4
		--	--	--	--
		11	0	15	16

**SECOND QUARTER**

DFT-1117	BPrint Read - Welding	1	0	3	2
ELC-1180	Basic Electricity	3	0	0	3
ENG-1102	Vocational Communications	3	0	0	3
MAT-1103	Geometry	3	0	0	3
WLD-1121	Arc Welding	3	0	15	8
<b>OR</b>					
WLD-1121A	Arc Welding	2	0	6	4
<b>AND</b>					
WLD-1121B	Arc Welding	1	0	9	4
		--	--	--	--
		13	0	18	19

**FOURTH QUARTER**

MEC-1112	Machine Shop Processes	1	0	6	3
WLD-1112	Mech Testing & Inspection	1	2	3	3
WLD-1122	Comm & Industrial Pract	2	0	9	5
WLD-1125	Certification Practice	3	0	6	5
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		7	2	24	16

**TOTAL REQUIRED CREDITS.... 71**





**Fayetteville Technical  
Community College**

# **COURSE DESCRIPTIONS**

**ACC-223 Intermediate Acct III** 4 2 0 5

This course includes concentrated studies of long-term debt, pensions, leases, revenue recognition, earnings per share, changes in cash flow, and income taxes. Topics include long-term debt, pensions, leases, revenue recognition, earnings per share, changes in cash flow, and income taxes. Upon completion, students will be able to apply their understanding of these accounting topics within public or private accounting settings. Prerequisite: ACC 222

**ACC-224 Advanced Accounting** 4 2 0 5

This course provides the student with an understanding of accounting theory, principles, and practices as they pertain to partnerships, consolidations, and governmental units. Emphasis is placed on accounting problems of partnerships, business combinations, accounting for investments, and general/special funds of governmental units. Upon completion, students will be able to apply their knowledge in the accomplishment of accounting tasks for larger business entities and governmental units. Prerequisite: ACC 223

**ACC-225 Cost Accounting** 4 2 0 5

This course covers the responsibilities of management and the procedures for three cost accounting systems. Topics include classification of costs, job order and process cost, and the use of standard cost procedures. Upon completion, students will be able to maintain a simple accounting system using any of the above cost accounting procedures. Prerequisite: ACC 122

**ACC-227 Managerial Accounting** 4 2 0 5

This course covers the use of accounting information for managerial planning, control, and decision making. Topics include budgeting, cost-volume-profit analysis, direct costing, and using standard cost data for decision making. Upon completion, students will be able to prepare budgets, analyze accounting data, and make recommendations based on that analysis. Prerequisite: ACC 225

**ACC-229 Federal Income Tax** 5 0 0 5

This course includes an overview of federal income taxes for individuals, partnerships, and corporations. Emphasis is placed on the application of Internal Revenue codes to preparation of tax returns for individuals, partnerships, and corporations. Upon completion, students will be able to complete federal tax returns for individuals, partnerships, and corporations. Prerequisite: ACC 121 or BUS 151

**ACC-269 Auditing** 5 0 0 5

This course includes an in-depth analysis of the philosophy and environment of auditing from practical and theoretical bases. Emphasis is placed on understanding and being able to re-state auditing standards and audit reports. Upon completion, students will be able to analyze audit cases by applying audit standards and write an audit report without assistance. Prerequisite: ACC 223

**AGR-201 Agricultural Chemicals** 3 2 0 4

This course covers a study of pesticides: their formulations, ingredients, safety, and application methods used on the farm. (Day schedule only.) Emphasis is placed on safety, care and methods of preparation and application of agricultural chemicals. Upon completion, students will be able to understand the uses of agricultural chemicals and precautions that should be used during application. Prerequisites: None

**AHR-101A Refrig. Fundamentals I**

3 0 3 4

This course introduces students to the fundamentals of refrigeration and to the hand tools used by refrigeration technicians. Emphasis is placed on terminology, principles of operation, refrigerant cycle, and the safe use of hand tools. Upon completion, students will be able to explain the function of a compression refrigeration system, the pressure temperature relationship, and safe use hand tools. Prerequisites: None

**AHR-101B Refrig. Fundamentals I**

1 0 6 3

This course is a continuation of AHR 101A and provides a more in-depth study of system components and operation. Emphasis is placed on components, equipment, and the use of gauges and thermometers to evaluate systems. Upon completion, students will be able to transfer refrigerants to the system and evaluate the systems ability to move heat. Prerequisite: AHR 101A

**AHR-101X Refrig. Fundamentals I**

4 0 0 4

This course introduces the student to the fundamentals of basic refrigeration cycles. Emphasis is placed on terminology, refrigeration system components, and tools utilized in the trade today. Upon completion, students will be able to explain the function of a compression refrigeration system and to recognize all the major components. Prerequisites: None; Corequisite: AHR 101Y

**AHR-101Y AHR-101 Lab**

0 0 9 3

This course introduces the student to the common hand tools required of a refrigeration technician when installations are made. Emphasis is placed on correct use of these tools with job proficiency and safety always the objective. Upon completion, students will be able to make flare joints, make soldered joints, transfer refrigerants to the systems, and explain pressure temperature relationships. Prerequisites: None; Corequisite: AHR 101X

**AHR-102X Refrig. Fundamentals II**

4 0 0 4

This course is a continuation of AHR 101 with greater depth in Refrigeration Theory, Procedures, and Small Commercial Equipment. Topics include low, medium, and high temperature small commercial systems operation, and refrigeration accessories. Upon completion, students will be able to install many of the common small commercial units and to troubleshoot their refrigeration and mechanical problems. Prerequisites: AHR 101, or AHR 101A, 101B; Corequisite: AHR 102Y

**AHR-102Y AHR-102 Lab**

0 0 9 3

This course provides more hands-on experience with the technician's tools and test instruments applied to larger systems. Emphasis is placed on mastering the routine service and installation procedures made use of in the field today. Upon completion, students will be able to diagnose problems and make necessary repairs in the areas of refrigeration leaks, and component malfunction. Prerequisite: AHR 101; Corequisite: AHR 102X

**AHR-110X Circuits and Controls I**

3 0 0 3

This course introduces the student to basic electricity and basic circuits in the Refrigeration Field. Topics include Ohms Law, Electron Theory, series and parallel circuits, symbols, and components. Upon completion, students will be able to understand and construct simple pictorial and schematic wiring diagrams. Prerequisites: None; Corequisite: AHR 110Y

**AHR-110Y AHR-110 Lab**

0 0 6 2

This course provides hands-on experience using test instruments and constructing basic electrical circuits. Emphasis is placed on electricity safety, electric meter use, and component operation. Upon completion, students will be able to wire complete electrical circuits and measure amps, ohms, and voltage. Prerequisites: None; Corequisite: AHR 110X

**AHR-111X Circuits and Controls II**

3 0 0 3

This course is a continuation of AHR 110. It provides in-depth study of more complex circuits and more system electrical components. Topics include defrost timers, motor starting, relays, transformers, single phase motor, thermostats, and pressure switches. Upon completion, students will be able to explain single phase motor operation and most of the small commercial refrigeration wiring components. Prerequisite: AHR 110; Corequisite: AHR 111Y

**AHR-111Y AHR-111 Lab**

0 0 6 2

This course provides hands-on training, wiring, and testing motors and small commercial refrigeration systems electrical components. Emphasis is placed on use of wiring diagrams, and testing electrical components mechanical and electrical operation. Upon completion, students will be able to troubleshoot and make electrical and mechanical repairs to components covered in this course. Prerequisite: AHR 110; Corequisite: AHR 111X

**AHR-1120 Air Cond & Heating Maint**

3 0 9 6

This course is designed to provide training in refrigeration, heating, and air conditioning as required in industrial maintenance. Emphasis is placed on fundamentals, system components, sequence of system operation, electricity, controls, and trouble-shooting. Upon completion, students will be able to diagnose mechanical and electrical malfunctions in mechanical systems and repair when possible or replace parts when necessary. Prerequisites: None

**AHR-1120A Air Cond & Heating Maint**

2 0 3 3

This course is designed to provide training in refrigeration, heating, and air conditioning as required in industrial maintenance. Emphasis is placed on terminology and theory of refrigeration and heating equipment and the components that make up various systems. Upon completion, students will be able to explain the function of a compression refrigeration unit, a convection heating system, and electric control circuits. Prerequisites: None

**AHR-1120B Air Cond & Heating Maint**

1 0 6 3

This course is a continuation of AHR 1120A and provides the student opportunity to apply theory and fundamentals. Emphasis is placed on the correct sequence of operation of a unit, diagnosing malfunctions, repairing, and replacing components. Upon completion, students will be able to trouble-shoot erratic systems, detect faulty operation, determine the responsible part, and repair same. Prerequisite: AHR 1120A

**AHR-112X Circuits & Controls III**

2 0 0 2

This course is a continuation of AHR 111 and introduces the electrical system of warm air furnaces. Topics include fan-limit control, room thermostats, gas valves, oil primary, electronic ignition, and ignition transformers. Upon completion, students will be able to explain warm air gas and oil furnace electrical operation. Prerequisite: AHR 111X; Corequisite: AHR 112Y

**AHR-112Y AHR-112 Lab** 0 0 6 2

This course provides hands-on training in wiring and testing oil and gas warm air furnaces. Emphasis is placed on identifying and understanding the operation of controls. Upon completion, students will be able to test, troubleshoot and repair oil and gas furnaces. Prerequisite: AHR 111X; Corequisite: AHR 112X

**AHR-135X Air Systems Fabrication** 1 0 0 1

This course provides training in air conditioning duct work, fitting, design, and layout. Emphasis is placed on determining the proper type fitting required for a given application and the layout procedure necessary to fabricate it. Upon completion, students will be ready to lay out straight duct, elbows, offsets, transitions, Y joints, and all common air duct fittings. Prerequisites: None; Corequisite: AHR 135Y

**AHR-135Y AHR-135 Lab** 0 0 6 2

This course provides hands-on training in the metal shop utilizing the proper tools and equipment for a particular sheet metal fitting. Emphasis is placed on the use of hand tools and shop equipment required to cut, form, and fabricate all common duct fittings. Upon completion, students will be able to lay out from a sketch on paper and to fabricate sheet metal elbows, offsets, transitions, and Y joints. Prerequisites: None; Corequisite: AHR 135X

**AHR-145A Warm Air Systems I** 3 0 3 4

This course introduces students to the fundamentals of warm air gas furnaces. Emphasis is placed on terminology, principles, theory, components, materials, equipment, and tools utilized in the field today. Upon completion, students will be able to understand the function of a heating system to install and service those with gas furnaces. Prerequisite: AHR 102X or 101B

**AHR-145B Warm Air Systems I** 1 0 6 3

This course is a continuation of 145A and introduces the Fundamentals of Warm Air Oil Furnaces. Emphasis is placed on terminology, theory, Components, equipment, and tools utilized in the field today. Upon completion, students will be able to understand the function of installing and servicing oil warm air furnaces. Prerequisite: AHR 145A

**AHR-145X Warm Air Systems I** 4 0 0 4

This course introduces the student to the fundamentals of warm air heat. Emphasis is placed on terminology, principles, theory, components, materials, equipment, and tools utilized in the field today. Upon completion, students will be able to understand the function of a heating system and to install and service those with gas and oil furnaces. Prerequisite: AHR 102X or 101B; Corequisite: AHR 145Y

**AHR-145Y AHR-145 Lab** 0 0 9 3

This course provides hands-on practice with the components and controls of warm air systems. Emphasis is placed on installation and service procedures required of technicians involved with gas and oil equipment. Upon completion, students will be able to install gas and oil furnace systems and diagnose and repair mechanical and electrical problems. Prerequisite: AHR 102X or 101B; Corequisite: AHR 145X

**AHR-146X Warm Air Systems II** 4 0 0 4

This course is a continuation of AHR 145 and introduces electric furnaces and air to air heat pumps. Emphasis is placed on the physical make-up of this equipment including controls and sequence of operation. Upon completion, students will be able to analyze operating difficulties with the use of special instruments and tools and suggest methods of repair. Prerequisite: AHR 145X or 145B; Corequisite: AHR 146Y

**AHR-146Y AHR-146 Lab** 0 0 6 2

This course provides hands-on training in installing and servicing electric furnaces and heat pumps. Emphasis is placed on setting equipment properly, running tubing in the most correct manner, and adjusting automatic controls. Upon completion, students will be able to install electric furnaces and heat pumps in the field and to perform many troubleshooting functions. Prerequisite: AHR 145X or 145B; Corequisite: AHR 146X

**AHR-201 Principles of Air Cond** 4 0 6 6

This course acquaints the student with comfort air conditioning, load calculations, types of units, refrigeration effect, and air flow principles. Emphasis is placed on associating certain equipment with certain building structures and duct system design procedures. Upon completion, students will be able to utilize the industry's manual and to accurately calculate the heat loss and gain of a building. Prerequisite: AHR 146

**AHR-210 Hydronic Systems** 3 0 9 6

This course deals with hydronic systems, chilled water, hot water, boilers, chiller system components, and piping designs. Emphasis is placed on the physical and mechanical make-up of the different systems used today and on the electric controls required. Upon completion, students will be able to identify, lay out, install, and trouble-shoot many of the smaller hot water and chilled water systems. Prerequisite: AHR 201

**AHR-220 Refrig. System Design** 3 0 6 5

This course is designed to complement AHR 102 and introduces the student to load calculation. Emphasis is placed on refrigeration equipment selection, component location, and freon pipe sizing. Upon completion, students will be able to calculate the heat load on small commercial refrigeration boxes, and use manufacturers' catalogs to select equipment. Prerequisite: AHR 102X

**AHR-221 Air Cond System Design** 4 0 6 6

This course acquaints the student with application engineering procedures used when designing small air conditioning systems. Emphasis is placed on heat loss and gain calculations using ACCA's Manual "J" and on duct system layout. Upon completion, students will be able to compute the heat gain and loss from a residential building and design a suitable system. Prerequisite: AHR 201

**AHR-247 Advanced Heat Pumps** 2 0 9 5

This course is a continuation of AHR 146 and introduces current heat pump technology. Topics include electronic control systems, variable speed systems, and water source heat pumps. Upon completion, students will be able to analyze the performance of these systems, and make electrical and mechanical repairs. Prerequisites: AHR 146X



**AHR-250 Service Problems** 3 0 6 5

This course provides review of procedures and practices the student has been acquainted with earlier in the program. Emphasis is placed on installation and service techniques utilized in the field of refrigeration, heating, and air conditioning equipment. Upon completion, students will be able to install equipment correctly and safely, diagnose and repair system malfunctions, and test for operating efficiency. Prerequisite: AHR 111

**AIB-110 Teller Training** 4 0 0 4

This course provides an overview of banking, teller operations, bank security, and customer relations and prepares the student for work as a bank teller. Topics include bank profitability, cash and cash handling, checks and other transactions, balancing and setting, and security threats and their detection. Upon completion, students will be able to discuss the components of teller performance and perform effectively as a teller after minimal on-the-job training. Prerequisites: None

**AIB-123 Financial Bus Enterprises** 4 0 0 4

This course consists of studies of the nature of financial management and analysis, investment decisions, and valuation from bankers' perspectives. Topics include analyzing financial statements and business plans, trends and ratio analysis, and evaluating sound business decisions. Upon completion, students will be able to interpret financial statements and analyze business plans and proposals. Prerequisite: BUS 150

**AIB-202 Principles of Banking** 4 0 0 4

This course provides the foundation for many other banking courses and looks at all aspects of banking in an introduction to diversified services. Topics include the evolution of banking, customer relations, bank bookkeeping, bank investments, trust department operations, regulations, and examinations. Upon completion, students will be able to discuss many aspects of the banking industry and will have an adequate background for other banking courses. Prerequisites: None

**AIB-203 Bank Investments** 4 0 0 4

This course explains the nature of bank investments, factors influencing investment decisions, and the basic principle and strategies of investment account management. Topics include basic concepts of investment fundamentals and investment math, investment instruments, securities, markets, and investment portfolio management. Upon completion, students will be able to discuss bank investment portfolio management and achieve a beneficial, personal knowledge about investing. Prerequisites: None

**AIB-204 Effective English** 4 0 0 4

This course explains the need for effective communications skills; it provides an opportunity to practice principles of effective communication. Topics include principles and techniques of effective use of the English language. Upon completion, students will be able to communicate more effectively and present a better image of himself/herself and the banking industry. Prerequisites: None

**AIB-205 Bank Management**

4 0 0 4

This course introduces the formulation of management objectives and policies through a discussion of the bank's financial statement, resource management, cost and pricing, and organization. Topics include formulation, asset and liability management, sources and uses of funds, capital planning, and management. Upon completion, students will be able to explain bank organizations and the principles and development of bank management. Prerequisites: None

**AIB-206 Deposit Operations**

4 0 0 4

This course is designed to explain deposit operations and provide an overview of the U.S. payments system, banking law and regulation, and current industry practices. Topics include banking law and regulation, current industry practices, bank deposit-taking activities, managing deposited funds, and EFT systems. Upon completion, students will be able to discuss bank deposit operations and how banks are organized to accomplish this task. Prerequisites: None

**AIB-207 International Banking**

4 0 0 4

This course presents international banking; it covers international agencies, foreign exchange activities, Edge Act corporations, and international lending and risk assessment. Topics include corresponding bank relationships, foreign exchange, the Eurodollar market, and developing international business. Upon completion, students will be able to discuss international banking, one of the fastest growing areas of banking business. Prerequisites: None

**AIB-209 Consumer Lending**

4 0 0 4

This course provides an overview of consumer credit operations and examines its role within banking operations. Topics include an overview of consumer credit, credit risks and policies, loan processing, servicing, collections, and marketing. Upon completion, students will be able to better understand the consumer credit functions and regulatory issues affecting this vital area. Prerequisites: None

**AIB-210 Money and Banking**

4 0 0 4

This course takes an in-depth look at money and the banking industry, instruments of monetary and fiscal policy, and trends in banking. Topics include money and economic activities, creation of money, bank operations, the Federal Reserve System, financial intermediaries, and banking regulations. Upon completion, students will be able to explain how the monetary economy functions. Prerequisites: None

**AIB-212 Bank Cards**

4 0 0 4

This course provides an overview on bank cards: their operational aspects, their interface with payments system, and their relationship to EFT technology. Topics include bank cards in the American economy, operations, payment and transfer system, competition, legal and regulatory issues. Upon completion, the student will be able to demonstrate an understanding of bank cards in the overall framework of the commercial bank's services and profitability. Prerequisites: None

**AIB-213 Trust Business**

4 0 0 4

This course provides an overview of the trust department, the services it delivers, and the changing role of trust departments' responsibilities. Topics include assets and ownership, profitability and management issues, the various trust types, business development, and tax implication. Upon completion, students will be able to discuss trust department services and responsibilities and how these fit into the overall banking business. Prerequisites: None

**AIB-214 Effective Speaking**

4 0 0 4

This course provides an opportunity to study all phases of speech situations including organization and presentation of different topics in a banking context. Emphasis is placed on effective delivery of informative, persuasive, and argumentative presentations, highlighting speech material, production, functions, and situation. Upon completion, students will be able to be more comfortable presenting various ideas to their customers, fellow employees, and bank management personnel. Prerequisites: None

**AIB-215 Mortgage Lending**

4 0 0 4

This course covers all aspects of real estate financing and the various financial markets for real estate mortgages. Topics include conventional and government related real estate mortgages, contracts, financial markets, and qualifying the prospective loan customers. Upon completion, students will demonstrate a knowledge of real estate financing and the bankers responsibilities in these transactions. Prerequisites: None

**AIB-216 Intro to Commercial Lend**

4 0 0 4

This course explains the role of the commercial lending function within the banking industry and its importance in the total economy. Topics include those technical skills necessary for the successful commercial lender in today's competitive and complex environment. Upon completion, students will be able to explain the responsibilities of the commercial lending department and the loan officer. Prerequisites: None

**AIB-217 Corporate Banking**

4 0 0 4

This course provides a common sense approach to understanding the lending environment within banking and provides a foundation for sound lending practices. Emphasis is placed on the practical and technical aspects of corporate banking practices and the roles of the account officer. Upon completion, students will be able to discuss the functions and responsibilities of the corporate approach to lending and its importance to banking. Prerequisites: None

**AIB-225 Home Mortgage Lending**

4 0 0 4

This course concentrates on lending for purchase, covering under-writing processes, and consumer protection legislation, and offers an introduction to secondary money markets. Topics include real estate financing, real estate legislations, applications and processing, and lending policies. Upon completion, students will be able to apply the techniques and processes of mortgage lending. Prerequisites: None

**AIB-233 Analyzing Financial Stmts 4 0 0 4**

This course provides an opportunity for understanding financial statements and increases the ability to analyze and interpret them as a bank lender. Topics include the conceptual framework for analysis, basic analytical techniques, and practical case studies in an easy to understand format. Upon completion, students will be able to explain and interpret financial statements in order to make sound credit decisions. Prerequisite: BUS 150

**AIB-239 Marketing for Bankers 4 0 0 4**

This course introduces marketing principles and fundamentals of market research and theory and their practical application to the banking industry. Topics include consumer motivation and buying behavior, marketing information and research, and public relations and communications. Upon completion, students will be able to discuss marketing concepts and practices and their contribution to the banking enterprise. Prerequisites: None

**AIB-259 Law & Banking: Principles 4 0 0 4**

This course provides an overview of the legal aspects of banking and the legal framework within which banks function. Topics include the court system, consumer protection, tangible and intangible property ownerships, and the legalities and regulations of bank transactions. Upon completion, students will be able to discuss the non-technical aspects of the legal system and how it affects the bank's organization and operation. Prerequisites: None

**AIB-260 Law & Banking: Application 4 0 0 4**

This course introduces laws pertaining to secured transactions, letters of credit, and the bank collection process. Emphasis is placed on negotiability, the concept of holder-in-due-course, primary and secondary contractual liability, secured transactions, and letters of credit. Upon completion, students will be able to discuss the aspects of negotiable instruments and how it affects the bank's organization and operation. Prerequisites: None

**AIB-261 Contemp. Issues in Banking 4 0 0 4**

This course is designed to investigate contemporary problems and issues confronting the banking industry. Emphasis is placed on the latest competitive, regulatory, technological, and market related developments altering the nature of commercial banking. Upon completion, students will be able to describe banking changes and discuss liquidity, safety, and income in managing bank funds. Prerequisites: None

**AIB-262 Economics for Bankers 4 0 0 4**

This course is designed to provide bankers with an introduction to the fundamental principles of economics. Emphasis is placed on the basics of economic theory, macroeconomics, and examples of the application of economics to banking. Upon completion, students will be able to interpret economic indicators, relate basic principles of economic theory, describe inflation, compare and contrast economic systems. Prerequisites: None

**ARC-100 Sketching, Drawing & Comp****1 4 0 3**

This course introduces free-hand sketching and drawing and the arrangement of design elements in a balanced composition. Emphasis is placed on developing a free-hand sketching style using pencils and felt tip pens. Upon completion, students will be able to exhibit basic sketching abilities using pencils and felt tip pens. Prerequisites: None

**ARC-101 Arch Drafting & Dsgn I****2 0 6 4**

This course provides a study of drawing principles and practices for describing objects in the graphic language through visualization and preparation of working drawings. Emphasis is placed on orthographic instrument drawing; isometrics, sections, auxiliaries, and space problems involving points, lines, and planes are introduced. Upon completion, students will be able to visualize, analyze, and prepare complete and accurate technical drawings. Prerequisites: None

**ARC-102 Arch Drafting & Dsgn II****2 0 6 4**

This course is a continuation of ARC 101 and includes further development of orthographic drawing skills. Emphasis is placed on programming, design development drawing, and working drawing composition. Upon completion, students will be able to develop a program, layout design development drawings, and begin to layout working drawings. Prerequisite: ARC 101

**ARC-103 Arch Drafting & Dsgn III****2 2 6 5**

This course is a continuation of ARC 102 and includes further development of working drawings skills. Topics include working drawings, with emphasis on residential scale drawings. Upon completion, students will be able to develop a set of simple residential scale working drawings. Prerequisite: ARC 102

**ARC-110 Intro To Architecture****2 0 3 3**

This course is concerned with a morphological study of the essential elements of form and space as related to architectural design. Emphasis is placed on those principles that control the organization of form and space in an architectural context. Upon completion, students will be able to recognize concepts of form and space and to develop these into an architectural understanding of the built environment. Prerequisite: ARC 101

**ARC-111 Materials & Methods I****2 2 3 4**

This course is an introductory level course into the technical aspects of building materials and construction techniques. Topics include soils and basic building materials; field trips are taken to examine field construction methods and techniques. Upon completion, students will be able to discuss the basics of residential and small commercial building materials and construction techniques. Prerequisites: None

**ARC-112 Materials & Methods II****3 4 0 5**

This course is a continuation of ARC 111 and provides further development of building materials knowledge. Emphasis is placed on minor building materials, more complex construction techniques, and field trips. Upon completion, students will be able to explain construction techniques and materials and exhibit this understanding through design details. Prerequisite: ARC 111

**ARC-120 Codes/Specs/Contracts** 2 2 0 3

This course provides the student with a basic understanding of N.C. Building Codes and their effect on contract documents and the design/contractual process. Topics include the N.C. Building Code, Residential Code, Zoning ordinances, organization of specifications, and contracts. Upon completion, students will be able to obtain information from the various codes, interpret the codes, and write an outline construction specification. Prerequisites: None

**ARC-130 Architectural Estimating** 3 4 0 5

This course covers several methods of architectural estimating. Topics include materials, equipment, and labor take-offs and an introduction to computer estimating. Upon completion, students will be able to do a quantity take-off of a building and determine the cost based on materials, equipment, and labor. Prerequisite: ARC 102 or employed in specialty and ARC 112

**ARC-135 Int To Computer Aided Dft** 0 0 3 1

This course introduces the student to computer drafting and design. Topics include DOS, systems operations, and introduction to VERSACAD software. Upon completion, students will be able to save information on disk and draft basic drawings with the computer. Prerequisites: None

**ARC-140 Computer Aided Drafting** 2 4 0 4

This course introduces the student to the basics of computer-aided drafting and design. Topics include DOS, systems operation, disk initialization, CADD software, and other types of construction uses. Upon completion, students will be able to discuss the basics of a computer-aided drafting/design system and produce drawings using the system. Prerequisite: ARC 102 or knowledge of drafting techniques and processes and ARC 135

**ARC-140A Computer Aided Drafting** 1 2 0 2

This course is an introduction to computer drafting and design. Topics include DOS, systems operation, and an introduction to VERSACAD software. Upon completion, students will be able to explain the basics of a computer-aided drafting/design system and will have basic knowledge of VERSACAD software. Prerequisite: ARC 102 or knowledge of drafting techniques and processes and ARC 135

**ARC-140B Computer Aided Drafting** 1 2 0 2

This course is a continuation of ARC 140A and includes an introduction to AUTOCAD. Emphasis is placed on a skillful use of AUTOCAD software, plotting drawings, and other types of software. Upon completion, students will be able to apply the basics of a computer-aided drafting/design system and produce drawings using the system. Prerequisite: ARC 140A or Dept. Chrp. approval

**ARC-201 Arch Drafting & Dsgn IV** 2 2 6 5

This course is a continuation of ARC 103 and includes further development and refinement of working drawings skills. Topics include systems drafting and working drawings with emphasis on small commercial scale buildings. Upon completion, students will be able to develop a set of small commercial scale working drawings, part of which will be developed with CADD. Prerequisites: ARC 103 and 140

**ARC-202 Arch Drafting & Dsgn V** 2 2 6 5

This course is a continuation of ARC 201 and includes further development of working drawings skills. Topics include systems drafting and working drawings with emphasis on larger commercial scale buildings. Upon completion, students will be able to develop a set of larger commercial scale working drawings, with partial drawings being developed with CADD. Prerequisite: ARC 201

**ARC-203 Arch Drafting & Dsgn VI** 2 4 6 6

This course is a continuation of ARC 202 and includes refinement of working drawings skills. Topics include systems drafting with emphasis on the completion of a full set of working drawings. Upon completion, students will be able to develop a set of working drawings from design development concept sketches, with partial drawings being developed with CADD. Prerequisite: ARC 202

**ARC-210 Project Seminar** 2 6 0 5

This course is advanced work to develop and complete a project in a specified area of architectural interest under the direction of Department Chairperson. Emphasis is placed on individual work methods within the field of construction or architecture. Upon completion, students will be able to demonstrate problem solving ability within an architectural/ construction context. Prerequisites: ARC 202 and 140

**ARC-211 Arch Presentations I** 1 4 0 3

This course is an introduction to basic architectural presentation methods. Topics include use of colored pencils, markers, pen and ink, and reprographics in aspects of design development drawings. Upon completion, students will be able to produce design development presentation drawings using colored pencils, markers, and pen and ink. Prerequisite: ARC 103

**ARC-212 Arch Presentations II** 2 4 0 4

This course is a continuation of ARC 211 and includes further presentation skills development. Topics include pen and ink perspectives, pen and ink illustrations, and mixed media. Upon completion, students will be able to prepare pen and ink perspectives from working drawings and will have a basic skill level with mixed media. Prerequisite: ARC 211

**ARC-220 Portfolio** 1 4 0 3

This course is designed to prepare the graduating student for employment in the architectural/construction fields. Emphasis is placed on preparation of the student's portfolio and resume. Upon completion, students will be able to exhibit architectural/construction skills through visual skills of drawing and delineation. Prerequisites: ARC 202 and 212

**ARC-221 Arch Environment Sys I** 1 2 3 3

This course introduces the student to the interrelationship of architecture, engineering, and environment. Topics include heating/cooling of a building, energy calculations, water distribution, and water systems. Upon completion, students will be able to calculate heat loss/gain and produce a plumbing riser diagram and will have an understanding of various environmental systems. Prerequisite: ARC 201

**ARC-222 Arch Environment Sys II** 1 2 3 3

This course is a continuation of ARC 221 and includes further development of mechanical systems knowledge. Topics include building electrical systems, lighting layout calculations, and air distribution systems. Upon completion, students will be able to lay out an electrical fixture layout drawing, calculate duct sizes, and lay out a standard duct system. Prerequisite: ARC 221

**ART-107 Watercolor I** 1 2 0 2

This course provides an introduction to painting in transparent watercolor. Topics include tools, materials, stretching paper, varied painting techniques, and experiences in working from landscape, still life, and the figure. Upon completion, students will be able to apply their understanding of traditional techniques and methods as they continue to paint individually. Prerequisites: None

**ART-221 Art Appreciation** 5 0 0 5

This course provides a broad introduction to the visual arts and surveys painting, sculpture, and architecture from prehistoric times to the present. Emphasis is placed on major historical periods, styles, philosophies, and purposes; required slide lectures. Upon completion, students will be able to appreciate the relationship between art and man and discuss the various philosophies behind the development of style. Prerequisites: None

**ART-231 Sculpture** 5 0 0 5

This course provides an introduction to basic skills and techniques with emphasis on ceramic sculpture. Topics include shape, proportion, modeling, composition, carving, balance, light and shadow, and other aspects of three-dimensional form. Upon completion, students will be able to produce ceramic sculpture demonstrating a variety of surface treatments. Prerequisites: None

**ART-241 Ceramics** 5 0 0 5

This course is designed to introduce basic ceramic procedures and techniques. Topics include handbuilding, decoration, glazing, loading, and firing a kiln. Upon completion, students will be able to produce basic works in clay which may be both decorative and utilitarian. Prerequisites: None

**ART-251 Pottery** 5 0 0 5

This course provides an introduction to the use of the pottery wheel. Topics include wedging, centering, opening, pulling, trimming, slip stains, glazing, and types of kilns. Upon completion, students will be able to throw simple shapes and fire and glaze them. Prerequisites: None

**AUT-101 Internal Comb Engines I** 2 4 0 4

This course teaches the basic principles of the internal combustion engine. Topics include safety, use of measuring, hand tools, and principles of engine operation. Upon completion, students will be able to use measuring tools and hand tools and diagnose minor engine problems. Prerequisites: None

**AUT-102 Internal Comb Engines II** 2 2 0 3

This course, a continuation of AUT 101, provides the practical application of engine repairs. Topics include pistons, valves, and crankshafts. Upon completion, students will be able to recondition engines. Prerequisite: AUT 101



**AUT-103 Electrical Systems I** 2 4 0 4

This course provides the concepts of basic electricity and fundamentals of engine related electrical devices. Topics include how to make necessary repairs and service procedures of electrical devices. Upon completion, students will be able to trouble-shoot the procedures of the charging, ignition, and starting system. Prerequisites: None

**AUT-104 Electrical Systems II** 2 2 0 3

This course provides a thorough understanding of the operation and use of various test instruments, ohmmeters, voltmeters, ammeters, and oscilloscopes. Topics include the basics of the function of the computer systems and methods of testing. Upon completion, students will be able to repair and service engine related electrical devices. Prerequisite: AUT 103

**AUT-105 Auto Chassis & Suspen Sys** 2 4 0 4

This course provides a thorough understanding of the principles and functions of the components of automotive chassis and suspension systems. Topics include adjusting, repairing, and replacement of suspension and steering system components. Upon completion, students will be able to repair, service, and adjust suspension and steering systems. Prerequisite: AUT 101

**AUT-106 Auto Power Train Sys I** 2 4 0 4

This course provides a thorough understanding of the principles and functions of the automotive power train systems. Topics include clutches, transmissions, drive shaft assemblies, differentials, and transaxles. Upon completion, students will be able to perform the servicing and repair of automotive power train components. Prerequisite: AUT 101

**AUT-107 Auto Power Train Sys II** 2 2 0 3

This course covers the functions of and provides practical hands-on experience with adjustment and repair of suspension, steering, and brake systems. Topics include shock absorbers, springs, steering systems, steering linkage, wheel alignment, and braking systems. Upon completion, students will be able to service and repair suspension, steering, braking systems and do total wheel alignment. Prerequisite: AUT 106

**AUT-108 Basic Auto Fuel Systems** 2 4 0 4

This course covers principles of automotive fuel systems. Emphasis is placed on carburetors, fuel pumps, and intake systems. Upon completion, students will be able to disassemble and reassemble carburetors and make necessary repairs. Prerequisites: None

**AUT-109 Auto Emissions Systems** 2 2 0 3

This course covers emission control systems on current automobiles. Emphasis is placed on servicing of emission control systems. Upon completion, students will be able to trouble-shoot, test, and service emission control systems. Prerequisites: None

**AUT-110 Auto Heating & Air Cond** 2 2 0 3

This course covers principles of refrigeration and its components. Topics include compressors, expansion valves, and their services. Upon completion, students will be able to test, service, and repair air conditioning systems and components. Prerequisites: None

**AUT-1111 Auto Body Repair I**

6 0 12 10

This course includes instruction for basic knowledge and skills necessary in repairing and restoring an automobile body. Topics include making minor repairs by straightening and filling with body filler and fiberglass. Upon completion, students will be able to apply their understanding of basic body repair and component parts in repair and restoration of automobile bodies. Prerequisites: None

**AUT-1111A Auto Body Repair I**

3 0 6 5

This course includes instruction for basic knowledge and skills necessary in repairing and restoring an automobile body. Topics include making minor repairs by straightening and filling with body filler and fiberglass. Upon completion, students will be able to apply their understanding of basic body repair and component parts in repair and restoration of automobile bodies. Prerequisites: None

**AUT-1111B Auto Body Repair I**

3 0 6 5

This course, a continuation of AUT 1111A, includes instruction for basic knowledge and skills necessary in repairing and restoring an automobile body. Topics include making minor repairs by straightening and filling with body filler and fiberglass. Upon completion, students will be able to apply their understanding of basic body repair and component parts in repair and restoration of automobile bodies. Prerequisite: AUT 1111A

**AUT-1112 Auto Body Repair II**

6 0 12 10

This course includes an introduction to analyzing the damaged areas of automobile bodies and replacing parts. Topics include accurate estimating of the cost of auto body repair including labor, materials, and parts. Upon completion, students will be able to make estimates of damage and costs of repairing or replacing the damaged area. Prerequisite: AUT 1111

**AUT-1112A Auto Body Repair II**

3 0 6 5

This course includes an introduction to analyzing the damaged areas of automobile bodies and replacing parts. Topics include accurate estimating of the cost of auto body repair including labor, materials, and parts. Upon completion, students will be able to make estimates of damage and costs of repairing or replacing the damaged area. Prerequisite: AUT 1111

**AUT-1112B Auto Body Repair II**

3 0 6 5

This course, a continuation of AUT 1112A, includes an introduction to analyzing the damaged areas of automobile bodies and replacing parts. Topics include accurate estimating of the cost of auto body repair including labor, materials, and parts. Upon completion, students will be able to make estimates of damage and costs of repairing or replacing the damaged area. Prerequisite: AUT 1112A

**AUT-1113 Auto Body Repair III**

8 0 12 12

This course consists of preparing the car for painting and the actual painting of a car. Topics include repairing body damage, sanding, masking, priming, sealing, and painting. Upon completion, students will be able to prepare properly a vehicle for painting and will know the fundamentals of painting. Prerequisite: AUT 1112

**AUT-1113A Auto Body Repair III**

4 0 6 6

This course consists of preparing the car for painting and the actual painting of a car. Topics include repairing body damage, sanding, masking, priming, sealing, and painting. Upon completion, students will be able to prepare properly a vehicle for painting and will know the fundamentals of painting. Prerequisite: AUT 1112

**AUT-1113B Auto Body Repair III**

4 0 6 6

This course, a continuation of AUT 1113A, consists of preparing the car for painting and the actual painting of a car. Topics include repairing body damage, sanding, masking, priming, sealing, and painting. Upon completion, students will be able to prepare properly a vehicle for painting and will know the fundamentals of painting. Prerequisite: AUT 1113A

**AUT-1114 Auto Body Repair IV**

7 0 15 12

This course includes an introduction to repairing frame damage and making necessary alignments. Topics include frame straightening, body and frame components, and the frame and suspension system. Upon completion, students will be able to straighten a frame and make necessary alignment using the body straightening equipment. Prerequisite: AUT 1113

**AUT-1114A Auto Body Repair IV**

2 0 6 4

This course includes an introduction to repairing frame damage and making necessary alignments. Topics include frame straightening, body and frame components, and the frame and suspension system. Upon completion, students will be able to straighten a frame and make necessary alignment using the body straightening equipment. Prerequisite: AUT 1113

**AUT-1114B Auto Body Repair IV**

2 0 6 4

This course, a continuation of AUT 1114A, includes an introduction to repairing frame damage and making necessary alignments. Topics include frame straightening, body and frame components, and the frame and suspension system. Upon completion, students will be able to straighten a frame and make necessary alignment using the body straightening equipment. Prerequisite: AUT 1114A

**AUT-1114C Auto Body Repair IV**

3 0 3 4

This course, a continuation of AUT 1114B, includes an introduction to repairing frame damage and making necessary alignments. Topics include frame straightening, body and frame components, and the frame and suspension system. Upon completion, students will be able to straighten a frame and make necessary alignment using the body straightening equipment. Prerequisite: AUT 1114B

**AUT-151 Basic Engines**

3 0 12 7

This course develops a thorough knowledge of the construction and operation of automobile engines. Topics include tools, shop safety, and the construction and operation of automobile engines. Upon completion, students will be able to recondition automobile engines. Prerequisites: None

**AUT-152 Automotive Brake Systems** 2 0 6 4

This course is designed to teach the student the operation of drum brakes, disc brakes, brake hydraulic systems, parking brakes and brake boosters. Emphasis is placed on diagnosis, inspection and correct repair practices. Upon completion, the student will be able to diagnose, repair, and test automobile brake systems. Prerequisites: None

**AUT-153 Engine Electrical Systems** 6 0 9 9

This course is designed to teach the student the fundamentals of electricity and Ohms Law. Topics include principals of electricity as applied to the automobile, fundamentals of starters, batteries, charging systems and ignition systems. Upon completion, students will be able to explain electrical fundamentals, Ohms Law, and operation of the starting, charging and ignition systems. Prerequisites: None

**AUT-154 Automotive Fuel Systems** 2 4 0 4

This course is designed to teach the basic automotive carburetor fuel system. Topics include characteristics of fuels, types of fuel systems, fuel pumps, carburetors, fuel tanks, fuel lines, and filters. Upon completion, the student will be able to explain the operation of fuel systems and disassemble, inspect, repair, and reassemble carburetors. Prerequisites: None

**AUT-155 Automotive Power Trains** 3 0 6 5

This course introduces the student to the automotive power train using clutches, manual transmissions and differentials. Topics include operating principles of clutches, manual transmissions, drivelines and differentials. Upon completion, students will be able to disassemble, inspect, repair, and reassemble clutches, manual transmissions, differentials and drivelines. Prerequisites: None

**AUT-156 Fundamentals of Auto Comp** 2 0 3 3

This course is designed to acquaint the student with the operation, testing, and servicing of automotive computer systems. Emphasis is placed on operation of computer controlled systems and the use of test equipment used to diagnose problems in the system. Upon completion, students will be able to explain the operation of computer systems, diagnose computer systems using available test equipment and make necessary adjustments. Prerequisites: None

**AUT-157 Emission & Elect Controls** 2 0 3 3

This course introduces the student to the emissions control devices used to control automotive emissions. Topics include causes of pollution, systems used on the vehicle to reduce emissions, and testing and servicing automotive emission systems. Upon completion, the student will be able to explain the operation of emission control devices, and to test emission systems using test equipment and service manuals. Prerequisites: None

**AUT-158 Auto Heating & Air Cond** 3 0 3 4

This course provides an introduction to the principles of refrigeration and to the components of the automotive air conditioning system. Emphasis is placed on the principles of refrigeration, operation of system components, and methods of control. Upon completion, students will be able to explain air conditioning principles, identify components in the system, diagnose problems in the system and make repairs using proper equipment. Prerequisites: None

**AUT-159 Power Trains Service** 1 0 3 2

This course is designed to teach the student the proper methods for servicing automotive power train components. Topics include clutch adjustment, checking and replacing universal joints, servicing transmissions and rear ends, and proper lubrication. Upon completion, the student will be able to service transmissions, change filter and oil, replace rear axle bearings, and remove and install transmission and clutch assemblies. Prerequisites: None

**AUT-160 Electronic Fuel Injection** 2 4 0 4

This course is designed to familiarize the student with electronic fuel injection systems used in domestic vehicles. This course includes "Port Fuel Injection Systems" as well as "Throttle Body Fuel Injection Systems." Upon completion, students will be able to diagnose, test, and repair problems within the computer controlled fuel injection systems. Prerequisites: None

**AUT-161 Tune-up & Electr Controls** 3 0 3 4

This course is designed to give the student advanced training in the area of preventive maintenance on the vehicle and engine systems. Topics include a review of the engine's mechanical, electrical, electronic, and fuel systems and proper use of test equipment and analyzers. Upon completion, students will be able to use test equipment for analyzing the engine and make repairs or adjustments to correct any defects. Prerequisites: None

**AUT-203 Automotive Electronics** 3 2 0 4

This course covers basic electronically controlled systems on automobiles. Emphasis is placed on computer controlled systems. Upon completion, students will be able to diagnose and repair electronically controlled systems. Prerequisites: None

**AUT-205 Auto Chas & Susp Sys Diag** 2 2 0 3

This course covers the practical application of repairs of chassis and suspension systems. Emphasis is placed on steering gears and brakes. Upon completion, students will be able to perform work on live vehicles using manufacturers' procedures. Prerequisites: None

**AUT-207 Engine & Pwr Tr Sys Diag** 2 2 0 3

This course covers the basics of repairing automotive transmissions and provides practical application of transmission repair. Emphasis is placed on proper repair procedures of transmissions. Upon completion, students will be able to diagnose and repair transmissions. Prerequisite: AUT 205

**AUT-208 Electrical/Fuel Sys Diag** 2 2 0 3

This course covers practical procedures for repairing electrical and fuel systems on automobiles. Emphasis is placed on fuel systems and engine electrical components. Upon completion, students will be able to test, diagnose, and repair fuel and electrical systems. Prerequisites: None

**AUT-215 Inst & Chassis Elec Sys** 2 4 0 4

This course covers electrical components of instrument panels and chassis. Topics include printed circuit board and turn signals. Upon completion, students will be able to diagnose and repair electrical system problems. Prerequisites: None

**AUT-216 Electronic Controlled Sys** 3 2 0 4

This course covers electronically controlled systems on today's cars. Topics include computers and braking systems. Upon completion, students will be able to diagnose and test electronically controlled systems. Prerequisites: None

**AUT-217 Electronic Contr Sys Diag** 3 2 0 4

This course, a continuation of AUT 216, covers the practical application of electronically controlled systems. Topics include on-board computers and computerized systems. Upon completion, students will be able to trouble-shoot computer systems. Prerequisite: AUT 216

**AUT-218 Automotive Fuel Injection** 3 2 0 4

This course is designed to familiarize the student with electronic fuel injection systems used on domestic vehicles. The class will include "Port Fuel Injection Systems," classroom lecture, shop demonstration and hands-on use of test equipment used to diagnose, test and repair problems within the computer controlled fuel injection systems. Upon completion, students will be able to demonstrate the use of repair manuals and diagnostic charts. Prerequisites: PME 1181 and 1133

**AUT-251 Susp & Computer Alignment** 3 0 6 5

This course introduces the student to front end alignment, repair, and adjustment. Topics include front suspension types, inspection for wear, replacement of ball joints, control arm bushings, steering gear service and wheel balancing. Upon completion, the student will be able to identify front end types, inspect, repair, adjust and align front ends, and balance tires. Prerequisites: None

**AUT-252X Automotive Machine Shop** 2 0 6 4

This course introduces the student to cylinder block boring, cylinder head surfacing, valve reconditioning, and piston pin servicing equipment. Emphasis is placed on proper operation of equipment and maintaining close tolerances to specifications. Upon completion, students will be able to explain the operations and functions of automotive engine reconditioning equipment. Prerequisites: None; Corequisite: AUT 252Y

**AUT-252Y AUT-252 Lab** 0 0 3 1

This course provides hands-on experience in operating automotive machining equipment. Topics include cylinder block boring, cylinder head surfacing, valve reconditioning, and fitting piston pins. Upon completion, the student will be able to properly and safely use automotive engine reconditioning equipment. Prerequisites: None; Corequisite: AUT 252X

**AUT-253 Automatic Trans Rebuild** 3 0 6 5

This course introduces the student to the principles, operation, and service of automatic transmissions. Topics include construction, theory, principles of operation, disassembly, inspection, repair, and reassembly of automatic transmissions. Upon completion, students will be able to explain the principles of operation, disassemble, inspect, repair, and test the most popular transmissions used in today's cars. Prerequisites: None

**AUT-254 Electrical Power Accessor**

4 0 6 6

This course is designed to acquaint the student with the operation, design, diagnosis, and repair of chassis electrical systems. Topics include lights, turn signals, gauges, power windows, windshield wipers, and the proper use of electrical test equipment. Upon completion, students will be able to explain the operation of diagnosis, and repair chassis electrical systems. Prerequisites: None

**AUT-255X Automotive Servicing**

2 0 6 4

This course is designed to train the student in proper shop procedures required in troubleshooting the various vehicle systems. Emphasis is placed on the effective use of engine analyzers, electrical test meters, and computer test equipment. Upon completion, students will be able to troubleshoot effectively in the vehicle systems and use available test equipment in the process. Prerequisites: None; Corequisite: AUT 255Y

**AUT-255Y AUT-255 Lab**

0 0 3 1

This course is designed to train the student in the proper use of automotive test equipment. Emphasis is placed on the effective use of engine analyzers. Upon completion, students will be able to use available engine analyzers. Prerequisites: None; Corequisite: AUT 255X

**AUT-256 Driveability & Elec Diag**

2 0 6 4

This course is designed to train students in the proper technique of troubleshooting electronic control devices and associated driveability problems. Emphasis is placed on the use of different types of electronic and mechanical test equipment. Upon completion, students will be able to troubleshoot driveability problems in the engine electronic controls and mechanical malfunctions within the engine or accessories. Prerequisites: None

**BIO-1005 Anatomy & Physiology**

2 0 0 2

This course is designed to acquaint the dental assistant student with basic body structures and functions particularly as they relate to general and oral health. Topics include cell structure and function, tissue types, and the ten anatomical systems. Upon completion, students will be able to describe the relationship of the ten anatomical systems and how they might affect oral health. Prerequisites: None

**BIO-1013 Microbiology**

2 0 0 2

This course is a basic introductory course covering classification and characterization of microorganisms along with the concepts of control and asepsis. Topics include the bacteria, viruses, fungi, metazoans, microscopy, pathogenesis, and man's defenses against these microorganisms. Upon completion, students will be able to list the characteristics of microorganisms and explain their clinical significance in health and disease. Prerequisites: BIO 1105 and DEN 1011

**BIO-105X Fundamentals of Microbio**

3 0 0 3

This course covers the history, terminology, equipment, procedures, and characteristics of microbes in an introductory manner. Topics include an overview of different types of microbes, control agents, and their uses and microbial interactions with man. Upon completion, students will be able to characterize the various microbial agents and discuss methods of controlling them typically and chemically, as well as biologically. Prerequisite: H.S. biology or equiv. ; Corequisite: BIO 105Y

**BIO-105Y BIO-105 Lab**

0 2 0 1

This course, designed to accompany BIO 105X, includes laboratory exercises emphasizing the ubiquity of microorganisms and their control. Topics include basic microbiological laboratory techniques as well as microscopy. Upon completion, students will be able to apply aseptic techniques to their vocational area, competently use a microscope, and apply microbial control procedures. Prerequisite: H.S. biology or equiv.; Corequisite: BIO 105X

**BIO-106X Human Anat & Physiology I**

5 0 0 5

This course emphasizes the morphological and physiological aspects of the body, including cellular physiology, and the cardiovascular, respiratory, skeletal, and muscular systems. Topics include homeostasis, cell metabolism, and maintenance and support of the human body. Upon completion, students will be able to identify the nature and behavior of the anatomy and physiology of maintenance and support systems of the body. Prerequisites: BIO 93 or BIO 202; CHM 92 or CHM 102 or equiv. ; Corequisite: BIO 106Y

**BIO-106Y BIO-106 Lab**

0 0 3 1

This course's primary purpose is to familiarize students with laboratory methods and techniques as they relate to the instructional materials in BIO 106X. Topics include the use of the microscope, cells and tissues, blood components, cardiovascular anatomy and physiology, respiratory measurements, bone, and muscles. Upon completion, students will be able to recognize body cells, tissues, passive processes, and vascular and respiratory physiology. Prerequisites: BIO 93 or BIO 202; CHM 92 or CHM 102 or equiv. ; Corequisite: BIO 106X

**BIO-107X Human Anat & PhysiologyII**

5 0 0 5

This course includes the nervous, endocrine, digestive, urinary, and reproductive anatomy and physiology. Topics include homeostasis, digestion, nutrition, metabolism, negative feedback, fluids and electrolytes, and the maintenance and control of the body systems. Upon completion, students will be able to identify the maintenance and control processes of the human body. Prerequisite: BIO 106; Corequisite: BIO 107Y

**BIO-107Y BIO-107 Lab**

0 0 3 1

This course includes laboratory methods and techniques as they relate to the supporting instructional materials in BIO 107X. Topics include organ dissections, sensation tests, nutrient digestion, chemical urinalysis, gametogenesis, hormones, and microscopic studies of organ tissues. Upon completion, students will be able to recognize the processes in the maintenance and control of the human body. Prerequisite: BIO 106; Corequisite: BIO 107X

**BIO-108X Microbiology I**

5 0 0 5

This course is a general study of microbiology which differentiates microbes from each other as well as from other organisms. Emphasis is placed on energy metabolism, control, microbial interactions, and the microbial diseases of man. Upon completion, students will be able to show a working knowledge of the principles of disease, pathogenicity, and asepsis. Prerequisites: BIO 106 or 202 and CHM 96 or 102; Corequisite: BIO 108Y



**BIO-108Y BIO-108 Lab**

0 0 3 1

This course, designed to accompany BIO 108X, includes laboratory exercises emphasizing characterization of the bacteria. Topics include microbiological laboratory techniques including microscopy, control assays, and the use of differential media. Upon completion, students will be able to apply aseptic techniques to their vocation area, use a microscope, and be able to identify an unknown bacterium. Prerequisites: BIO 106 or 202 and CHM 96 or 102; Corequisite: BIO 108X

**BIO-1091X Anatomy & Physiology I**

3 0 0 3

This course covers a general study of the normal structure and function of the human body and certain abnormal conditions. Emphasis is placed on points of reference, basic concepts, and on the integumentary, locomotor, digestive, reproductive, genitourinary, and respiratory systems. Upon completion, students will be able to associate the various body functions and systems with operative procedures observed. Prerequisites: None; Corequisite: BIO 1091Y

**BIO-1091Y BIO-1091 Lab**

0 2 0 1

This course is designed to provide experiences that support components of the lecture material of BIO 1091X. Emphasis is placed on activities that will enhance the student's ability to understand points of reference and the body systems covered. Upon completion, students will be able to correlate laboratory experiences with the human body as viewed in the operating room. Prerequisites: None; Corequisite: BIO 1091X

**BIO-1092X Microbiology**

3 0 0 3

This course introduces the student to the study of microorganisms and their association with man and his activities, with emphasis upon control of pathogenic agents. Topics include bacterial morphology, physiology, growth requirements, modes of transmission, pathology, physical and chemical methods of microbial control, and sterilization procedures. Upon completion, students will be able to understand the ubiquity of microorganisms and the importance of controlling the presence and spread of disease organisms. Prerequisites: None; Corequisite: BIO 1092Y

**BIO-1092Y BIO-1092 Lab**

0 2 0 1

This course provides laboratory instruction in microbial identification, culture, physical and chemical methods of microbial control, and aseptic/sterile techniques. Topics include microscopy, staining procedures, culture preparation, and physical and chemical methods of microbial control, with emphasis on sterile laboratory techniques. Upon completion, students will be able to apply sterile techniques to limit presence of microorganisms and demonstrate aseptic procedures to control spread of pathogenic agents. Prerequisites: None; Corequisite: BIO 1092X

**BIO-1096X Anatomy & Physiology II**

3 0 0 3

This course is a continuation of the study of structure and function of the human body and certain abnormal conditions. Emphasis is placed on the senses of vision and hearing and on nervous, blood, cardiovascular, lymphatic, and endocrine systems. Upon completion, students will be able to associate the more complicated body systems with operative procedures observed. Prerequisite: BIO 1091; Corequisite: BIO 1096Y

**BIO-1096Y BIO-1096 Lab** 0 2 0 1

This course is designed to provide experiences that support components of the lecture material in BIO 1096X. Emphasis is placed on activities that will enhance the students' ability to understand the more complicated body systems. Upon completion, students will be able to correlate laboratory experiences with the human body as viewed in the operating room. Prerequisite: BIO 1091; Corequisite: BIO 1096X

**BIO-1101 Body Structure & Function** 7 0 0 7

This course consists of a study of the ten anatomical systems and a survey of microorganisms and their relationship to disease. Topics include nervous, skeletal, muscular, circulatory, digestive, respiratory, endocrine, integumentary, urinary, and reproductive systems with a brief description of infectious pathology. Upon completion, students will be able to explain the cooperative functions of the total human body and will be aware of common infectious pathology. Prerequisites: None

**BIO-110X Bio Chem for Health Sci** 3 0 0 3

This course is an elementary introduction to carbohydrates, proteins, enzymes, lipids, nucleic acids, vitamins, and hormones. Emphasis is placed on the role of the molecules on the cellular level and their essential function in the organism. Upon completion, students will be able to describe basic molecular metabolism and molecular, genetic, and essential nutritional requirements of the body as a whole. Prerequisite: CHM 96 or 102; Corequisite: BIO 110Y

**BIO-110Y BIO-110 Lab** 0 0 3 1

This course is a series of demonstrations or laboratory exercises of topics discussed in BIO 110X. Topics include demonstration of buffers, energy of reaction, carbohydrate metabolism, enzymes, molecular structure, and other subjects. Upon completion, students will be able to translate concepts into practical application to future health related courses. Prerequisite: CHM 96 or 102; Corequisite: BIO 110X

**BIO-121X General Biology I** 5 0 0 5

This course introduces the major themes of biology that form the foundation for all subsequent learning in this dynamic field. Emphasis is placed on cell structure, biochemistry, cellular energetics, photosynthesis, respiration, cellular reproduction, genetics, and evolution. Upon completion, students will be able to apply their knowledge of cell biology to the study of multicellular organisms, including man. Prerequisites: None; Corequisite: BIO 121Y

**BIO-121Y BIO-121 Lab** 0 2 0 1

This course correlates the major areas of coverage in lecture and "hands-on" participation with the microscope, biochemical processes, and genetics. Topics include microscopy, testing for carbohydrates and proteins, cytology, photosynthesis, cellular respiration, cellular reproduction, and plant and human genetics. Upon completion, students will be able to demonstrate an understanding of laboratory methods and techniques by applying these techniques in subsequent related courses. Prerequisites: None; Corequisite: BIO 121X

**BIO-122X General Biology II** 5 0 0 5

This course introduces the study of multicellular organisms that represent each of the six kingdoms which comprise all life on our planet. Topics include virology and the evolution of the eucaryotic cell along with development, physiology, and reproduction of organisms culminating in an overview of ecology. Upon completion, students will be able to relate their knowledge of organismic biology to the more highly specialized causes in biology. Prerequisite: BIO 121 or equiv. ; Corequisite: BIO 122Y

**BIO-122Y BIO-122 Lab** 0 2 0 1

This course covers the main headings of BIO 122X in a laboratory situation, such as lower forms of life, plant and animal systems, and ecology. Topics include bacteriology, fungi, nonvascular and vascular plants, plant and animal maintenance and reproduction, and inter-relationship in the biosphere. Upon completion, students will be able to compare lower forms of life to modern plants and animals and will know their similarities and differences. Prerequisite: BIO 121 or equiv. ; Corequisite: BIO 122X

**BIO-200X Human Biology** 4 0 0 4

This course includes an overview of cell biology, tissues, and all human organ systems. Topics include cell metabolism, support and locomotion, nutrition, excretion, respiration, control and maintenance of body systems, and reproduction. Upon completion, students will be able to apply their understanding of human biology as it relates to their major curriculum. Prerequisites: None; Corequisite: BIO 200Y

**BIO-200Y BIO-200 Lab** 0 2 0 1

This course includes laboratory studies as they relate to the supporting instructional materials in BIO 200X. Topics include general anatomical studies of cells, tissues, and all human organ systems. Upon completion, students will be able to apply their understanding of these systems to the maintenance and control of the human body. Prerequisites: None; Corequisite: BIO 200X

**BIO-92X Fundamental Biology I** 3 0 0 3

This course provides an introduction to the study of biology at the cellular level, with emphasis on the biochemical and cellular unity of living organisms. Topics include basic chemistry of living organisms, cell structure and function, enzymes, and the role of enzymes in digestive processes. Upon completion, students will be able to describe the biochemical and cellular composition and the processes common to all living organisms. Prerequisites: None ; Corequisite: BIO 92Y

**BIO-92Y BIO-92 Lab** 0 2 0 1

This course introduces students to the biology laboratory and the methods, techniques, and equipment used to examine living cells and their biochemical processes. Topics include the scientific method, biochemical testing, microscopy, examination of cells and cellular transport processes, and enzyme activities. Upon completion, students will be able to describe some basic methods and equipment used in the laboratory to study living cells and their biochemical activities. Prerequisites: None; Corequisite: BIO 92X

**BIO-93X Fundamental Biology II**

3 0 0 3

This course is a continuation of the study of living organisms begun in BIO 92, examining cellular processes and activities, genetics, and human reproduction. Topics include photosynthesis and cellular respiration, cell division and gamete formation, Mendelian and molecular genetics, and human reproduction and development. Upon completion, students will be able to describe major biochemical and physical processes of cells and will know how genes regulate these processes and determine heredity. Prerequisite: BIO 92; Corequisite: BIO 93Y

**BIO-93Y BIO-93 Lab**

0 2 0 1

This course provides laboratory experience to support the material covered in BIO 93X lecture, including experimentations, microscope observations, problem solving, and model manipulations. Topics include experiments demonstrating photosynthesis and cellular respiration, observing cell division, working genetics problems, and examining DNA structure and function. Upon completion, students will be able to describe basic laboratory techniques of experimentation, microscopic examination of specimens, and methods of working simple genetics problems. Prerequisite: BIO 92; Corequisite: BIO 93X

**BIO-94X Fundamental Biology III**

3 0 0 3

This course introduces the general principles and concepts of ecology, with emphasis on man's role in his environment. Topics include population genetics, variation and selection, growth curves, food webs, biomes, speciation, pollution, and overpopulation. Upon completion, students will be able to explain the ecological problems associated with the impact of man's activities upon his environment. Prerequisite: BIO 93; Corequisite: BIO 94Y

**BIO-94Y BIO-94 Lab**

0 2 0 1

This course includes laboratory studies as they relate to the supporting instructional materials in BIO 94X. Topics include population genetics studies, classification of biome life, observation of food chains, and classroom debates on controversial ecological problems. Upon completion, students will be able to apply their understanding of these topics as they relate to their personal and professional lifestyles. Prerequisite: BIO 93; Corequisite: BIO 94X

**BMS-1115 Building Codes Level II**

3 0 0 3

This course is a study of building codes and the minimum requirements for local and state construction regulations. Emphasis is placed on the minimum requirements of the North Carolina Building Codes relating to intermediate size of commercial structure. Upon completion, students will be able to determine if a structure is in compliance with the North Carolina Building Codes. Prerequisites: None

**BMS-1116 Building Codes Level III**

3 0 0 3

This course is a study of building codes and the minimum requirements for local and state construction regulations. Emphasis is placed on the minimum requirements of the North Carolina Building Codes relating to large, unlimited size commercial structures. Upon completion, students will be able to determine if a structure is in compliance with the North Carolina Building Codes. Prerequisites: None

**BMS-1134 Plumbing Codes & Laws**

4 0 0 4

This course is a general study of the North Carolina State Plumbing Code. Topics include design and sizing of water, drainage, and vent piping. Upon completion, students will be able to read and interpret local, state, and national plumbing codes. Prerequisites: None

**BMS-1135 Electrical Standards I**

4 0 0 4

This course is a review of the National Electric Code for the purpose of taking the state contractors' or inspector's licensing exams. Topics include services, calculations, grounding wire size and type of insulation, motor control, and hazardous locations. Upon completion, students will be able to take the state inspector's licensing exam, Level I, or state contractor's licensing exam. Prerequisites: None

**BMS-1136 Electrical Standards II**

4 0 0 4

This course is a review of the National Electric Code for the State Inspector License Level II. Emphasis is placed on services, calculations, grounding wire size and types of insulation, motor control, and hazardous locations. Upon completion, students will be able to take the State Inspector License Level II or State Contractor License. Prerequisites: None

**BMS-1137 Electrical Standards III**

4 0 0 4

This course is a review of the National Electric Code for the purpose of taking the state inspector's licensing exam, Level III. Emphasis is placed on services, calculations, grounding wire size and types of insulation, motor control, and hazardous locations. Upon completion, students will be able to take the state inspector's licensing exam, Level III, or state contractor's licensing exam. Prerequisites: None

**BMS-1141 Plumbing Codes I**

2 2 0 3

This course includes a study of plumbing codes and the minimum requirements for local and state plumbing regulations. Topics include the minimum requirements of North Carolina Plumbing Codes for residential and small commercial work. Upon completion, students will have a working knowledge of the code as it applies to residential and small commercial plumbing. Prerequisites: None

**BMS-1142 Plumbing Codes II**

2 2 0 3

This course includes a study of plumbing codes and the minimum requirements for local and state plumbing regulations. Topics include plumbing codes for one-story to 60,000 square feet or four-stories at 20,000 square feet per floor. Upon completion, students will have a working knowledge of the code as it applies to small and medium-size buildings. Prerequisites: None

**BMS-1143 Plumbing Codes III**

2 2 0 3

This course includes a study of plumbing codes and the minimum requirements for local and state plumbing regulations. Topics include plumbing codes for buildings larger than 60,000 square feet. Upon completion, students will have a working knowledge of the code as it applies to any size building. Prerequisites: None

**BUS-101 Introduction to Business**

3 0 0 3

This course is designed to provide students with an understanding of the general concepts of business. Emphasis is placed on foundations of business, social responsibility in business, forms of business ownership, management process, marketing, and finance. Upon completion, students will be able to explain the broad aspects of business and its role in society and in the economy. Prerequisites: None

**BUS-104 Keyboarding III**

2 0 3 3

This course will continue to develop accuracy and speed in key-boarding on the computer. Topics include keyboarding error-free tables, manuscripts, and business correspondence. Upon completion, students will be able to keyboard two error-free documents within 30 minutes and keyboard 40 wpm with a maximum of 5 errors. Prerequisites: BUS 191 or BUS 193

**BUS-105 Keyboarding IV**

2 0 3 3

This course continues the development of technique improvement and office production typing. Emphasis is placed on production input modes covering arranged, unarranged, handwritten, rough draft, and incomplete copy. Upon completion, students will be able to produce mailable copy measured by office standards, and keyboard 45 wpm with a maximum of 5 errors. Prerequisite: BUS 104

**BUS-106 Shorthand**

5 0 0 5

This course introduces Gregg Shorthand theory by reading textbook material, writing outlines, and transcribing from textbook material, homework notes and classwork dictation notes. Emphasis is placed on phonetics, penmanship, brief forms, phrases, principles of joining, developing reading skills, and writing/transcribing from dictation. Upon completion, students will be able to read at 100 wpm, take dictation at 40 wpm for 2 minutes, and transcribe with 95 percent accuracy. Prerequisites: None

**BUS-106A Shorthand**

3 0 0 3

This course introduces Gregg Shorthand theory through reading textbook outlines, writing outlines, and transcribing from textbook materials, homework notes and classwork notes. Emphasis is placed on phonetics, penmanship, word families, brief forms, phrases, and the principles of joining. Upon completion, students will be able to read textbook shorthand outlines, write and transcribe theory outlines, and transcribe with 90 percent accuracy. Prerequisites: None

**BUS-106B Shorthand**

2 0 0 2

This course is a continuation of BUS 106A and includes the study of theory by reading and writing textbook outlines and transcribing from dictation. Emphasis is placed on improving reading speed, writing and transcribing shorthand outlines, and writing and transcribing from dictation. Upon completion, students will be able to read at 100 wpm, take dictation at 40 wpm for 2 minutes, and transcribe with 95 percent accuracy. Prerequisite: BUS 106A

**BUS-107 Dict & Transcription I**

3 2 0 4

This course provides a review of shorthand theory and introduces the student to writing shorthand from dictation of new-matter material. Emphasis is placed on improving penmanship, increasing speed in writing from dictation, and transcribing accurately from shorthand notes. Upon completion, students will be able to transcribe material dictated at 50 wpm with 95 percent accuracy and transcribe mailable copy dictated at 40-50 wpm. Prerequisites: BUS 106, BUS 104, and BUS 141

**BUS-109 Desktop Computers**

1 0 3 2

This course is designed to provide hands-on experience in the use of microcomputers as tools used to assist in solving business problems. Emphasis is placed on how to operate a microcomputer and use major types of software applicable to businesses. Upon completion, students will be able to utilize the basic levels of business software in the areas of: word processing, electronic spreadsheets, and data base management systems. Prerequisite: BUS 191 or 192 recommended

**BUS-110 Bus Math With Calculators**

2 0 3 3

This course provides instruction in business math problems emphasizing the touch operation on ten-key electronic calculators. Topics include computing interest, payroll, markup, discounts, proration, and depreciation schedules. Upon completion, students will be able to solve business math problems demonstrating the touch method. Prerequisites: None

**BUS-1103 Small Business Operations**

3 0 0 3

This course provides basic techniques in the operation of a small business. Emphasis is placed on starting a business, records-keeping, financing, employee relations, and inventory control. Upon completion, students will be able to start and operate a small business. Prerequisites: None

**BUS-1105 Construction Bus Oper**

3 0 0 3

This course provides the student with information concerning starting and operating a construction business. Emphasis is placed on management, licensing, taxation requirements, credit principles, financing, and recordkeeping. Upon completion, the student will have the knowledge to organize and manage a properly licensed, adequately financed construction business. Prerequisite: None

**BUS-112 Records Management**

5 0 0 5

This course includes a study of the entire records management cycle which stresses the fundamentals of indexing and filing. Emphasis is placed on alphabetic, numeric, geographic, and subject filing through the use of a practice set. Upon completion, students will be able to file correspondence and non-correspondence materials efficiently and perform the retrieval, retention, transfer, and disposal procedures. Prerequisites: None

**BUS-114 Word Processing Operator**

1 2 0 2

This course develops an understanding of the capabilities of word processing and provides hands-on experience in operating a word processor. Topics include typing letters, envelopes, reports, using spell-check, and creating a file for data base management. Upon completion, students will be able to produce a document utilizing software, visual prompts, and diskette media. Prerequisites: None

**BUS-115 Business Law I**

4 0 0 4

This course provides students with an overview of principles of business law and the Uniform Commercial Code. Emphasis is placed on the judicial system, forms of business ownership, contracts, and agencies. Upon completion, students will be able to apply business law and Uniform Commercial Code principles to appropriate business situations. Prerequisites: None

**BUS-116 Business Law II**

4 0 0 4

This course, a continuation of BUS 115, provides students with an overview of principles of business law and the Uniform Commercial Code. Emphasis is placed on bailments, personal property, real property sales contracts, and commercial paper. Upon completion, students will be able to apply business law and Uniform Commercial Code principles to appropriate business situations. Prerequisite: BUS 115

**BUS-118 Word Processing on Micro**

1 0 3 2

This course is designed to develop an understanding of the basic capabilities of word processing and provides hands-on experience in performing word processing functions on the microcomputer. Emphasis is placed on text-editing features in addition to the creation and formatting of letters, reports, and tables. Upon completion, students will be able to utilize the merge function to generate and assemble documents. Prerequisites: None

**BUS-123 Business Finance I**

2 2 0 3

This course is a study of basic financial management for a business. Emphasis is placed on financial analysis, planning, budgeting, working capital management, and short-term financing. Upon completion, students will be able to compute and analyze short-term financial information used in the management of a business. Prerequisites: BUS 150 and BUS 160

**BUS-124 Business Finance II**

2 2 0 3

This course, a continuation of BUS 123, is a study of basic financial management for a business. Topics include capital budgeting, valuation, the cost of capital, long-term financing sources, and growth dynamics. Upon completion, students will be able to demonstrate a working knowledge of capital budgeting and evaluate various long-term financing options for a business. Prerequisite: BUS 123

**BUS-125 Personal Finance**

3 0 0 3

This course will enable students to analyze and control their financial affairs. Emphasis is placed on managing money, borrowing, investing, and retirement planning. Upon completion, students will be better able to manage their personal financial resources, and thereby, provide for a more secure and enjoyable future. Prerequisites: None

**BUS-127 Automotive PC Application**

0 0 3 1

This course is designed to acquaint automotive mechanics students with computer programs used in the automotive service industry. Emphasis is placed on how to generate and track a service order and the posting of parts and labor cost. Upon completion, students will be able to operate computer systems used in the trade. Prerequisites: None



**BUS-128 Spreadsheets**

2 4 0 4

This course is designed to teach basic concepts in the use of microcomputers to perform detailed electronic spreadsheet tasks. Emphasis is placed on utilizing basic capabilities and strengths of the spreadsheet program to solve business problems. Upon completion, students will be able to use microcomputers to establish basic electronic spreadsheets, manipulate data, and print results. Prerequisites: BUS 109 and 123 recommended

**BUS-130 Micro Data Management**

1 0 3 2

This course is designed to introduce database management concepts, general strategies, and specific commands to manipulate files using dBase III Plus software. Topics include database terminology, creating and managing files, retrieving file information, designing reports, and merging with word processing software. Upon completion, students will be able to design, search, organize and retrieve a file, produce reports and labels, and merge with word processing software. Prerequisite: BUS 191 or equiv.

**BUS-131 Microcomputer Office Appl**

1 0 3 2

This course introduces the use of integrated software in business using a combined spreadsheet, database, and graphics program. Emphasis is placed on designing worksheet and database management problems with full of all keys on the keyboard using an IBM personal computer. Upon completion, students will be able to create and design simple accounting problems, inventories, databases, sales worksheets, and to enter formulas for calculations. Prerequisites: BUS 191 or equivalent

**BUS-132 Advanced Spreadsheets**

1 0 3 2

This course is a continuation of BUS 128. Emphasis is placed on the more complex features of spreadsheet software. Upon completion of the course, students will be able to use advanced spreadsheet techniques in business. Prerequisite: BUS 128

**BUS-133 Microcomputer DOS**

1 0 3 2

This course is designed to teach the fundamentals of microcomputer disk operating systems. Emphasis is placed on using commands and utilities of the operating system, writing batch files, and installing software on floppy and hard disks. Upon completion of this course, students will be able to use commands and utilities to perform basic operating system functions and install software. Prerequisite: BUS 109 or BUS 210

**BUS-134 Integrated Software Appli**

1 0 3 2

This course teaches the strategies to carry out data transfer among software programs and also teaches the various features of WordPerfect Office. Emphasis will be placed on data interchange among dBase III+, Lotus 1-2-3, WordPerfect, WordStar, and DisplayWrite 4 plus the capabilities of electronic mail, calendaring, and scheduling will be explored. Upon completion, the student should be able to integrate data to produce business documents to communicate by computer through a networked system. Prerequisites: BUS 130 or EDP 212, BUS 131 or BUS 128, BUS 118 or BUS 211

**BUS-136 Desktop Publishing**

1 0 3 2

This course is designed to prepare students for desktop publishing applications. Emphasis is placed on key layout and graphic design techniques, printing terminology, typography, composition and article placement in addition to hardware requirements. Upon completion, students will be able to use the mouse and access the menu systems of the major software packages. Prerequisites: None

**BUS-137 Advanced Micro Data Mgt** 1 0 3 2

This course is a continuation of BUS 130. Topics include multi- dimensional and relational databases and advanced programming techniques. Upon completion, students will be able to develop complex databases and to construct programs to link and update multiple databases. Prerequisite: BUS 130

**BUS-138 Intro to Public Admin** 3 0 0 3

This course includes an analysis of the role of the public administrator in government and an examination of the implementation of public policy. Topics include public personnel administration, decision making, public affairs, and budgetary functions within governmental agencies. Upon completion, students will be able to explain the role government plays in society and in the lives of people composing that society. Prerequisites: None

**BUS-139 Multidimensional SpSheets** 1 0 3 2

This course is designed to teach multidimensional spreadsheet design and application. Emphasis is placed on linking and manipulating multiple spreadsheets. Upon completion, students will be able to design, implement and manipulate multidimensional spreadsheets. Prerequisite: BUS 128

**BUS-140 Micros in Healthcare** 0 0 3 1

This course provides hands-on experience in the use of microcomputers as tools to assist in healthcare education. Emphasis is placed on how to operate a microcomputer and use selected health education software. Upon completion, students will be able to utilize the basic levels of software in the areas of word processing, database, and health. Prerequisites: None

**BUS-141 Business English** 3 0 0 3

This course is designed to help the Administrative Office and General Office Technology students become proficient in producing mailable written communication. Topics include punctuation, capitalization, number usage, spelling, word division, plurals and possessives, compound words, and abbreviations. Upon completion, students will be able to apply the rules of grammar in producing mailable written communication. Prerequisite: ENG 101; Corequisite: BUS 261

**BUS-142 Business Communications** 3 0 0 3

This course develops skills in the techniques of writing effective communications. Emphasis is placed on writing various types of business letters and preparing data sheets. Upon completion, students will be able to compose mailable letters using correct organization. Prerequisites: ENG 101

**BUS-143 Bus Comm for Word Process** 5 0 0 5

This course is designed to develop skills in the technique of writing effective communication for Administrative Office and General Office students. Emphasis is placed on correctly writing inquiry, sales, credit, collection, adjustment, complaint, order, acknowledgment, remittance, and application letters and resumes. Upon completion, students will be able to determine the types of correspondence necessary for office situations and effectively process the written word. Prerequisites: BUS 105 and 141, ENG 101 and 102

4 2 0 5

**BUS-150 Financial Accounting**

This course is designed for non-accounting majors: it provides instruction in small business financial accounting relative to generally accepted accounting principles. Topics include basic principles of accounting, sales, cost of goods sold, special journals, payroll, and cash control. Upon completion, students will be able to utilize accounting statements and will know how the information they contain was generated. Prerequisites: None

4 2 0 5

**BUS-151 Management Accounting**

This course covers accounting for inventories, operational assets and the use of accounting data for management planning, control and decision making. Topics include inventory valuation, operational assets and depreciation, cost accounting systems, budgeting, and analysis for decision making. Upon completion, students will be able to discuss inventory and operational asset valuation, the generation and use of cost information, budgeting and decision making processes. Prerequisite: BUS 150

5 0 0 5

**BUS-160 Business Math**

This course introduces students to the use of math in the business world. Topics include consumer credit, financial statements, depreciation, retail math, investments, insurance, compound interest, annuities, simple interest, and statistics. Upon completion, students will be able to compute discounts, finance charges, simple interest, and insurance premiums; and analyze financial statements, bank statements, and statistical data. Prerequisite: MAT 111

5 0 0 5

**BUS-183 Terminology & Vocab I**

This course is designed to increase and improve the student's vocabulary and spelling ability for processing information in the business office. Emphasis is placed on business and professional vocabularies. Upon completion, students will be able to utilize a broad vocabulary for daily usage and future employment skills. Prerequisites: None

5 0 0 5

**BUS-184 Terminology & Vocab II**

This course is a continuation of the study to increase and improve the student's vocabulary and spelling ability for word processing. Emphasis is placed on a review of vocabulary and basic office concepts in preparation for employment testing. Upon completion, students will be able to improve their test-taking skills for employment in civil service, business, and industry. Prerequisite: BUS 183

1 0 3 2

**BUS-191 Keyboarding Skills I**

This course introduces the touch system of keyboarding on the microcomputer. Topics include keyboard introduction, creating letters, memoranda, and tables. Upon completion, students will be able to demonstrate the ability to keyboard basic business correspondence using the touch method on the microcomputer. Prerequisites: None

1 0 3 2

**BUS-192 Keyboarding Skills II**

This course is designed to develop correct keyboarding techniques on the microcomputer for business, accounting, or paralegal students who have acquired the basic touch method of keyboarding. Emphasis is placed on developing basic word processing skills through letters, memoranda, tables, and reports. Upon completion, students will be able to type mailable business correspondence on the microcomputer. Prerequisite: BUS 191 or Equivalent

**BUS-193 Keyboard Skillbuilding**

1 0 3 2

This course provides a complete accuracy- and speed-building keyboarding program using a scientific, individualized, diagnostic and prescriptive approach. Emphasis is placed on diagnostic tests to identify the student's accuracy and speed deficiencies followed with corrective drills. Upon completion, students will be able to rhythmically keyboard with greater accuracy and speed, to increase proofreading skills, and to demonstrate improved typing techniques resulting in increased accuracy and speed measured by five-minute timed writings. Prerequisites: Mastery of Touch Keyboarding

**BUS-194 Care & Upgrade of Micros**

1 0 3 2

This course is designed to provide business students with non-technical skills in the setup, operations, and limited user/operator maintenance and care of microcomputers. Emphasis is placed on micro-computer installation, conversion, expansion, upgrade, troubleshooting and maintenance for IBM Micros and compatibles from a non-technical aspect. Upon completion, students will be able to install, upgrade, operate, troubleshoot and perform operator maintenance and component replacement of the IBM family and compatible computers. Prerequisite: BUS 109 or equivalent PC/Micro experience/familiarization

**BUS-204 Info Processing Applc II**

4 0 3 5

This course provides instruction and hands-on experience on information processing equipment for general office and administrative office students. Emphasis is placed on keyboarding letters, manuscripts, business forms, tabulations, and legal documents. Upon completion, students will be able to produce mailable copy using the microcomputer and electronic and electric typewriters. Prerequisite: BUS 211

**BUS-205 Info Processing Appl III**

2 0 3 3

This course teaches the student to set priorities and make formatting decisions necessary for producing mailable documents in a simulated office approach. Emphasis is placed on student's ability to make decisions, set priorities, and produce mailable documents on information processing equipment. Upon completion, students will be able to make wise decisions and produce attractive, mailable documents using information processing equipment. Prerequisite: BUS 204

**BUS-206 Dict & Transcription II**

3 2 0 4

This course is an advanced shorthand course designed to increase the student's dictation and transcription rate and word processing skills. Emphasis is placed on the transcription of mailable copy dictated at 50 to 60 wpm. Upon completion, students will be able to transcribe material dictated at 70 wpm for 5 minutes with 95 percent accuracy. Prerequisites: BUS 105 and 107

**BUS-207 Dict & Transcription III**

3 2 0 4

This course is an advanced shorthand course designed to increase the student's dictation and transcription rate and word processing skills. Emphasis is placed on the transcription of mailable copy dictated at 60 to 70 wpm. Upon completion, students will be able to transcribe material dictated at 80 wpm for 5 minutes with 95 percent accuracy. Prerequisite: BUS 206

**BUS-209 Microcomputer Application** 0 0 3 1

This course allows students to learn applications software that is applicable to their curriculums. Emphasis is placed on mastery of the use of software through hands-on learning by the student with assistance from a faculty facilitator. Upon completion, students will be able to utilize software that is specific to their field. NOTE: This course is for Paralegal Technology and Funeral Service Education students only.

**BUS-210 Info Processing Concepts** 2 0 3 3

This course provides an overview of technologies associated with information processing and the impact of these technologies on the management of information. Topics include microcomputer systems, applications and systems software, and hardware components as well as hands-on experience in word processing, electronic spreadsheets and graphics, and database management. Upon completion, students will be able to demonstrate a general knowledge of microcomputers and their applications. Prerequisites: None

**BUS-211 Info Processing Applic I** 4 0 3 5

This course offers hands-on instruction in the manipulation of the electronic typewriter and information processing equipment. Software packages include introduction to DisplayWrite and WordPerfect and a continuation of instruction using WordStar on the microcomputer. Upon completion, students will be able to manipulate information processing systems to perform office tasks. Prerequisites: BUS 105 and 210

**BUS-214 Secretarial Procedures** 3 2 0 4

This course is designed to help the office assistant develop administrative and communication skills needed to become a more productive and valuable employee. Emphasis is placed on personality development and efficient work habits. Upon completion, students will be able to process office mail and effectively use postal, shipping, and telephone services and will understand the office environment. Prerequisite: BUS 211

**BUS-228 Personal Income Taxes** 3 0 0 3

This course includes an overview of federal income taxes for individuals. Emphasis is placed on the latest income tax information including changes legislated by Acts of 1981, 1983, 1984, 1985, and 1986. Upon completion, students will be able to prepare a federal individual income tax return based on Internal Revenue Codes. Prerequisites: None

**BUS-231 Women in Management** 3 0 0 3

This course is designed to help women develop management skills. Topics include self-evaluation, career planning, management, communications, and survival skills. Upon completion, students will be able to deal with the opportunities and problems of advancement in business management more effectively. Prerequisites: None

**BUS-232 Small Business Start-up** 3 0 0 3

This course is designed for students with an interest in starting a small business. Emphasis is placed on the development of the business plan and the processes involved in acquiring funds, personnel, licenses, permits, and facilities. Upon completion, students will be able to develop and properly utilize a well-developed business plan for establishing a small business. Prerequisites: BUS 101 is recommended

**BUS-233 Human Resource Management** 3 0 0 3

This course provides an overview of the human resource manager's function. Topics include job analysis, selection, employee development, performance evaluation, labor relations, and wage and salary administration. Upon completion, students will be able to apply human resource management principles to the manager's function. Prerequisites: None

**BUS-234 Management** 2 0 3 3

This course introduces students to modern concepts of management. Emphasis is placed on team managements, goal setting, problem solving and the functions of management. Upon completion, students will be able to enter into the field of management. Prerequisites: None

**BUS-235 Small Business Management** 2 0 3 3

This course is designed for students with an interest in managing or owning a small business. Topics include getting started, planning and managerial skills, inventory, financial, production, risk, ethics, marketing, taxation and various forms of analysis. Upon completion, students will be able to start and manage a successful small business. Prerequisite: BUS 232 recommended

**BUS-236 Integrative Management** 3 2 0 4

This course includes business simulations which require students to make analyses and decisions in all the functional areas of a business. Emphasis is placed on decisions in the areas of management, marketing, production, purchasing, and finance. Upon completion, students will be able to better perform the variety of analytical and decision requirements that they will face in a business. Prerequisites: BUS 123, 128, 234, MKT 285 or 239, and BUS 233

**BUS-237 Public Personnel Admin** 3 0 0 3

This course examines the role of people in public organizations, the personnel functions from recruitment to selection and career development. Topics include the Civil Service system, Public Employee unions, Employee-Employer relations, and personnel functions and the merit system. Upon completion, students will be able to exercise critical judgment in matters of personnel administration. Prerequisite: BUS 138

**BUS-238 Problems of Public Admin** 3 0 0 3

This course is an analysis of contemporary problems related to the administration of public organization. Topics include organizational theory, human resources, decision making, and control of administration by congress and courts. Upon completion, students will be able to explain the administration of governmental affairs by describing, critically analyzing, and interrelating administrative theories and practices. Prerequisites: BUS 138

**BUS-240 Public Finance** 3 0 0 3

This course presents students an understanding of a government budget and its allocation of financial resources through political processes to serve differing human purposes. Topics include government expenditures, the revenue policy, the taxation policy, and the relations of government finance to its economy. Upon completion, students will be able to explain the effects of government revenue and expenditure policies on the fulfillment of allocation, distribution, and stabilization objectives. Prerequisites: None

**BUS-241 Public Policy Analysis** 3 0 0 3

This course is a study of the methods and techniques used to determine the effectiveness of public programs. Emphasis is placed on the concept of Ecology; Informal Groups; Information Networks and the Relationships between the Public and Private Sectors. Upon completion, students will be able to analyze case studies with the use of policy analysis techniques. Prerequisite: BUS 138

**BUS-247 Business Insurance I** 3 0 0 3

This course consists of a presentation of the basic principles of life, health, and accident insurance and the individual application thereof. Topics include the subject matter on which state examinations for life and/or accident and health agents will be based. Upon completion, students will be able to analyze and procure personal lines of insurance on a more consumer oriented basis. Prerequisites: None

**BUS-248 Insurance Princ & Proc** 4 0 0 4

This course consists of a presentation of the basic principles of life, health, property, and automobile insurance. Emphasis is placed on the role of the secretary in the specialized office as well as in the multiple-line agency offices. Upon completion, students will be able to apply the principles and procedures necessary for effective secretarial support in the modern insurance office. Prerequisite: For Secretarial-Executive and General Office students only

**BUS-250 Public Budgeting** 3 0 0 3

This course introduces the student to the process and politics used to allocate public resources. Emphasis is placed on the political environment of the public budgeting process; budgetary theories and techniques and analytical methods of evaluation. Upon completion, students will be able to understand the role of the budgeting in the determinative of governmental policy, and inter-governmental relations. Prerequisites: None

**BUS-260 Government & Business** 3 0 0 3

This course covers areas of government regulation that directly affect businesses. Topics include antitrust laws, administrative agencies, consumer protection, and direct regulation of business. Upon completion, students will be able to explain the interactions between government and business. Prerequisites: None

**BUS-261 Machine Transcription I** 1 0 6 3

This course introduces the student to dictation/transcription equipment and teaches the student to keyboard from machine dictation applying the "mailable-copy concept." Emphasis is placed on efficient operation of transcribing equipment, formatting and keyboarding documents from dictation, and producing mailable documents. Upon completion, students will be able to operate the transcription equipment efficiently and transcribe mailable documents within a reasonable time frame. Prerequisites: BUS 104, 141

**BUS-262 Machine Transcription II** 2 0 3 3

This course develops the skill of direct transcription from oral dictation to mailable typewritten form. Emphasis is placed on word processing decisions in editing, punctuation, spelling, and formatting. Upon completion, students will be able to produce mailable copy from dictated material. Prerequisite: BUS 261

**BUS-270 Office Practice Seminar** 3 0 0 3

This course is designed to develop job-seeking skills and to further involve students in projects and duties that will be encountered on the job. Topics include financial and legal duties encountered in the office, planning itineraries, meetings, and workshops, and handling travel arrangements. Upon completion, students will be able to perform administrative and decision-making duties needed for job enhancement. Prerequisite: BUS 214

**BUS-272 Supervision** 3 0 0 3

This course provides the student with concepts and practices in supervising others. Topics include leadership, time management, motivation, morale, discipline, and decision making. Upon completion, students will be able to direct the efforts of others to achieve desired results. Prerequisites: None

**BUS-279 Stocks & Bonds** 3 0 0 3

This course introduces students to concepts and techniques involved in investing in stocks and bonds. Emphasis is placed on selection and management of stock and bond portfolios for individual investors. Upon completion, students will be able to formulate and manage a suitable investment plan. Prerequisites: None

**BUS-282 Business Statistics** 4 0 0 4

This course covers general statistical principles and their business applications. Topics include descriptive statistics, probability, distributions, sampling, hypothesis testing, and simple regression. Upon completion, students will be able to know how and when to use statistical techniques in solving problems. Prerequisite: H.S. algebra or equiv.

**BUS-283 Advanced Desktop Publish** 1 0 3 2

This course is designed to prepare students for advanced desktop publishing applications. Emphasis is placed on creating, designing, and editing business forms, brochures, financial reports, newsletters and a catalog. Upon completion, the student will be able to prepare multipage documents from word processing text and place graphics using a scanner. Prerequisite: BUS 136

**BUS-284 Advanced Word Processing** 1 0 3 2

This course is designed to develop an understanding of the advanced capabilities of word processing. Emphasis is placed on special advanced features of word processing including file management, graphics, footnoted documents, macros, and sorting. Upon completion, the student will be able to perform advanced word processing applications. Prerequisite: BUS 118

**BUS-286 Contemp Bus & Econ Prob** 3 0 0 3

This course provides an opportunity for students to apply principles learned in Macroeconomics (ECO 102) and Microeconomics (ECO 104) to current economics-related events. Emphasis is placed on current events such as the national debt, fiscal policy, monetary policy, and foreign trade. Upon completion, students will be able to explain the impact of economic principles on their lives and on the well-being of the nation. Prerequisites: ECO 102 and 104



**BUS-287 International Business** 3 0 0 3

This course covers the basic concepts of international business activity and theory. Emphasis is placed on the economic and financial environment, institutions and markets, trade policy issues, business-government interface, and strategic management issues. Upon completion, students will be able to realize that virtually all companies and individuals making business decisions today are affected by international events. Prerequisites: None

**BUS-290 Secretarial Internship** 0 0 10 1

This course provides assistance in the development of office responsibilities, office ethics, and office work habits through on-the-job work experience. Emphasis is placed on the application of acquired academic skills and on the acquisition of additional knowledge encountered in the practicum. Upon completion, students will be able to use the experience and the skills gained to become successfully employed in the office. Prerequisites: Advisor consent and 1.85 GPA

**BUS-295 Public Admin Seminar** 1 0 0 1

This course provides students with a review of each course in the curriculum and discusses current events in the public administration field. Topics include sharing of learning experiences encountered in internship training, research projects, and job possibilities. Upon completion, students will be able to use their new skills in reaching solutions to the many diversified problems in the area of public administration. Prerequisite: Dept. Chrp. approval

**BUS-296 Intern In Public Admin** 0 0 10 1

This course provides students an opportunity to work in a public administration setting, ten (10) hours per week, under close supervision. Emphasis is placed on skills acquired during academic training and to gain additional skills and knowledge from on-the-job work experience. Upon completion, students will be able to apply for entry into middle-management positions in state and local government and nonprofit organizations. Prerequisite: Dept. Chrp. approval

**BUS-297 Ethics in Government** 3 0 0 3

This course introduces the student to developing an awareness of the ethical issues and problems within the public administration field. Emphasis is placed on building analytical skills; stimulating moral imagination; and recognizing the discretionary power of the administrator's role. Upon completion, students will be able to understand the moral dimensions of public administrative decision-making. Prerequisites: BUS 138

**CAR-1101 Carpentry** 5 0 15 10

This course introduces the tools, materials, and procedures of the construction industry. Topics include operation, care, and safety of carpenters' tools, preparation of building site, building layout, footings, and foundation construction. Upon completion, students will be able to use carpenters' tools safely, select materials, interpret prints and specifications, and lay out foundation lines. Prerequisites: None

**CAR-1101A Carpentry** 1 0 6 3

This course introduces the tools, materials, and procedures of the construction industry. Topics include operation, care, and safety of carpenters' hand tools, and an introduction to power tools. Upon completion, students will be able to use carpenters' tools safely. Prerequisites: None

**CAR-1101B Carpentry**

1 0 6 3

This course is a continuation of 1101A with advanced studies of tool use and an introduction to materials and building procedures. Topics include proper use of power tools and materials and preparation of building site. Upon completion, students will be able to use carpenters' power tools safely and will have a knowledge of site preparation. Prerequisite: CAR 1101A

**CAR-1101C Carpentry**

3 0 3 4

This course is a continuation of CAR 1101B with advanced studies of building procedures and introduces footing and foundation construction. Topics include building layout, footings, and foundation construction. Upon completion, students will be able to use carpenters' tools safely, select materials, interpret prints and specifications, and lay out foundation lines. Prerequisite: CAR 1101B

**CAR-1102 Carpentry Framing**

5 0 15 10

This course introduces the principles and practices of framing for residential construction. Topics include selecting and installing sills, girders, joists, bridging, subflooring, studs, rafters, trusses, and bracing. Upon completion, students will be able to lay out and frame floor, wall, and roof systems. Prerequisite: None

**CAR-1103X Exterior Finish Carpentry**

5 0 9 8

This course covers exterior trim and finish carpentry. Emphasis is placed on the selection of materials and methods of application used for exterior finish carpentry. Upon successful completion, students will be able to select and apply the exterior finish material to a residential structure. Prerequisite: None; Corequisite: CAR 1103Y

**CAR-1103Y CAR-1103 Lab**

0 0 6 2

This course provides practical application of the skills required in exterior finish carpentry. Emphasis is placed on the method and application of exterior carpentry skills. Upon completion, the students should be able to trim-out the exterior of a residential structure. Prerequisite: None; Corequisite: CAR 1103X

**CAR-1104X Interior Finish Carpentry**

5 0 9 8

This course covers interior trim and finish carpentry. Emphasis is placed on the selection of materials and methods of application used for interior finish carpentry. Upon successful completion, students will be able to select and install the trim material used in residential structure. Prerequisite: None; Corequisite: CAR 1104Y

**CAR-1104Y CAR-1104 Lab**

0 0 6 2

This course provides practical application of the skills required in interior finish carpentry. Emphasis is placed on the method and application of interior carpentry skills. Upon completion, the student should be able to trim-out the interior of a residential structure. Prerequisite: None; Corequisite: CAR 1104X

**CAR-1110 Carpentry Shop Operations**

2 0 0 2

This course covers planning and establishing a custom woodworking shop. Emphasis will be placed on shop layout concepts, selecting and inventorying equipment, materials, parts, and supplies, and establishing maintenance schedules. Upon completion, students will be able to plan, establish, and maintain a custom woodworking shop. Prerequisite: CAR 1101

**CAR-1111 Cabinetmaking** 3 0 15 8

This course covers the construction and installation of kitchen cabinets and bathroom vanities. Topics include the concepts of measuring and planning cabinet installation, construction of base and wall cabinets, vanities, doors, drawers, and shelving. Upon completion, students will be able to plan, construct, and install cabinets. Prerequisite: CAR 1104

**CAR-1111A Cabinetmaking** 3 0 3 4

This course introduces the construction and installation of kitchen cabinets and bathroom vanities. Topics include measuring and planning cabinet installation and the construction of wall cabinets. Upon completion, students will be able to plan, construct, and install basic wall cabinets. Prerequisite: CAR 1104

**CAR-1111B Cabinetmaking** 0 0 6 2

This course is a continuation of CAR 1111A and introduces the construction of base cabinets and bathroom vanities. Emphasis is placed upon planning and construction of base cabinets, doors, and counter tops. Upon completion, students will be able to plan, construct, and install base cabinets and bathroom vanities. Prerequisite: CAR 1111A

**CAR-1111C Cabinetmaking** 0 0 6 2

This course is a continuation of CAR 1111B and introduces drawer construction, shelving, and the installation of hardware. Emphasis is placed upon drawer design, jointery, shelf construction, and the installation of hinges, pulls, catches, and locks. Upon completion, students will be able to plan, construct, and install cabinets and vanities. Prerequisite: CAR 1111B

**CAR-1112 Custom Cabinetmaking** 5 0 15 10

This course introduces the advanced concepts of cabinetmaking and jointery used for constructing built-in bookcases, desks, and wall units. Emphasis is placed on such techniques as dovetail joints, raised panel construction, special moulding and hardware, and finishes. Upon completion, students will be able to plan, construct, finish, and install custom built-in cabinetry, desks, and wall units. Prerequisite: CAR 1111

**CAR-1112A Custom Cabinetmaking** 3 0 3 4

This course introduces the advanced concepts of cabinetmaking and jointery used for the construction of built-in bookcases, desks, and wall units. Emphasis is placed on dovetail joints and raised panel construction. Upon completion, students will be able to construct dovetail joints and raised panel cabinet doors. Prerequisite: CAR 1111

**CAR-1112B Custom Cabinetmaking** 1 0 6 3

This course is a continuation of CAR 1112A and introduces the construction of desk and wall units. Emphasis is placed upon special hardware, mouldings, and desk construction. Upon completion, students will be able to plan and construct built-in desks, shape special mouldings, and install hardware. Prerequisite: CAR 1112A

**CAR-1112C Custom Cabinetmaking**

1 0 6 3

This course is a continuation of CAR 1112B and covers the installation and finishing of cabinets. Emphasis is placed on surface preparation, sanding, staining, finishing, and installing cabinets. Upon completion, students will be able to plan, construct, finish, and install custom built-in cabinetry, desks, and wall units. Prerequisite: CAR 1112B

**CAR-1113 Carpentry Estimating**

3 0 0 3

This course introduces the procedures for estimating the construction cost of residential buildings. Emphasis is placed on computing the quantities of materials required to construct various components and structures. Upon completion, students will be able to prepare a quantity take-off from prints and determine the cost of constructing a residential building. Prerequisites: None

**CAR-1114 Building Regulations**

3 0 0 3

This course covers building codes and the requirements for local and state construction regulations. Emphasis is placed on the minimum requirements of the North Carolina Building Codes relating to residential structures. Upon completion, students will be able to determine if a structure is in compliance with the North Carolina Residential Building Codes. Prerequisites: None

**CAT-103 Basic Drawing**

0 6 0 3

This course provides an introduction to theory and practice in the elements of drawing in a variety of media, surfaces, and techniques. Emphasis is placed on graphic visualization, both representational and imaginary, and includes considerations of composition, perspective, form, and space. Upon completion, students will be able to employ these techniques and tools as a means toward personal expression and communication. Prerequisites: None

**CAT-104 Basic Design**

3 0 3 4

This course introduces the fundamentals of two-dimensional design through exercises which apply basic theories and principles and includes an introduction to color theory. Emphasis is placed on manipulating line, mass, pattern, and texture to achieve visual order and enhancement of manual and technical skills. Upon completion, students will be able to identify and apply the principles and elements of design as the foundation for solving any design problem. Prerequisites: None

**CAT-105 Visual Organization**

3 0 3 4

This course introduces the discipline of visual communication and considers the traditions and potentials of graphic design. Topics include exercises in perception and space organization through methods and systems, both structured and intuitive, employed by the designer. Upon completion, students will be able to begin applying the basic methodologies of the contemporary graphic designer. Prerequisites: None

**CAT-106 Production Basics**

3 0 3 4

This course covers basic information and current methods in the production of multiple printed communications. Topics include major printing processes, paper, ink, binding, color separation, preparing camera-ready art, and field trips when they are feasible. Upon completion, students will be able to utilize graphic arts terminology, tools, and production equipment such as stat cameras, platemakers, and film and paper processors. Prerequisites: CAT 104 and 105 or Instructor consent

**CAT-107 Photo I - Comm Art Stu**

3 0 3 4

This course introduces the photographic process through the basics of black-and-white photography. Topics include camera operation, light, metering, films, papers, chemicals, developing and printing controls, and finishing procedures; student must furnish camera. Upon completion, students will be able to utilize the aesthetic as well as the technical aspects of photography as a visual language for self-expression. Prerequisites: None

**CAT-108 Typography I**

3 0 3 4

This course introduces the discipline, functions, and tradition of typography in visual/verbal communication, exploring both the technical and aesthetic aspects of the letter form. Topics include terminology, hand lettering, type indication, copy-fitting, current methods of type composition, and field trips when they are feasible. Upon completion, students will be able to discuss the interrelationships of type and image in the creation of effective design. Prerequisites: CAT 104 and 105 or Instructor consent

**CAT-115 Intro To Photography I**

1 2 0 2

This course provides a beginner's introduction to black-and-white photography. Topics include using camera controls, equipment and materials, darkroom procedures, developing film, and printing techniques. Upon completion, students will be able to understand photography basics and apply them. Prerequisites: None

**CAT-116 Intro To Photography II**

1 2 0 2

This course continues the beginner's introduction to black-and-white photography. Emphasis is placed on refining skills in black-and-white photography. Upon completion, students will be able to understand photography basics and apply them. Prerequisite: CAT 115

**CAT-117 Photo II - Comm Art Stu**

3 0 3 4

This course introduces Photo/Graphics, the manipulation of traditional techniques which explore the design potential of photography to yield new and unusual images. Emphasis is placed on processes such as high contrast, multiple printing, posterization, solarization, hand coloring, collage, and presentation methods. Upon completion, students will be able to use these techniques as tools with which to generate imaginative images for visual communication. Prerequisite: CAT 107

**CAT-118 Design Studio I**

3 0 3 4

This course is designed to apply skills thus far acquired to specific and practical graphic design assignments, such as covers, posters, advertisements, and brochures. Emphasis is placed on the concepts, procedures, research, and criteria the designer employs in problem solving. Upon completion, students will be able to explain the design process and the role and function of the designer. Prerequisites: CAT 106 and 108

**CAT-119 Production/Printing I**

3 0 3 4

This course is designed to expand basic skills in typography, refine production camera techniques, and introduce small offset press operation. Topics include composition methods, photo-conversion, image carriers, image transfer, and finishing and binding operations. Upon completion, students will be able to utilize pre-press procedures necessary for printing in both black-and-white and color. Prerequisites: CAT 106 and 108

**CAT-121 Life Study I**

2 4 0 4

This course provides an introduction to drawing the human figure using a variety of media. Topics include gesture, contour, modeling, structure, hatching, wash, and positive and negative space. Upon completion, students will be able to achieve a reasonable likeness of the human form. Prerequisites: None

**CAT-122 Life Study II**

2 4 0 4

This course is a continuation of CAT 121, includes advanced study of the figure, and encourages experimentation with style. Emphasis is placed on composition, balance, proportion, portraiture, acquisition of additional media, and exploring with color. Upon completion, students will be able to demonstrate an enhanced understanding of the figure and its portrayal through personal and interpretive approaches. Prerequisite: CAT 121

**CAT-127 Photo III - Comm Art Stu**

3 4 0 5

This course is designed to further refine black-and-white skills, introduce color and color processes, and provide an understanding of basic studio procedures. Topics include studio organization and equipment, lighting, portraiture, product photography, special effects, and copying procedures. Upon completion, students will be able to discuss the professional photographer's problems and the graphic designer's role in contributing to the photographic solution. Prerequisite: CAT 117

**CAT-204 Layout**

3 0 3 4

This course provides an introduction to the design of advertising and the role and responsibilities of the layout designer. Topics include the creative process, developing ideas, tools, techniques, layout stages and formats, color, presentation, and the various advertising media. Upon completion, students will be able to develop an advertising concept from thumbnails through roughs to comprehensive form suitable for presentation to the client. Prerequisite: Full 4th quarter standing in curriculum

**CAT-205 Illustration I**

3 0 3 4

This course covers the creation of original illustrations in a wide range of media for a variety of communications needs. Topics include spot drawings and more complex assignments in various media such as watercolor, inks, markers, and collage. Upon completion, students will be able to deal with the requirements for reproduction and assess the appropriateness of concept and style in an illustration. Prerequisite: Full 4th quarter standing in curriculum

**CAT-206 Typography II**

3 0 3 4

This course provides further exploration of typographic form through both abstract and applied exercises. Emphasis is placed on more involved assignments in typography, requiring research, an emphasis on phototype, and creative camera techniques. Upon completion, students will be able to utilize the technical and aesthetic potentials of typography in complex visual problem solving. Prerequisite: Full 4th quarter standing in curriculum

**CAT-215 Illustration II**

2 4 0 4

This course is a continuation of CAT 205 and concentrates primarily on the requirements for editorial and advertising illustration. Emphasis is placed on refining a methodology for the selection of appropriate form, style, and medium to interpret specific content. Upon completion, students will be able to apply advanced conceptual skills in understanding and creating images from the standpoints of cultural context and symbolic content. Prerequisite: CAT 205

**CAT-216 Computer Op for Graph Dsg** 2 0 3 3

This course is designed to introduce students to the use of computers for graphic design/art purposes. Emphasis is placed on assignments using various software for drawing, design and typographic manipulation. Upon completion, students will be able to work interactively with a computer and understand basic uses of word processing, paint, draw and publishing programs. Prerequisites: CAT 104 and CAT 108 or equiv.

**CAT-219 Production/Printing II** 3 0 3 4

This course includes advanced pre-press art and printing techniques with special emphasis on screen printing production. Topics include principles, history, contemporary applications, stencil methods, direct and indirect, printing equipment, and producing an edition. Upon completion, students will be able to understand the importance, versatility, and relevance to the designer of this important commercial process. Prerequisite: CAT 119

**CAT-225 Advanced Design/Illus** 2 4 0 4

This course is designed to allow the student to stress either design or illustration, depending upon evidence of his/her area of greater strength. Emphasis is placed on advanced solutions to more complex assignments which may be independently conceived and directed. Upon completion, students will be able to concentrate efforts toward achieving their highest levels of competence and professionalism. Prerequisite: Full 6th quarter standing in curriculum

**CAT-235 Design Studio II** 2 4 0 4

This course is designed to achieve more complex solutions to visual problems, sometimes using team or group efforts. Topics include projects which may be single, sequential, or multimedia in nature. Upon completion, students will be able to evaluate traditional design methods and assimilate new approaches to problem solving. Prerequisite: Full 6th quarter standing in curriculum

**CAT-240 Portfolio** 3 0 3 4

This course covers preparation for employment in the profession, including refinement of existing samples and rounding out the scope of the portfolio. Emphasis is placed on writing and producing the resume, structuring the portfolio, and interviewing and presentation skills. Upon completion, students will be able to identify short- and long-range objectives and present themselves in a manner consistent with professionalism. Prerequisite: Full 6th quarter standing in curriculum

**CHM-101X Chemistry I** 3 0 0 3

This course is an introduction to the chemical principles of inorganic compounds. Emphasis is placed on atomic structures, bonding, nomenclature, reactions, and stoichiometric calculations. Upon completion, students will be able to explain the structure, nomenclature, and reaction of elements and compounds. Prerequisite: Algebra; Corequisite: CHM 101Y

**CHM-101Y CHM-101 Lab** 0 2 0 1

This course is an introductory chemistry lab that supports the instructional material in CHM 101X. Emphasis is placed on safety, techniques, and scientific observations as students perform selected experiments utilizing concrete examples of CHM 101X concepts. Upon completion, students will be able to apply the chemistry concepts discussed in CHM 101X by observing concrete examples of the concepts. Prerequisite: Algebra; Corequisite: CHM 101X

**CHM-1101X Chemistry** 3 0 0 3

This course is an introductory general chemistry course designed to cover topics relative to water and waste water treatment. Emphasis is placed on concepts that are a foundation for water analysis such as acids, bases, redox, gas laws, and chemical equations. Upon completion, students will be able to explain the concepts that are the tools for water and wastewater analysis. Prerequisites: None; Corequisite: CHM 1101Y

**CHM-1101Y CHM-1101 Lab** 0 2 0 1

This course is an introductory chemistry lab that supports the instruction of the concepts discussed in CHM 1101X. Emphasis is placed on safety and proper techniques as students perform selected experiments utilizing concrete examples of the CHM 1101X concepts. Upon completion, students will be able to apply the chemical concepts of water and wastewater analysis. Prerequisites: None; Corequisite: CHM 1101X

**CHM-221X General Chemistry I** 5 0 0 5

This course is an introduction to inorganic chemistry. Topics include formulas, equations, stoichiometry, bonding, nomenclature, kinetic theory, solution, and acid, bases, and salts. Upon completion, students will be able to explain the structure, nomenclature, and reaction of various inorganic compounds. Prerequisite: College Algebra; Corequisite: CHM 221Y

**CHM-221Y CHM-221 Lab** 0 2 0 1

This course is an introduction chemistry lab that supports instructional material in CHM 221X. Emphasis is placed on safety, techniques, and scientific observations as students perform selected experiments utilizing concrete examples of CHM 221X concepts. Upon completion, students will be able to better understand the concepts of CHM 221X because of the concrete examples they observed. Prerequisite: College Algebra; Corequisite: CHM 221X

**CHM-222X General Chemistry II** 5 0 0 5

This course is a continuation of CHM 221X with a further study of redox reactions, thermodynamics, kinetic and organic chemistry. Topics include oxidation, reduction, chemical kinetics, equilibrium, electrochemistry, simple hydrocarbon, and functional groups. Upon completion, students will be able to explain the kinetics of chemical reactions, name and draw structure for simple organic compounds. Prerequisites: College Algebra, CHM 221X ; Corequisite: CHM 222Y

**CHM-222Y CHM-222 Lab** 0 2 0 1

This course is an introduction chemistry lab that supports instructional material in CHM 222X. Emphasis is placed on safety, techniques, and scientific observations as students perform selected experiments utilizing concrete examples of CHM 222X concepts. Upon completion, students will be able to better understand the concepts of CHM 222X because of the concrete examples they observed. Prerequisites: College Algebra, CHM 221X, CHM 221Y ; Corequisite: CHM 222X

**CHM-90 Developmental Chem I** 3 0 0 3

This course is an introductory chemistry course that discusses atomic structure, periodic classification, structure of compounds, inorganic nomenclature, and measurement. Emphasis is placed on atomic structure, the periodic table, chemical bonds, and nomenclature of acids, bases, and salts. Upon completion, students will be able to explain the structure of matter and how this affects some ordinary chemical reactions. Prerequisites: None; Corequisite: Algebra



**CHM-91X Developmental Chem II** 3 0 0 3

This course is a continuation of CHM 90 with further study of chemical reactions. Emphasis is placed on chemical reactions, chemical equations, stoichiometry, gas laws, states of matter, and special properties of matter. Upon completion, students will be able to explain and apply their knowledge of chemical reactions and stoichiometry. Prerequisite: CHM 90; Corequisite: 91Y

**CHM-91Y CHM-91 Lab** 0 2 0 1

This course is an introductory chemistry lab that supports the concepts discussed in CHM 91X. Emphasis is placed on safety and proper techniques as students perform selected experiments utilizing concrete examples of CHM 91X concepts. Upon completion, students will be able to apply the chemical concepts discussed in CHM 91X by observing concrete examples. Prerequisites: None; Corequisite: CHM 91X

**CHM-92X Developmental Chem III** 3 0 0 3

This course is a continuation of CHM 91 with further study of chemical reactions and an introduction to organic chemistry. Emphasis is placed on solutions, acids, bases, salts, redox reactions, chemical equilibria, and organic nomenclature. Upon completion, students will be able to explain the factors that affect a chemical reaction and know how to name and identify certain organic compounds. Prerequisite: CHM 91; Corequisite: CHM 92Y

**CHM-92Y CHM-92 Lab** 0 2 0 1

This course is an introductory lab that supports the instructional material in CHM 92X. Emphasis is placed on scientific observations as students perform selected experiments utilizing concrete examples of CHM 92X concepts. Upon completion, students will be able to apply the chemical concepts discussed in CHM 92X by observing concrete examples. Prerequisite: CHM 91; Corequisite: CHM 92X

**CIV-101 Surveying I** 2 0 6 4

This course introduces the theory and practice of plane surveying and presents the basics associated with measuring angles and distances. Topics include care and use of instruments, taping, differential and profile leveling, transit, stadia, and transit-tape surveys. Upon completion, students will be able to apply the theory and practices of plane surveying to determine boundaries, areas, and volumes of land measurements. Prerequisites: None; Corequisite: MAT 114 or completion of MAT 113

**CIV-102 Surveying II** 2 0 6 4

This course is a continuation of CIV 101 with advanced applications of the theory and practice of the principles of land surveying. Topics include triangulation of ordinary precision, use of plane table, topographic surveys, and mapping. Upon completion, students will be able to apply the theory and practice of plane surveying to more complicated and intricate land measurements. Prerequisite: CIV 101

**CIV-103 Surveying III** 2 0 6 4

This course covers the principles and techniques used in route surveying to determine the path of a continuing line. Topics include simple, compound, reverse, parabolic, and spiral curves as well as geometric design and layout of highway systems. Upon completion, students will be able to design and plan highway and utility line surveys and do cross-sections for layout and staking. Prerequisite: CIV 101

**CIV-104 Topo and Photogrammetry** 3 0 3 4

This course provides understanding of various techniques used in preparing topographic maps. Topics include interpretation and use of aerial photographs, production of photo maps, photogrammetric calculations and ground control. Upon completion, students will be able to prepare a topographic map. Prerequisite: CIV 102

**CIV-107 Civil Engr Computations** 3 0 3 4

This course includes an introduction to microcomputers and computer software specifically geared to solving civil engineering problems. Emphasis is placed on practical application of civil engineering software by writing and using several programs to solve problems. Upon completion, students will be able to write simple programs as well as use complex software in the civil engineering field. Prerequisites: None

**CIV-108 Hydraulics & Drainage** 4 0 3 5

This course includes an introduction to hydraulics and basic hydrology associated with civil engineering. Topics include precipitation and stream runoff, fluid statics and dynamics, flow measurement, pipe and open channel flow, and pump analysis. Upon completion, students will be able to perform basic analysis of hydrologic and hydraulic problems in the civil engineering field. Prerequisites: MAT 116 and PHY 102

**CIV-110 Const. Methods & Mgt** 3 2 0 4

This course introduces construction planning and scheduling techniques and covers excavating methods and equipment used in building and highway construction. Topics include construction safety, operation analysis, project control and supervision, and costs and production of machinery. Upon completion, students will be able to apply the critical path methods for planning and scheduling and analyze the aspects of a construction operation. Prerequisites: None

**CIV-111 Const & Structural Draft** 1 0 6 3

This course introduces the student to the methods and techniques used in drawing plans used in a civil engineering application. Emphasis is placed on interpretation of field notes into formal drawings, basic site planning, and reinforced concrete and steel structural details. Upon completion, students will be able to prepare and review drawings that are used in engineering and the construction industry. Prerequisite: ARC 101

**CIV-112 Construction Estimates** 2 0 6 4

This course presents the cost estimating aspects of material handling, earthwork, highways, pilings, concrete, interiors and exteriors, roofing, masonry, carpentry, plumbing, and electrical systems. Emphasis is placed on practical application by preparing a cost estimate using drawings of an actual construction project. Upon completion, students will be able to interpret drawings and specifications and to make cost estimates of construction projects. Prerequisite: MAT 115

**CIV-114 Statics** 5 0 0 5

This course presents an overview of basic principles (such as vectors, moments, and free-body diagrams) whereby internal (member) forces within structures may be determined. Topics include coplanar and noncoplanar systems, parallel and nonparallel forces, concurrent and nonconcurrent forces, and static and moving friction. Upon completion, students will be able to analyze simple structures and determine forces within internal members using free-body diagrams. Prerequisite: MAT 116

**CIV-124 Surveying Law** 3 0 3 4

This course provides an overview of law as related to the practice of surveying. Topics include surveyor's responsibilities, deed descriptions, title searches, eminent domain, adverse possession, and riparian rights. Upon completion, students will be able to identify and apply the basic legal aspects associated with the practice of land surveying. Prerequisite: None

**CIV-202 Properties of Soil** 4 0 3 5

This course presents an overview of soil as a construction material using both analysis and testing procedures. Topics include index properties, classification, stress analysis, compressibility, compaction, dewatering, excavation, settlement, and foundations. Upon completion, students will be able to perform many basic soil tests and analyze engineering properties. Prerequisites: MAT 116 and PHY 101

**CIV-204 Surveying IV** 2 0 6 4

This course is a continuation of CIV 102 with advanced applications of electronic distance measuring devices and is designed to complete the series on surveying. Emphasis is placed on solar and stellar observations, study and application of state plane grid coordinate systems, and aerial surveys. Upon completion, students will be able to apply the principles of surveying to any situation involving the measurement and determination of points on the earth. Prerequisite: CIV 102

**CIV-210 Const. & Site Surveying** 3 0 3 4

This course covers basic site and construction surveying. Topics include grid tops, lot and building corners, location of batterboards, building location and plot plans. Upon completion, students will be able to layout a site for construction and locate a building upon it. Prerequisites: CIV 101, CIV 103

**CIV-219 Strength of Materials** 4 0 3 5

This course presents techniques used in the analysis and design of members within structures as well as structural testing. Topics include stress and strain, materials and their properties, joints, torsion, shear, moment, deflection of beams, and beam design. Upon completion, students will be able to analyze the effect external forces have on the design of structural members such as trusses and beams. Prerequisite: CIV 114

**CIV-221 Reinforced Concrete** 5 0 0 5

This course is designed to familiarize the student with ultimate strength design techniques established by the American Concrete Institute. Emphasis is placed on analysis and design of reinforced concrete beams, joists, floor systems, walls, and columns. Upon completion, students will be able to design components of a building using reinforced concrete as a building material. Prerequisite: CIV 219

**CIV-227 Subdivision Design** 1 0 6 3

This course covers the planning aspects of a residential subdivision from analysis of owner requirements to plat layout and design. Emphasis is placed on street and lot layout, topographic platting, use of drafting equipment, and lettering techniques. Upon completion, students will be able to use the drafting machine and letter using Leroy equipment, interpret topographic fields notes, and prepare a subdivision plat. Prerequisite: CIV 107; Corequisite: CIV 271

**CIV-229 Municipal Engineering** 3 0 3 4

This course presents the basic engineering principles related to water supply and to the collection of storm and municipal waste water. Topics include quantity estimating, hydrology, groundwater, pipes and pipe flow, and design, construction, and maintenance of sewers. Upon completion, students will be able to design and make plan-profile drawings of water and sewer projects using appropriate engineering principles. Prerequisites: CIV 108 and 227

**CIV-230 Design of Roads & Pavemnt** 3 0 3 4

This course presents an overview of street and highway design practices. Topics include driver, vehicle and traffic characteristics, highway capacity, sight distance, design of cross section and grade line, and drainage. Upon completion, students will be able to analyze traffic requirements, determine geometric design, and design drainage structures. Prerequisites: CIV 103, CIV 202, and CIV 227

**CIV-231 Cement & Asphalt Concrete** 3 0 3 4

This course covers the study and testing of the composition and properties of cement and asphalt concretes. Topics include cement, asphalt, admixtures, air entrainment, placing, curing, and standard control tests. Upon completion, students will be able to design and proportion cement concrete mixes and design and proportion asphalt concrete mixes. Prerequisite: None

**CIV-271 City & Regional Planning** 3 0 0 3

This course presents an overview of the civil engineering aspects of urban planning. Topics include residential, commercial, and industrial land planning, community facilities planning, transportation planning, and capital improvements programs and financing. Upon completion, students will be able to better understand current urban and regional problems, as well as their role in the solution of these problems. Prerequisites: None

**COE-101 Personal Develop & Comm** 3 0 0 3

This course is designed to help the student develop good employability and communications skills in order to obtain and keep the desired job. Emphasis is placed on career planning, resume preparation, employment papers, selling oneself to the prospective employer, and interacting with people. Upon completion, students will be able to prepare a resume and demonstrate good interviewing and interpersonal relations skills. Prerequisites: None

**COE-111 Cooperative Work Exper** 0 0 10 1

This course is designed to enable qualified students to combine classroom learning with career-related work experience that is closely related to students' academic study. Emphasis is placed on parallel plans of school and work in business, industry, or government structured by measurable learning objectives. Upon completion, students will be able to locate permanent employment after graduation more readily because of their on-the-job work experience. Prerequisite: Completion of 6 credit hrs. (C-avg.)

**COE-112 Cooperative Work Exper** 0 0 10 1

Refer to COE 111.

**COE-113 Cooperative Work Exper** 0 0 10 1

Refer to COE 111.

<b>COE-114 Cooperative Work Exper</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>
Refer to COE 111.				
<b>COE-115 Cooperative Work Exper</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>
Refer to COE 111.				
<b>COE-116 Cooperative Work Exper</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>
Refer to COE 111.				
<b>COE-117 Cooperative Work Exper</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>
Refer to COE 111.				
<b>COE-118 Cooperative Work Exper</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>
Refer to COE 111.				
<b>COE-119 Cooperative Work Exper</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>1</b>
Refer to COE 111.				
<b>COE-121 Cooperative Work Exper</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>2</b>
Refer to COE 111.				
<b>COE-122 Cooperative Work Exper</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>2</b>
Refer to COE 111.				
<b>COE-123 Cooperative Work Exper</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>2</b>
Refer to COE 111.				
<b>COE-124 Cooperative Work Exper</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>2</b>
Refer to COE 111.				
<b>COE-131 Automotive Co-Op Work Exp</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>3</b>
<p>This course provides qualified students supervised work experience at automobile dealerships alternating quarters of school and work. Emphasis is placed on the application of specific automotive service and repair skills learned following each quarter of classroom instruction. Upon completion, students will possess extensive work experience as automotive service technicians facilitating employment after graduation. Prerequisites: Completion of prescribed quarterly classes.</p>				
<b>COE-132 Automotive Co-Op Work Exp</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>3</b>
Refer to COE 131.				

**COE-133 Automotive Co-Op Work Exp** 0 0 30 3

Refer to COE 131.

**COE-134 Automotive Co-Op Work Exp** 0 0 30 3

Refer to COE 131.

**COS-1101 Intro To Cosmetology** 3 0 0 3

This course introduces the student to the scientific study of skin and hair and methods of hair removal. Emphasis is placed on how the skin and hair are produced by the body and the layers and care of each. Upon completion, students will be able to describe the skin and hair and tell how the diet affects each. Prerequisites: None

**COS-1102 Mannequin Practice** 1 0 33 12

This course will enable the student to acquire a basic knowledge in hair styling, shaping, permanent waving, and scalp treatments. Emphasis is placed on demonstrating practical hairstyling skills along with shampooing, manicures, scalp treatments, and skin care. Upon completion, students will be able to set a basic hair style correctly, perform manicures, do a basic cut, wrap permanent waves, and give scalp treatments. Prerequisite: Student must understand the basic theory in each area prior to performing services on patrons.

**COS-1103 Cosmetology Theory I** 4 0 0 4

This course is designed to teach the basic theory of permanent waving, hair cutting, hair color, manicures, and facials. Emphasis is placed on the chemistry of permanent waves, hair color, manicures and facials, and cosmetics in relation to hair and skin chemistry. Upon completion, students will be able to explain the relation of hair and skin to the products used in perming, coloring, manicuring, and skin care. Prerequisite: COS 1101

**COS-1104 Cosmetology Skills I** 2 0 30 12

This course is a continuation and application of practical skills learned in COS 1102 along with advanced skills in permanent waving and hair color. Emphasis is placed on participation by the student on live models by performing permanent waves and hair color. Upon completion, students will be able to do a basic cut and set in several styles, give a professional facial and manicure, permanent wave, and virgin tint. Prerequisite: COS 1103

**COS-1105 Cosmetology Theory II** 3 0 0 3

This course is designed to provide theory in grooming, personal hygiene, and law and ethics pertaining to cosmetology. Topics include hair and disorders of the scalp and hair, hair cutting, hair styling, chemical relaxing, nail disorders, and cosmetology chemistry. Upon completion, students will be able to explain the basic principles in scalp and hair care and the chemistry of relaxers. Prerequisite: COS 1104

**COS-1106 Cosmetology Skills II** 1 0 33 12

This course is a continuation and application of practical skills learned in COS 1102 and COS 1104. Emphasis is placed on advanced techniques and professionalism. Upon completion, students will be able to master techniques learned and be able to relate to patrons in a professional manner. Prerequisite: COS 1105

**COS-1107 Adv Cosmetology Theory**

4 0 0 4

This course is designed to introduce the student to the theory of superfluous hair removal, skin disorders, electricity and light therapy, and salon management. Emphasis is placed on reviewing theory in 1101, 1103, and 1105 and state board preparation. Upon completion, students will be able to explain their knowledge of hair removal, cells, skin, electricity, salon management, and can pass the state board exam. Prerequisite: Students must have completed all required practical skills necessary to enter into 1107.

**COS-1108 Advanced Practice**

1 0 24 9

This course is a continuation and application of practical skills learned in COS 1102, 1104, and 1106. Emphasis is placed on mastering techniques and professionalism. Upon completion, students will be able to perform any service related to cosmetology in a professional manner with patron satisfaction. Prerequisites: COS 1101-1107

**DEN-1002X Dental Materials I**

2 0 0 2

This course covers various types of dental materials commonly used in the dental office. Topics include amalgam, composite, cements, and impression materials. Upon completion, students will be able to discuss the properties and characteristics of these materials. Prerequisites: DEN 1011X ; Corequisite: DEN 1002Y

**DEN-1002Y DEN-1002 Lab**

0 0 3 1

This course provides the opportunity for the student to develop skills in manipulating various types of materials used in the dental office. Emphasis is placed on mixing and storing various dental cements, medicaments, restorative, and impression materials. Upon completion, students will be able to select and manipulate these various materials. Prerequisites: None; Corequisite: DEN 1002X

**DEN-1004 Dental Anatomy**

4 0 0 4

This course covers all areas of dental and head and neck anatomy. Topics include structure of the mouth, tooth morphology, eruption dates, and histology. Upon completion, students will be able to identify the teeth and parts of the head and neck. Prerequisite: Prior approval for DA Curriculum Corequisites: None

**DEN-1011X Clinical Procedures I**

2 0 0 2

This course introduces the student to the dental assisting profession and basic procedures that are performed in the modern dental office. Topics include the history of dentistry, the dental team, ethics and jurisprudence, dental equipment, and sterilization. Upon completion, students will be able to discuss dental equipment, sterilization, history, and laws of dentistry. Prerequisite: Prior approval for DA Curriculum; Corequisite: DEN 1011Y

**DEN-1011Y DEN-1011 Lab**

0 2 0 1

This course provides laboratory sessions to prepare the student to assist the dentist in basic chairside and supportive procedures. Emphasis is placed on operation of the dental unit, operator positions, sterilization, and aseptic techniques. Upon completion, students will be able to operate various dental units and equipment and perform various sterilization and aseptic techniques. Prerequisites: None; Corequisite: DEN 1011X

**DEN-1012X Dental Materials II** 2 0 0 2

This course is a continuation of DEN 1002 which covers dental laboratory materials. Topics include waxes, resins, and gypsum. Upon completion, students will be able to discuss the properties and characteristics of each material. Prerequisite: DEN 1002; Corequisite: DEN 1012Y

**DEN-1012Y DEN-1012 Lab** 0 0 3 1

This course is a continuation of the development of skills necessary to manipulate various types of materials used in the dental office. Emphasis is placed on techniques for taking study model impressions, manipulating dental stone, acrylic materials, and various dental waxes. Upon completion, students will be able to take study model impressions, construct them in stone, and use various acrylics and dental wax correctly. Prerequisite: DEN 1002 ; Corequisite: DEN 1012X

**DEN-1014X Dental Roentgenology** 2 0 0 2

This course is designed to provide the dental assisting student a comprehensive view of the principles of radiology as they apply to dentistry. Topics include radiation production, patient and operator safety, exposure, darkroom techniques, characteristics of film, and radiographic anatomy. Upon completion, students will be able to expose and process dental radiographs, select film, evaluate radiographs, and practice radiation safety. Prerequisite: DEN 1004; Corequisite: DEN 1014Y

**DEN-1014Y DEN-1014 Lab** 0 6 0 3

This course provides the student the opportunity to apply the exposing, processing, mounting, and evaluating techniques of dental radiography. Emphasis is placed on exposure and darkroom techniques, film selection, care and operation of equipment, patient management, and the practice of radiation safety. Upon completion, students will be able to expose, process, mount, and evaluate intraoral and extraoral radiographs. Prerequisite: DEN 1004; Corequisite: DEN 1014X

**DEN-1015 Pharmacology** 2 0 0 2

This course provides a basic survey of pharmacology. Emphasis is placed on commonly used drugs, drug classifications, and drug administration. Upon completion, students will be able to list commonly used drugs and their indications. Prerequisites: BIO 1005, DEN 1004 Corequisites: None

**DEN-1021X Clinical Procedures II** 3 0 0 3

This course is a continuation of DEN 1011 and is designed to teach four-handed dentistry techniques and procedures. Topics include dental instruments, anesthesia, chairside assisting, operative dentistry, and selected expanded functions legal in North Carolina. Upon completion, students will be able to discuss a variety of chairside assisting procedures. Prerequisite: DEN 1011 ; Corequisite: DEN 1021Y

**DEN-1021Y DEN-1021 Lab** 0 6 0 3

This course provides laboratory instruction in four-handed dentistry techniques and procedures. Emphasis is placed on instruction in and practice with dental instruments, anesthesia, chairside assistance, operative dentistry, and selected expanded functions. Upon completion, students will be able to demonstrate proficiency in a variety of chairside assisting procedures. Prerequisite: DEN 1011; Corequisite: DEN 1021X



**DEN-1023X Dental Health Education** 2 0 0 2

This course covers the study of preventive dentistry to prepare dental assisting students for the role of dental health educator. Topics include community dental health, oral hygiene techniques, and the function of fluoride and nutrition in oral health. Upon completion, students will be able to function as a preventive assistant in the private dental practice or in the public health setting. Prerequisite: DEN 1004; Corequisite: DEN 1023Y

**DEN-1023Y DEN-1023 Lab** 0 0 3 1

This course provides the opportunity to practice the principles of dental health education and various preventive techniques performed by the dental assistant. Emphasis is placed on proper oral hygiene techniques, patient motivation, nutritional counseling, and application of fluorides. Upon completion, students will be able to provide dental health to individuals or to a group, apply topical fluorides, and occlusal sealants. Prerequisite: DEN 1004; Corequisite: DEN 1023X

**DEN-1025 Oral Pathology** 2 0 0 2

This course covers basic principles of general and oral pathology. Emphasis is placed on pathological conditions, causes, and treatment. Upon completion, students will be able to identify specific pathology and causes and treatment of pathologic conditions found in the oral cavity. Prerequisites: DEN 1004 and BIO 1005

**DEN-1026X Dental Office Emergencies** 1 0 0 1

This course is designed to prepare the student to function as an effective member of the dental team in treating medical and dental emergencies. Topics include the signs, symptoms, treatment and prevention of a variety of emergencies, vital signs, and the emergency routine. Upon completion, students will be able to recognize, treat, and prevent a variety of emergencies that may occur in the dental office. Prerequisites: BIO 1005 and DEN 1015 ; Corequisite: DEN 1026Y

**DEN-1026Y DEN-1026 Lab** 0 2 0 1

This course includes role playing and group exercise to simulate actual dental office emergencies and provide the opportunity to demonstrate control of the emergency. Emphasis is placed on the practice of monitoring vital signs, the emergency routine, CPR, and other basic life support measures. Upon completion, students will be able to administer CPR, other life support measures, and recognize and treat other common medical and dental emergencies. Prerequisites: BIO 1005 and DEN 1015; Corequisite: DEN 1026X

**DEN-1031 Dental Office Practice I** 1 0 21 8

This course is designed to provide the student with practice in a dental office or clinic. Emphasis is placed on chairside assisting, radiology, support procedures, and business office management. Upon completion, students will be able to utilize classroom theory and laboratory skills in a dental office or clinic. Prerequisites: DEN 1012, 1014, 1021, 1023, and 1034

**DEN-1032 Dental Office Management** 4 0 0 4

This course provides the student with the basic skills and techniques necessary to function as a receptionist/office manager in a dental office. Emphasis is placed on appointment control, payment plans, insurance forms, collections, inventory control, purchasing, and disbursements. Upon completion, students will be able to make appointments, prepare insurance forms, handle collections and disbursements, and control inventory. Prerequisite: DEN 1034X; Corequisite: DEN 109

**DEN-1033 Professional Development**

1 0 0 1

This course covers the profession of dentistry in general and dental assisting in particular. Topics include professional organizations, career opportunities, and preparation for job-seeking. Upon completion, students will be able to list dental professional organizations and prepare for a job interview. Prerequisites: None; Corequisite: DEN 1031

**DEN-1034X Clinical Procedures III**

4 0 0 4

This course is a continuation of DEN 1021 and is designed to give students didactic information concerning each of the dental specialties. Emphasis is placed on particular procedures and the dental assistant's role in each specialty. Upon completion, students will be able to discuss each dental specialty. Prerequisites: DEN 1011 and 1021; Corequisite: DEN 1034Y

**DEN-1034Y DEN-1034 Lab**

0 4 3 3

This course provides laboratory and clinical instruction concerning each of the dental specialties. Emphasis is placed on instruction in and practice with instruments and procedures involved in specialties. Upon completion, students will be able to prove proficiency in a variety of specialty procedures and instrumentations. Prerequisites: DEN 1011 and 1021; Corequisite: DEN 1034X

**DEN-1041 Dental Office Practice II**

1 0 18 7

This course is a continuation of DEN 1031, providing additional practice in a dental office or clinic. Emphasis is placed on speed and proficiency of previously acquired skills. Upon completion, students will be able to utilize classroom theory and laboratory skills in a dental office or clinic. Prerequisite: DEN 1031

**DEN-109 Dental Computers**

0 0 3 1

This course is designed to provide hands-on experience in the use of microcomputers as tools used in dental offices. Emphasis is placed on how to operate a microcomputer and use an integrated system of software applicable to dental offices. Upon completion, students will be able to utilize dental management software. Prerequisites: None

**DEN-111X Dental Hygiene I**

4 0 0 4

This course introduces the basic theories and techniques of instrumentation and oral prophylaxis. Topics include prevention of disease transmission and aspects of patient evaluation to include oral inspections, medical histories, and plaque control. Upon completion, students will be able to state the importance of equipment care, patient evaluation, and procedures leading to the oral prophylaxis. Prerequisites: None; Corequisite: DEN 111Y

**DEN-111Y DEN-111 Lab**

0 0 3 1

This course provides the student with an opportunity to perform clinical dental hygiene procedures discussed in DEN 111X. Emphasis is placed on gaining experience in preventing disease transmission and performing medical histories, oral inspections, and charting. Upon completion, students will be able to demonstrate their ability to perform specific clinical procedures. Prerequisites: None; Corequisite: DEN 111X

**DEN-112 Dental Anat & Physiology** 3 0 0 3

This course is a study of the anatomy of the oral cavity and individual teeth in the permanent and deciduous dentitions. Emphasis is placed on form, function, and identification of individual teeth. Upon completion, students will be able to apply this knowledge to clinical consideration as related to dental hygiene practice. Prerequisites: None

**DEN-113 Histology** 3 0 0 3

This course includes the study of the histological and embryonic development of the face and the hard and soft tissue of the oral cavity. Emphasis is placed on the development of the head and the composition and clinical importance of teeth and supporting structures. Upon completion, students will be able to explain the function of the various structures as they relate to oral pathology and clinical hygiene. Prerequisites: BIO 106, DEN 112

**DEN-116 Dental Emergency Care** 2 0 0 2

This course is designed to prepare the dental hygienist student to render life supporting treatment in a medical and dental emergency. Emphasis is placed on the recognition of emergencies and on methods of prevention and treatment of emergencies. Upon completion, students will be able to recognize and render assistance during an office emergency and will also be CPR certified. Prerequisite: DEN 131

**DEN-121X Dental Hygiene II** 3 0 0 3

This course is a continuation of DEN 111 in which the students will expand their knowledge of patient care. Topics include principles of instrumentation, sharpening and polishing, and treatment of specific oral diseases. Upon completion, students will be able to explain the principles for performing the oral prophylaxis. Prerequisite: DEN 111; Corequisite: DEN 121Y

**DEN-121Y DEN-121 Lab** 0 0 6 2

This course is a continuation of DEN 111 in which the student will clinically perform instrumentation skills on manikins, partners, and patients. Emphasis is placed on probing, detecting calculus, removing calculus, and polishing. Upon completion, students will be able to demonstrate clinically their ability to remove hard and soft deposits from the teeth. Prerequisite: DEN 111; Corequisite: DEN 121X

**DEN-122 Head & Neck Anatomy** 2 0 0 2

This course provides for a detailed study of the structures of the head and neck regions and their functions. Emphasis is placed on the musculature, bones, blood, nerve, and lymphatic systems. Upon completion, students will be able to identify the various systems and relate this knowledge to the clinical treatment of patients. Prerequisite: DEN 113

**DEN-131X Dental Hygiene III** 2 0 0 2

This course is a continuation of DEN 121 in which the students will learn how to deal with special patient needs. Emphasis is placed on the patient with diabetes, cardiovascular disease, blood disorders, physical and mental disorders, and hormonal imbalances. Upon completion, students will be able to discuss the needs of special patients and will know how to alter the dental treatment to meet those needs. Prerequisite: DEN 121; Corequisite: DEN 131Y

**DEN-131Y DEN-131 Lab** 0 0 9 3

This course introduces the student to actual patient care in which oral prophylaxis is performed. Emphasis is placed on providing experience and proficiency in instrumentation and patient treatment skills. Upon completion, students will be able to recognize dental hygiene needs of the patient and provide oral prophylaxis to a pre-established criteria. Prerequisite: DEN 121; Corequisite: DEN 131X

**DEN-133X Radiology** 3 0 0 3

This course is designed to give the student didactic background in exposing, processing, and interpreting dental radiographs and in the history and purpose of roentgenology. Topics include radiation safety, exposing, processing, mounting, interpretation, and recognition of oral anatomy and abnormalities on radiographs. Upon completion, students will be able to apply this didactic knowledge during the clinical patient treatment phase of their dental hygiene training. Prerequisite: DEN 112; Corequisite: DEN 133Y

**DEN-133Y DEN-133 Lab** 0 0 3 1

This course provides the student with clinical experience in exposing, processing, mounting, and evaluating dental radiographs. Topics include radiation safety, darkroom procedures, and manikin and patient practice in exposing, processing, mounting, and interpreting radiographs. Upon completion, students will be able to expose and process patient radiographs with concern for patient safety and correct darkroom procedures. Prerequisite: DEN 112; Corequisite: DEN 133X

**DEN-141X Dental Hygiene IV** 1 0 0 1

This course introduces advanced theories and practice in patient care and enables the student to continue application of knowledge learned in previous courses. Topics include total patient care, utilization of ultrasonic scalers, phase-contrast microscopes, and the PDR. Upon completion, students will be able to apply knowledge and skills learned thus far for the rendering of competent clinical dental hygiene services. Prerequisite: DEN 131; Corequisite: DEN 141Y

**DEN-141Y DEN-141 Lab** 0 0 6 2

This course is a continuation of DEN 131Y, allowing students the opportunity to put into practice techniques learned in DEN 141X. Emphasis is placed on usage of the ultrasonic scaler, the use of the phase contrast microscope, and the PDR. Upon completion, students will be able to perform clinical procedures effectively in accordance with pre-existing criteria. Prerequisite: DEN 131Y; Corequisite: DEN 141X

**DEN-211X Dental Hygiene V** 1 0 0 1

This course is a continuation of DEN 141 in developing the theories and practices of patient care. Topics include clinical procedures, expanded dental procedures, patient education, and use of the prophylaxer. Upon completion, students will be able to demonstrate their knowledge in a clinical environment to a pre-established criteria. Prerequisite: DEN 141; Corequisite: DEN 211Y

**DEN-211Y DEN-211 Lab** 0 0 12 4

This course is a continuation of opportunities to apply knowledge and to develop competency for the rendering of clinical hygiene and supportive procedures. Emphasis is placed on the development of competency and proficiency for rendering clinical hygiene services. Upon completion, students will be able to perform an oral prophylaxis, radiographs, and other expanded dental procedures effectively and in accordance with a pre-established criteria. Prerequisite: DEN 141; Corequisite: DEN 211X

**DEN-212X Community Dental Health**

3 0 0 3

This course introduces the student to methods used to determine community dental health status and preventive measures used to improve dental health of the population. Topics include epidemiological indices, research evaluation, biostatistics introduction, and fluoridation and other preventive dental measures. Upon completion, students will be able to apply this didactic knowledge to plan and implement dental health programs and to evaluate scientific reports. Prerequisite: DEN 215; Corequisite: DEN 212Y

**DEN-212Y DEN-212 Lab**

0 0 3 1

This course is designed to give the student the opportunity to participate in community dental health activities. Emphasis is placed on conducting oral health screenings and dental health education programs for geriatrics, children, and disabled people. Upon completion, students will be able to plan and implement a dental health education program to fit the needs of a specific population. Prerequisite: DEN 215; Corequisite: DEN 212X

**DEN-213 General & Oral Pathology**

6 0 0 6

This course, a continuation of DEN 214, provides a general knowledge of oral pathological manifestations associated with selected systematic and oral diseases. Topics include developmental and degenerative diseases, selected microbial diseases, specific and nonspecific, immune and inflammatory responses, and emphasizing growth and tumor screening. Upon completion, students will be able to differentiate between normal and abnormal tissues, enabling the hygienist to refer unusual findings to the doctor for diagnosis. Prerequisites: DEN 214, BIO 108 and 110

**DEN-214 Periodontology**

3 0 0 3

This course includes a review of the basic histology, anatomy, and physiology of the jaws and periodontium and a basic introduction to oral pathology. Topics include periodontal disease etiologies and tissue responses, emphasizing periodontal inflammatory and immune reactions, and preventive and treatment methods. Upon completion, students will be able to apply this didactic knowledge during the clinical patient education and treatment phase of their dental hygiene training. Prerequisites: DEN 112, BIO 110

**DEN-215 Dental Health Education**

3 0 0 3

This course prepares the students to be dental health educators, both in private practice and community health programs. Topics include motivation and teaching methods, use of media, writing lesson plans, and nutritional counseling concepts and techniques. Upon completion, students will be able to prepare and present a dental lesson plan and perform nutritional counseling with a patient. Prerequisites: DEN 211 and 214, NUT 101

**DEN-221X Dental Hygiene VI**

1 0 0 1

This course is a continuation of DEN 211X in developing the theories and practices of patient care. Emphasis is placed on oral prophylaxis, polishing amalgams, sealant application, use of study models, and radiographs. Upon completion, students will be able to perform clinical procedures and expanded dental procedures effectively in accordance with pre-established criteria. Prerequisite: DEN 211; Corequisite: DEN 221Y

**DEN-221Y DEN-221 Lab** 0 0 15 5

This course is a continuation of DEN 211 and provides opportunities to apply knowledge and develop competency for rendering clinical hygiene and supportive procedures. Emphasis is placed on performance of oral prophylaxis, polishing amalgams, sealant application, study models, and radiographic interpretation. Upon completion, students will be able to perform clinical procedures and expanded dental procedures effectively in accordance with pre-existing criteria. Prerequisite: DEN 211Y; Corequisite: DEN 221X

**DEN-222X Dental Materials** 3 0 0 3

This course introduces the physical properties and sources of various materials used in dentistry. Topics include gypsum, hydrocolloids, cements, amalgams, gold investments, and dental resins. Upon completion, students will be able to explain the relationship of dental materials to the practice of dental hygiene. Prerequisites: DEN 112 and 122 ; Corequisite: DEN 222Y

**DEN-222Y DEN-222 Lab** 0 0 3 1

This course is designed to provide the student with skills in manipulating various materials used in dentistry. Emphasis is placed on taking and pouring impressions, polishing amalgams, and mixing different types of cements. Upon completion, students will be able to manipulate competently various materials used in routine dental office procedures. Prerequisites: DEN 112 and 122; Corequisite: DEN 222X

**DEN-223 Pharm & Anesthesiology** 3 0 0 3

This course provides basic drug terminology, the general principles of drug actions, dosages, routes of administration, adverse reactions, and basic principles of anesthesiology. Topics include drugs commonly used in dentistry and the general uses of over-the-counter and prescribed drugs for patients. Upon completion, students will be able to recognize that each patient's general health or drug usage may require modification of the treatment procedures. Prerequisites: DEN 213, BIO 110

**DEN-224 Office Management** 1 0 0 1

This course introduces the student to general dental office management procedures. Topics include appointment and inventory control, telephone communication, recall systems, and correspondence for the dental office. Upon completion, students will be able to manage office correspondence, telephone communication, make appointments, and establish a recall system effectively in a dental office. Prerequisite: DEN 211

**DEN-225X Chairside Assisting** 1 0 0 1

This course is designed to provide the dental hygiene student with knowledge concerning four-handed dentistry. Topics include operative dentistry, anesthesia, and instrument transfer. Upon completion, students will be able to discuss a variety of chairside procedures. Prerequisite: DEN 222 ; Corequisite: DEN 225Y

**DEN-225Y DEN-225 Lab** 0 2 0 1

This course provides laboratory and clinic sessions to allow sufficient practice in a variety of chairside assisting procedures. Topics include operative instruments, oral evacuation, anesthesia, rubber dam, and surgical instruments. Upon completion, students will be able to assist in operative dental procedures. Prerequisite: DEN 222; Corequisite: DEN 225X

**DEN-231X Dental Hygiene VII** 1 0 0 1

This course is a continuation of DEN 221X in developing the theories and practices of patient care. Emphasis is placed on the mastery of the dental hygiene clinical tasks and development of a patient case presentation. Upon completion, students will be able to demonstrate their mastery of clinical procedures and present an oral presentation of a case patient. Prerequisite: DEN 212X; Corequisite: DEN 231Y

**DEN-231Y DEN-231 Lab** 0 0 15 5

This course is a continuation of DEN 221 and provides opportunities to apply knowledge and develop competency for rendering clinical hygiene and supportive procedures. Emphasis is placed on performing oral prophylaxis, radiographs, expanded functions, and the development of a comprehensive patient treatment plan. Upon completion, students will be able to perform effectively oral prophylaxis and other expanded dental procedures in accordance with pre-established criteria. Prerequisite: DEN 221; Corequisite: DEN 231X

**DEN-232 Ethics & Jurisprudence** 2 0 0 2

This course provides the student with knowledge of professional ethics, laws, and regulations relating to the practice of dentistry and dental hygiene. Topics include the code of ethics, philosophies of ethics, professional liability, and North Carolina dental laws. Upon completion, students will be able to demonstrate their ability to practice dental hygiene within established ethics and state laws. Prerequisite: DEN 221

**DEN-233 Dental Specialties** 2 0 0 2

This course provides the student with the opportunity to explore the scope of dental specialties and utilization of the dental hygienist in specialty practices. Topics include endodontics, oral surgery, pediatric dentistry, periodontics, geriatric dentistry, orthodontics, and restorative dentistry. Upon completion, students will be able to recognize specialized dental problems in each specialty area of dentistry and the treatment involved for such problems. Prerequisite: DEN 221

**DER-100 Intro to Electricity** 4 6 0 7

This course introduces fundamental principles, concepts, and theories of direct and alternating current. Emphasis is placed on relationships among resistance, current, voltage, capacitance, inductance, time constants, and reactance; in the context of simple series, parallel, and series-parallel circuits. Upon completion, students will have a knowledge of basic D.C. and A.C. circuits and laboratory methods of analysis associated with them. Prerequisites: None

**DER-103 Solid State Devices** 4 6 0 7

This course is a study of electronic concepts dealing with solid state devices. Topics include characteristics, operation and functions of solid state devices. Upon completion, the student will be able to diagnose and troubleshoot solid state devices. Prerequisite: DER 100

**DER-104 Solid State Circuits** 2 4 0 4

This course is a study of active control devices and circuits. Topics include characteristics, performance, and troubleshooting. Upon completion, the student will be able to collect data, verify predictions, and troubleshoot solid state circuits. Prerequisite: DER 103

**DER-105 Digital Electronics** 4 6 0 7

This course examines basic numbering systems, computer logic, and computer organization. Topics include logic fundamentals, gates, logic symbols, diagrams, microcomputer terminology, machine language programming, and input/output devices. Upon completion, students will have an understanding of microcomputer logic and techniques of microcomputer programming and troubleshooting. Prerequisites: DER 103

**DER-107 Micro C Troubleshooting** 3 6 0 6

This course introduces the techniques required for troubleshooting and repairing microcomputers. Topics include flow diagrams, diagnostic software, and hands-on experience. Upon completion, the student will be able to analyze, diagnose, and repair microcomputers. Prerequisites: DER 104 and 105

**DER-108 Computer Sys Diagnosis** 3 6 0 6

This course covers digital system diagnosis and repair. Topics include disk drives, printers, receivers, signal tracing procedures, and the proper use of tools and equipment used to troubleshoot and repair computer systems. Upon completion, students will be able to diagnose, calibrate and repair computer systems. Prerequisites: DER 107

**DFT-101 Technical Drafting I** 0 6 0 3

This course provides a study of drawing principles and practices for describing objects in the graphic language through visualization and preparation of working drawings. Emphasis is placed on orthographic instrument drawing; isometrics, sections, auxiliaries, and space problems involving points, lines, and planes are introduced. Upon completion, students will be able to visualize, analyze, and prepare complete and accurate technical drawings. Prerequisites: None

**DFT-102 Technical Drafting II** 0 6 0 3

This course introduces drawing the parts for drill jig and mill fixture. Emphasis is placed on the workings of the drill jig and mill fixture. Upon completion, students will be able to understand the basic drawing of the drill jig and mill fixture. Prerequisite: DFT 101

**DFT-1101 Schematics & Diagrams** 1 0 3 2

This course covers interpretation and reading of blueprints, schematics, and technical diagrams. Topics include information on the basic principles of the blueprint: lines, views, dimensioning procedures, and notes. Upon completion, students will be able to interpret shape and size description as well as notes and specifications from working drawings. Prerequisites: None

**DFT-1104 BPrint Read - Mechanical** 1 2 0 2

This course includes the interpretation and reading of blueprints, lines, views, dimensioning procedures, and the use of welding tools. Emphasis is placed on basic mechanical drawings and value of using blueprint language for welding, fabricating, and cutting processes. Upon completion, students will be able to develop usable drawings with accuracy and fabricate or build assemblages from these drawings. Prerequisites: None



**DFT-1126 Descriptive Geometry II**

2 2 0 3

This course is a study of spatial analysis of advanced problems and applications to industrial settings. Emphasis is placed on conics and solid geometric shapes, and advanced intersections are solved with graphic solutions. Upon completion, students will be able to analyze and solve advanced space analysis problems involving points, lines, planes, solids, and intersections. Prerequisite: DFT 1125

**DFT-1140 Cabinetry Sketch & Dft**

4 2 0 5

This course introduces concepts of sketching and drafting as related to drawings for kitchen cabinetry, bathroom vanities, and built-in cabinets for residential construction. Emphasis is placed on interpreting blueprints, construction isometric details, and adding dimensions correctly. Upon completion, students will be able to transfer information from blueprints to prepare isometric details of cabinetry features accurately. Prerequisite: DFT 1111

**DFT-1141 Cabinetry Design**

4 2 0 5

This course is a continuation of DFT 1140 and includes concepts of sketching and drafting. Topics include custom design of cabinets and built-in furniture such as bookcases, desks, display and storage cabinets, and chests. Upon completion, students will be able to interpret and communicate with the customer concerning the customer's needs, intended use of cabinetry and design style desired. Prerequisite: DFT 1140

**DFT-1160 Manufacturing & Drafting**

1 0 3 2

This course covers manufacturing processes with emphasis placed on application to actual production situations; economics and redesign are applied in the laboratory planning. Topics include models, films, and flowcharts; demonstrations in shop and field trips are utilized to provide realism. Upon completion, students will be able to write process sheets and design and redesign production tooling and related work. Prerequisites: MEC 1111, DFT 1170

**DFT-1170 Basic Drafting**

2 2 3 4

This course introduces the student to drafting and the study of drafting in orthographic projection, reading, and instrument drawing of principal views. Emphasis is placed on instruction given in the selection, use, and care of instruments and on orthographic and pictorial drawings. Upon completion, students will be able to analyze and draw necessary detail, assembly, and erection drawings. Prerequisites: None

**DFT-1171 Basic Industrial Drafting**

2 0 3 3

This course provides drafting instruction and experience in the preparation and interpretation of shop drawings; terminology used in manufacturing processes is introduced. Topics include elementary machine parts, both in detail and assembly drawings; special emphasis is given to notes and specifications. Upon completion, students will be able to interpret engineering and shop drawings and apply much of this in the shop courses. Prerequisites: None

**DFT-1172 Technical Sketching**

2 0 3 3

This course provides a study of theory and practice in making pictorial drawings in both instrument and free-hand. Topics include isometric, diametric and trimetric, oblique, and perspective theory and practice; exploded views and shading are included. Upon completion, students will be able to prepare pictorial drawings including shaded, exploded views for assembly, production, or illustration purposes. Prerequisite: DFT 1170 or equiv.

**DFT-1110 BPrint Read Bldg Trades**

1 2 0 2

This course includes principles of interpreting blueprints and technical terms common to the building trades. Topics include reading details for foundations, floor plans, elevations, doors, and windows. Upon completion, students will be able to read and interpret a set of residential working drawings. Prerequisites: None

**DFT-1111 BPrint Read & Sketching**

1 2 0 2

This course covers principles of interpreting blueprints and specifications of both residential and light commercial structures. Topics include practice in reading details for foundations, floor plans, elevations, millwork, and related construction plans. Upon completion, students will be able to read and interpret both residential and commercial blueprints. Prerequisite: DFT 1110 or equiv.

**DFT-1113 BPrint Read - Electrical**

1 2 0 2

This course is a study of the interpretation of blueprints and plans for electrical installation, with emphasis on the National Electric Code. Topics include schematics, diagrams, and electrical plans for domestic and commercial buildings, with emphasis on the National Electric Code. Upon completion, students will be able to make a list of materials and estimate cost of job from plans. Prerequisites: None

**DFT-1115 BPrint Read - Plumbing**

1 2 0 2

This course includes both interpretation of blueprints and actual drawing with instruments of both orthographic and pictorial drawings of complete plumbing layouts. Topics include drawing plumbing plans for domestic and commercial buildings; piping symbols, diagrams, and notes are studied in detail. Upon completion, students will be able to read complete plumbing plans and isometric pictorials of domestic and commercial piping. Prerequisite: DFT 1110

**DFT-1117 BPrint Read - Welding**

1 0 3 2

This course includes experience in the drawing of actual working drawings for the shop. Topics include lettering, geometric constructions, projection theory, and practice in visualization; accuracy and dimensioning are also stressed. Upon completion, students will be able to draw working drawings for the shop or others. Prerequisite: DFT 1104 or equiv.

**DFT-1118 Pattern Devel & Layout**

3 0 0 3

This course provides instruction to welders in drawing views and pattern stretchouts for pipe intersections. Emphasis is placed on drawing exact, precision measured patterns and stretchouts using intersections and development theory. Upon completion, students will be able to draw patterns and templates for pipe connections used in industry. Prerequisites: DFT 1104 and 1117

**DFT-1125 Descriptive Geometry I**

2 2 0 3

This course covers graphical analysis of space problems dealing with practical design elements involving points, lines, planes, connectors, and a combination of these. Topics include intersection of planes, intersection of solids, visibility, connectors, solid intersections, and mathematical solutions on selected problems. Upon completion, students will be able to analyze the theory and practice dealing with space problems. Prerequisites: DFT 1170, 1172, and 1173

**DFT-1173 Industrial Drafting I**

1 2 3 3

This course covers theory and practice in section views and primary and secondary auxiliaries; intersections and space analysis problems are introduced. Topics include full, half, revolved, removed, and broken out sections theory and practice, and simple and successive auxiliaries theory and practice. Upon completion, students will be able to visualize and prepare working drawings involving sections and primary and secondary auxiliary views. Prerequisite: DFT 1170 or equiv.

**DFT-1180 Trade Drafting I**

2 4 0 4

This course provides fundamental drafting principles with instruction in orthographic projection and working drawings; included are principles of sectioning and dimensioning and use of drawing instruments. Topics include geometric constructions, visualization, shop notes, lettering, and an introduction to sections. Upon completion, students will be able to prepare to scale complete working drawings and related information. Prerequisites: None

**DFT-1190X Industrial Drafting II**

1 2 0 2

This course provides instruction in several industrial drafting applications beginning with problems concerning precision and limit dimensioning. Emphasis is placed on simple designs, basic mechanisms, motion transfer and accurate drawings of these principles. Upon completion, students will be able to produce neat, accurate drawings incorporating these principles. Prerequisites: DFT 1173, MEC 1111; Corequisite: DFT 1190Y

**DFT-1190Y DFT-1190 Lab**

0 0 3 1

This course provides hands-on application of the principles and techniques introduced in DFT 1190X. Emphasis is placed on producing drawings of simple designs, basic mechanisms and accurately dimensioning these drawings. Upon completion, students will be able to produce accurate working drawings. Prerequisites: DFT 1173, MEC 1111; Corequisite: DFT 1190X

**DFT-1191 Tool Drafting I/Computer**

1 0 6 3

This course introduces tool drafting as it relates to manufacturing and machine tools. Topics include basic drafting and design problems involving jigs and fixtures, and standard parts used in assembly of same using computer software. Upon completion, students will be able to produce drawings of basic tooling components. Prerequisites: DFT 1170, 1173 and MEC 1110, 1111

**DFT-1192 Design Draft & Tolerances**

3 2 0 4

This course includes theory and practice involving general tolerancing, datum dimensioning and geometric tolerancing, and true position tolerancing. Topics include MMC, limits, clearance, allowance, interference fits, and geometric tolerancing and dimensioning. Upon completion, students will be able to interpret tolerancing and dimensions and specify geometric and size tolerancing. Prerequisites: MEC 1160 or 1111 and DFT 1173

**DFT-1193X Industrial Drafting III**

1 0 3 2

This course introduces design sketching, design drawings, layout drafting, production drawings, and simplified drafting practices. Emphasis is placed on specifications, parts list and bill of materials. Upon completion, students will be able to produce a complete set of working drawings. Prerequisites: DFT 1170, 1173, 1190X, 1190Y, 1191 and 1125; Corequisite: DFT 1193Y

**DFT-1193Y DFT 1193 Lab**

0 0 3 1

This course provides hands-on application of the principles and techniques introduced in DFT 1193X. Emphasis is placed on producing drawings including specifications, parts list and bill of materials. Upon completion, students will be able to produce a complete set of working drawings. Prerequisites: DFT 1125, 1170, 1173, 1190X, 1190Y and 1191; Corequisite: DFT 1193X

**DFT-1194 Tool Drafting II/Computer**

2 2 3 4

This course includes details and assembly drawings made from industrial specifications; basic design principles are introduced with the study of tool design for production. Topics include tool design drawings involving standard parts and handbook usage and a brief introduction of dies. Upon completion, students will be able to design and draw jigs, fixtures, and other tooling attachments for production. Prerequisites: DFT 1173, 1190 and 1191

**DFT-1195 Steel Fabrication Draft**

3 0 3 4

This course provides introduction to shop drawings related to welding, riveting, bolting, or other joining methods of steel plates, bars and structural shapes. Emphasis is placed on student preparation of working drawings for shop purposes. Upon completion, students will be able to draw basic structural details of fabricated steel. Prerequisite: DFT 1173

**DFT-161 Computer Aided Dft I**

1 0 3 2

This course introduces basic computer drafting techniques used in the mechanical drafting industry. Topics include the development of computer graphics, the components and operation of a computer, and the methods of program execution. Upon completion, students will be able to name the components of a computer and complete a mechanical drawing. Prerequisites: None

**DFT-162 Computer Aided Dft II**

1 0 3 2

This course is a continuation of DFT 161 with emphasis on the use of the more advanced computer functions. Emphasis is placed on layout of detailed working drawings, sectioning of drawings, and use of the plotter. Upon completion, students will be able to construct and dimension a detailed working drawing and produce a copy of the drawing on the plotter. Prerequisite: DFT 161

**DFT-212 Jig & Fixture Design**

2 4 0 4

This course is designed to acquaint the student with the working components, commercial standards, principles, practices and tools of jig and fixture design. Emphasis is placed on individual project and design work to acquaint students with the types of jig and fixtures and their design. Upon completion, students will be able to understand the principles that apply to jig and fixture design. Prerequisite: MEC 154

**ECO-102 Macroeconomics**

3 0 0 3

This course covers principles and concepts that apply to the total economy. Emphasis is placed on fiscal policy and national interests such as inflation, unemployment, and economic growth. Upon completion, students will be able to anticipate impacts of fiscal policy and related actions as they apply to the entire economy. Prerequisites: None

**ECO-104 Microeconomics** 3 0 0 3

This course covers principles and concepts that apply to making choices by individuals, firms, and industries. Emphasis is placed on supply, demand, utility, market structures, and the use of the marginal approach to making choices. Upon completion, students will be able to explain how various parts of the economy behave and react to changes in the economy. Prerequisites: None

**ECO-106 Money & Int'l Economics** 3 0 0 3

This course covers monetary policy and international economics and their applications to the U.S. economy. Emphasis is placed on the Federal Reserve System and its operation, the historical development of money and monetary issues and international transactions in the monetary economy. Upon completion, students will be able to understand impacts of monetary policy and international trade policy. Prerequisite: ECO 102

**ECO-107 Free Enterprise Applic I** 0 0 3 1

This course provides students the opportunity to apply their communications and team-building skills in free enterprise projects. Topics include small-group activities that promote the free enterprise system to the community and that build self-esteem. Upon completion, students will be able to plan, organize and present free enterprise issues in innovative ways either as an individual or as part of a group. Prerequisites: ECO 102, 104, 106 recommended

**ECO-108 Free Enterprise Applic II** 0 0 3 1

This course is a continuation of Free Enterprise Applications I. Topics include the continued participation in free enterprise activities and the building of self-esteem. Upon completion, students will be able to plan, organize and present a wider range of free enterprise issues in more innovative ways. Prerequisites: ECO 102, 104, 106 recommended

**ECO-109 Free Enterprise Appli III** 0 0 3 1

This course is a continuation of Free Enterprise Activities I and II. Topics include refinement of free enterprise activities and team-building skills culminating in participation in annual collegiate competitions. Upon completion, students will be able to plan, organize and present an extensive array of free enterprise issues in a wide range of innovative ways. Prerequisites: ECO 102, 104, 106 recommended

**ECO-205 Applied Economics** 3 0 0 3

This course introduces the students to the basic principles of economics. Topics include scarcity, supply and demand, markets, inflation, unemployment, and fiscal and monetary policy. Upon completion, students will be able to explain how the economy operates and how current economic issues will effect the economy. Prerequisites: None

**EDP-102 Computer Operations** 2 2 0 3

This course introduces the business computer programming student to the operation of a mainframe computer running in a multiprogramming environment. Emphasis is placed on the operating system, its commands, and the use of commands to run utilities and application programs. Upon completion, students will be able to use their knowledge of operations in writing better application programs. Prerequisites: EDP 104 and Dept. Chrp. approval

**EDP-103 Intro to Programming** 3 0 0 3

This course introduces programming logic and principles necessary for developing business application programs. Emphasis is placed on rules of the COBOL programming language and flowcharting the solution to specific problems. Upon completion, students will be able to flowchart structured solutions to common business problems using the COBOL programming language. Prerequisites: None

**EDP-104 Intro to Data Processing** 3 0 0 3

This course is designed to introduce fundamental principles and concepts of computers and information processing. Topics include data storage devices and media, computer systems, and data communications, with emphasis on business information systems. Upon completion, students will be able to demonstrate an understanding of computers and information processing for business computer programming or other business careers. Prerequisites: None

**EDP-105 FORTRAN** 3 0 3 4

This course introduces the student to the fundamental concepts and techniques of programming in FORTRAN. Topics include reading data from disks, calculations, formatting and printing reports, control breaks, functions, subprograms, subroutines, DO loops, and arrays. Upon completion, students will be able to write FORTRAN programs which perform most common business data processing functions. Prerequisites: EDP 103 and 104

**EDP-109 COBOL I** 4 0 3 5

This course introduces the COBOL business programming language for writing programs that read disk files and write business reports. Topics include syntax and structure of COBOL programs, calculations, decision making, control breaks, and group printing. Upon completion, students will be able to write report generation programs in COBOL with complex calculations, decision making, and editing. Prerequisite: EDP 103

**EDP-110 COBOL II** 4 0 3 5

This course is a continuation of EDP 109 and the study of the COBOL programming language. Topics include multiple control breaks, file creation, group indication, group printing, and utilization of one and two dimensional tables. Upon completion, students will be able to use advanced logic and programming techniques in a disk operating system environment. Prerequisite: EDP 109

**EDP-114 Operating Systems** 3 0 3 4

This course provides a detailed study of operating systems and the techniques of system resource management using several operating systems as examples. Topics include basic system resources, operating system design and development, operating system concepts, job control languages, and command control languages. Upon completion, students will be able to effectively utilize system facilities to produce business applications in both mainframe and microcomputer environments. Prerequisites: EDP 104 and 109

**EDP-116 Business BASIC Language** 3 0 3 4

This course introduces fundamentals of the BASIC programming language and provides background using BASIC for business applications. Topics include producing and editing printed output, loop processing, user-defined functions, file creation and processing, table processing, and sorting. Upon completion, students will be able to write programs using BASIC to solve business application problems. Prerequisite: EDP 103

**EDP-117 Advanced Business BASIC**

3 0 3 4

This course is a continuation of EDP 116, including more advanced programming concepts and techniques in the BASIC language. Topics include interactive data entry, the shell and bubble sorts, menus, and sequential and random access file handling. Upon completion, students will be able to develop a menu-driven system of programs for business applications. Prerequisite: EDP 116

**EDP-201 4GL Programming**

1 0 6 3

This course covers the principles and concepts of Fourth Generation Languages, 4GLs, and the use of 4GLs to design and implement information systems. Topics include the fundamentals of 4GLs, database design and definition, applications design and implementation and file maintenance systems. Upon completion, students will be able to design, code, test and implement sophisticated data processing systems using a specific Fourth Generation Language development system. Prerequisites: EDP 212

**EDP-202 Programming Practicum**

0 0 20 2

This course provides the student an opportunity to apply and enhance programming skills in an actual work environment under the supervision of an employer. Emphasis is placed on application of programming to actual business programs outside the school environment. Upon completion, students will be able to apply programming skills to solve business problems in a real business in a real-world situation. Prerequisites: Sophomore standing and Dept. Chrp. approval

**EDP-204 COBOL III**

4 0 3 5

This course is a continuation of the concepts and techniques of programming in COBOL begun in EDP 109 and EDP 110. Emphasis is placed on processing sequential and indexed files, validity checking techniques, advanced table processing, sorting, character manipulation, and interactive programming. Upon completion, students will be able to write COBOL programs which perform complex business data processing functions. Prerequisite: EDP 110

**EDP-205 Assembler Language PC**

3 0 3 4

This course introduces the use of assembly language for the 8088 microprocessor emphasizing the design and implementation of systems utility application programs. Topics include 8088 microprocessor codes, 8088 architecture, operating system interface, basic input/output processing, file processing, and debugging techniques. Upon completion, students will be able to design, code, and execute applications using Assembler language to interface directly with the operating system. Prerequisite: EDP 114

**EDP-210 Pascal**

3 0 3 4

This course introduces the Pascal programming language and emphasizes the production of interactive business applications using structured modular programming techniques. Topics include problem analysis, algorithm development, Pascal source code production, compiling and linking, program execution, and program validation. Upon completion, students will be able to solve business application problems using the Pascal programming language to produce efficient computer assisted solutions. Prerequisites: EDP 103, 104, and 109 or equiv. programming experience

**EDP-212 Data Base Management** 3 0 3 4

This course introduces data base management concepts and emphasizes the design and implementation of business data systems using the SQL query language and relational data base techniques. Topics include data base fundamentals, data base models, logical design, physical design, data security, data base implementation, and data base management system functions. Upon completion, students will be able to design and implement efficient data base management systems to solve business data management problems. Prerequisite: EDP 114

**EDP-213 Data Base Programming** 3 0 3 4

This course introduces a data base programming language, emphasizing the development of interactive business programs using menu hierarchy techniques. Topics include data base creation, data base relations, indexing, use of multiple data bases, menu driven modules, and custom reports. Upon completion, students will be able to design, program and implement a data base system for a variety of business applications. Prerequisite: EDP 212

**EDP-214 PC Operating Systems** 3 0 3 4

This course introduces the student to microcomputer operating system concepts and commands. Topics include microcomputer architecture, operating system fundamentals, commands, batch files, and software installation. Upon completion, students will be able to use a microcomputer operating system to use application software and to install software on floppy and hard disk. Prerequisites: EDP 104 and 1 programming course

**EDP-215 UNIX Operating System** 3 0 3 4

This course introduces the student to operating system concepts and the UNIX operating system. Topics include the UNIX file system, operating system commands, and redirection of I/O and piping. Upon completion, students will be able to use the UNIX operating system for development of application software. Prerequisites: EDP 104 and 1 programming course

**EDP-216 Computer Programming Proj** 2 0 9 5

This course provides the student with experience in the design and implementation of an entire data processing system, either hypothetical or actual. Emphasis is placed on scheduling the project for completion within eleven weeks and implementing a functioning system using actual data. Upon completion, the student will be able to function as a programmer or programmer-analyst in a business data processing environment. Prerequisites: 6th quarter standing

**EDP-217 Data Communications** 3 0 0 3

This course covers the basic principles of a data communication system. Topics include networks, data communication hardware and software, error handling, communication protocols, and network architecture. Upon completion, students will be able to describe the major hardware and software components of a data communication network. Prerequisite: EDP 114

**EDP-218 C Language I** 3 0 3 4

This course introduces the programming student to the C programming language. Topics include C language programming concepts, data types, data manipulation, input/output functions, arrays and pointers, and data structures. Upon completion, students will be able to write a complex program in C language involving advanced programming techniques. Prerequisite: An advanced level programming course or equivalent



**EDP-219 C Language II** 3 0 3 4

This course is a continuation of EDP 218, C Language I, and includes advanced programming concepts and techniques using the C programming language. Topics include data structure design, implementation of queues and stacks using linked lists and use of system software tools. Upon completion, students will be able to develop, implement and maintain complex C language applications which require advanced programming concepts and techniques. Prerequisite: EDP 218

**EDP-221 Sys Design & Development** 3 0 6 5

This course introduces the student to the concepts and techniques of analysis and design of data processing systems. Topics include systems analysis, input design, output design, documentation and file organization, and design with emphasis on CASE software. Upon completion, students will be able to analyze, design, and produce a business data processing system. Prerequisites: EDP 104, EDP 110

**EDP-224 System Administration** 3 0 3 4

This course covers the basic principles of computer systems administration. Topics include hardware and software resources, job control languages, operating systems, input/output devices and secondary storage devices. Upon completion, students will be able to efficiently manage system resources using system software and hardware tools. Prerequisites: None

**EDP-230 RPG-II** 3 0 3 4

This course introduces the RPG-II programming language including a study of the language formulation, rules, and programming techniques. Topics include calculations, decision making, disk input, printer output, control breaks, exception output, tables, and arrays. Upon completion, students will be able to write RPG-II report generation programs for a variety of business problems. Prerequisites: EDP 103 and 104

**EDP-231 RPG-III** 3 0 3 4

This course is a continuation of EDP 230 and emphasizes features of the RPG-III programming language. Topics include structured programming, DO loops, creating and maintaining physical and logical files, and design of interactive systems. Upon completion, students will be able to demonstrate competency in writing business applications in RPG-III. Prerequisite: EDP 230

**EDU-125 Intro to Preschool Educ** 3 0 0 3

This course is designed to familiarize the student with the principles and practices used in early childhood education. Topics include guidelines for identifying, planning, organizing, and implementing appropriate programs and facilities needed for teaching young children. Upon completion, students will be able to assist in the teaching of preschool children. Prerequisites: None

**EDU-126 Child Health, Safety, Nut** 3 2 0 4

This course provides an overview of childhood illnesses, basic first aid, safety precautions, and nutrition for young children. Topics include illnesses and symptoms, first aid, safety procedures, and nutrients essential for life and well-being. Upon completion, students will be able to recognize and use good principles of health, safety and nutrition when working with young children. Prerequisites: None

**EDU-127 Creative Curr Act I** 3 2 0 4

This course presents students with a theoretical basis for creative expression in a wide variety of classroom activities for infants, toddlers, and preschool. Topics include curriculum activities such as art, science, drama, music, dance, reading readiness, math, social studies, and health. Upon completion, students will be able to design and promote creative expression in all areas of a curriculum for young children. Prerequisites: None

**EDU-128 Prin of Day Care Operat** 3 0 0 3

This course is an overview of administrative topics common to most child care programs. Topics include an emphasis on state licensing and federal certification guidelines of child care programs. Upon completion, students will be able to develop a hypothetical program to demonstrate understanding of the above concepts. Prerequisites: None

**EDU-129 Pediatric First-Aid & CPR** 3 2 0 4

This course covers special first aid problems characteristic of small children. Emphasis is placed on choking, bites, bruises, cuts, and cardiopulmonary resuscitation (CPR). Upon completion, students will be able to perform CPR and first-aid techniques. Prerequisites: None

**EDU-130 Creative Curr Act II** 3 2 0 4

This course spans the theoretical and developmental activities for children in the early primary grades (1-3). Emphasis is placed on helping children reach their full creative potential in art, music, dramatic play, and specific curricular areas. Upon completion, students will be able to develop effective and enjoyable learning and skill building activities for children in the early primary grades. Prerequisites: None

**EDU-131 Discipline in the School** 3 0 0 3

This course covers an examination of the causes of discipline problems and a variety of techniques for handling discipline problems. Topics include statistics on discipline, assertive discipline model, stress and time management, self-esteem, classroom management, and behavior modification. Upon completion, students will be able to state the causes of misbehavior and develop an effective discipline plan. Prerequisites: None

**EDU-132 Language Arts Techniques** 3 0 0 3

This course provides communication skills in reading, writing, and speaking, individually and in groups for small children. Emphasis is placed on improvement of reading, writing, and speaking skills, including methods and materials for teaching. Upon completion, students will be able to assist in the teaching of language arts. Prerequisites: None

**EDU-133 Food Prep in Child Care** 2 0 3 3

This course teaches the skills needed to plan menus and prepare and serve food to preschool and school children. Topics include nutritional needs of young children and processes for providing for these needs. Upon completion, students will be able to assist the regular teacher to identify the nutritional needs of children and provide them. Prerequisites: None

**EDU-134 Art for the Classroom** 3 0 0 3

This course includes basic figure and landscape drawing and creation of art activities. Topics include male and female figures, Cumberland County flat landscapes, and cut and paste art activities. Upon completion, students will be able to introduce at least twenty new art activities to their students. Prerequisites: None

**EDU-135 Legal Issues In Education** 3 0 0 3

This course is designed to examine the roles of the schools and educators in the legal structure. Topics include landmark supreme court decisions, censorship, tort liability, negligence, in-school injuries, current litigations, and the local law library. Upon completion, students will be able to discuss the liability in education and utilize the local law library. Prerequisites: None

**EDU-136 Creative Writing & Speak** 3 0 0 3

This course is designed to assist students in designing and implementing learning experiences that will motivate children to write and speak. Emphasis is placed on activities designed to teach writing and speaking, with opportunities for practice. Upon completion, students will be able to assist classroom teachers to motivate children to write and speak. Prerequisites: None

**EDU-137 Basic Reading Skills** 3 0 0 3

This course is an introduction to teaching reading to the young child. Emphasis is placed on the development of reading skills, methods, and materials. Upon completion, students will be able to assist in the teaching of basic reading skills to young children. Prerequisites: None

**EDU-225 Working w/Except Children** 3 0 0 3

This course is designed to familiarize prospective teachers' aides, assistants, parents, and teachers with the educational needs of exceptional children. Topics include giftedness, physical limitations, visual and hearing impairments, mental retardation, emotional disturbances, learning disabilities, and communications disorders. Upon completion, students will be able to assist the regular exceptional-child teacher in the classroom. Prerequisites: None

**EDU-226 Pgm Planning in Preschool** 3 0 0 3

This course presents the basic knowledge, skills, attitudes, and philosophies which are the foundation of quality early childhood education. Topics include early childhood development and learning theories, the teacher's role, the educational setting and planning the curriculum. Upon completion, students will be able to formulate their own philosophies and approaches to caring for young children. Prerequisites: None

**EDU-227 Childrens Literature** 3 0 0 3

This course is a survey of literature appropriate for preschool and early childhood age children. Emphasis is placed on the principles of selecting literature for children and methods of instruction. Upon completion, students will be able to select appropriate literature and methods for motivating children to read and enjoy children's literature. Prerequisites: None

**EDU-228 Techniques of Counseling** 3 0 0 3

This course includes a basic overview of counseling techniques utilized during the counseling process. Emphasis is placed on understanding and facilitating the helping process. Upon completion, students will be able to assist in the counseling process through effective listening and making the client aware of alternatives. Prerequisites: None

**EDU-229 Pgm Plng for Infants/Todd** 3 0 0 3

This course presents the basic skills and knowledge necessary for the care and teaching of infants and toddlers. Emphasis is placed on the interrelation of emotional, social, cognitive, physical, and language development patterns. Upon completion, students will be able to match curriculum activities with developmental levels. Prerequisites: None

**EDU-230 Computer Literacy** 3 0 0 3

This course is designed to provide hands-on use of microcomputers as educational tools. Emphasis is placed on the operation of microcomputers and education-oriented software. Upon completion, students will be able to operate a microcomputer and use selected educational software. Prerequisites: None

**EDU-231 Child Care Applications** 0 0 6 2

This course is the observation of the activities of a preschool child in a child care center. Topics include supervised visitation in one or more child care centers and organized discussion concerning these observations. Upon completion, students will be able to continue other courses designed to help the student have a better understanding of children. Prerequisites: None

**EDU-232 Parent Education** 3 0 0 3

This course gives an overview of how to build a relationship and communicate with parents. Topics include basic listening and responding skills to be used in a structured interview in parent-teacher conferences. Upon completion, students will be able to build a working relationship with parents. Prerequisites: None

**EDU-81 Career Life Planning** 3 0 0 3

This course is designed to allow the students to understand themselves and the world of work. Emphasis is placed on self-assessment, career information, adult life transitions, decision making, and planning. Upon completion, students will be able to write a tentative, realistic career/life plan. Prerequisites: None

**ELC-101X Fundamentals of Elect I** 4 0 0 4

This course introduces the elementary principles of electricity with reference to both alternating current and direct current voltage sources. Topics include basic electric units, Ohm's Law, Kirchhoff's Laws, Superposition Theorem, Thevenin's Theorem, sinusoidal waveforms, inductance, capacitance, and complex algebra. Upon completion, students will be able to analyze passive A.C. and D.C. circuits by applying several methods of analysis. Prerequisites: None Corequisites: MAT 114 and ELC 101Y

**ELC-101Y ELC-101 Lab****0 6 0 3**

This course provides the opportunity to verify basic principles of electricity by constructing and making measurements on actual electric circuits. Emphasis is placed on the proper use of basic electrical measuring instruments including voltmeters, ammeters, digital multimeters, and oscilloscopes. Upon completion, students will be able to use electrical measuring instruments to verify their theoretical analysis of basic electric circuits. Prerequisites: None; Corequisite: ELC 101X

**ELC-103X Fundamentals of Elect II****2 0 0 2**

This course is a continuation in the study of electricity fundamentals, including the application of network theorems. Topics include maximum power transfer, Kirchhoff's loop analysis, Kirchhoff's nodal analysis, complex power, transformers, and resonance. Upon completion, students will be able to achieve in the many directions of more advanced and specialized courses in Electrical or Electronic Technology. Prerequisite: ELC 101; Corequisite: ELC 103Y

**ELC-103Y ELC-103 Lab****0 0 3 1**

This course provides a laboratory experience in which the student can develop a better understanding of electric principles by performing experiments and making observations. Emphasis is placed on developing expertise with laboratory equipment, analysis of experiments, and conveying electric principles in a written format. Upon completion, students will be able to utilize electrical measuring devices to verify elementary principles of electricity. Prerequisite: ELC 101; Corequisite: ELC 103X

**ELC-1104 Intro to Electricity****3 0 3 4**

This course is an introduction to electrical structure of matter and electron theory. Topics include voltage, current, and resistance. Upon completion, students will be able to explain the concepts of current in series and parallel circuits. Prerequisites: None

**ELC-1105 Intro Industrial Wiring****2 0 3 3**

This course provides instruction and application in planning, installing, and maintaining wiring systems in commercial and industrial complexes. Topics include alternating current, capacitors, coils, transformers, and their reactions in a circuit; safety procedures are also stressed. Upon completion, students will be able to calculate current, measure current, voltage, and resistance, and locate faults in components in a circuit. Prerequisites: None

**ELC-1106 Industrial Elect Maint****2 0 3 3**

This course provides an introduction to application of industrial electrical maintenance practices. Topics include use of electrical test instruments and controls used throughout industry, safety procedures, and National Electric Code. Upon completion, students will be able to compute industrial loads, layout electrical circuits, and connect machinery to electric supply. Prerequisites: None

**ELC-1107 Electric Control & Motors****4 0 6 6**

This course is an introduction to electro-mechanical and solid state devices used in industry. Topics include the use of schematic drawings and wiring diagrams of circuits and of motor controls, machine controls, and control centers. Upon completion, students will be able to recognize, analyze, and repair electrical faults safely with minimum out-of-service time. Prerequisites: None

**ELC-1112 ACDC Current** 5 0 15 10

This course is a study of the structure of matter and the electron theory and the relationship between voltage, current, and resistance in parallel circuits. Emphasis is placed on electron theory, voltage, current and resistance, wire size, and voltage drop. Upon completion, students will be able to wire simple circuits such as door bells, single pole light switches, and 3- or 4-way switches. Prerequisites: None

**ELC-1112A ACDC Current** 2 0 6 4

This course is a study of the structure of matter and the electron theory and the relationship between voltage, current, and resistance in parallel circuits. Emphasis is placed on electron theory, voltage, current and resistance, wire size, and voltage drop. Upon completion, students will be able to wire simple circuits such as door bells, single pole light switches, and 3- or 4-way switches. Prerequisites: None

**ELC-1112B ACDC Current** 2 0 6 4

This course is a continuation of ELC 1112A and covers matter and the electron theory and the relationship between voltage, current, and resistance in parallel circuits. Emphasis is placed on electron theory, voltage, current and resistance, wire size, and voltage drop. Upon completion, students will be able to wire simple circuits such as door bells, single pole light switches, and 3- or 4-way switches. Prerequisites: ELC 1112A

**ELC-1112C ACDC Current** 1 0 3 2

This course is a continuation of ELC 1112B and covers matter and the electron theory and the relationship between voltage, current, and resistance in parallel circuits. Emphasis is placed on electron theory, voltage, current and resistance, wire size, and voltage drop. Upon completion, students will be able to wire simple circuits such as door bells, single pole light switches, and 3- or 4-way switches. Prerequisite: ELC 1112B

**ELC-1113 ACDC Machines & Controls** 5 0 15 10

This course provides basic concepts of AC/DC current flow, inductive and capacitive reactance, phase angle impedance, and power factor for motors and transformers. Emphasis is placed on number of poles and motor speed, inductive reactance and capacitive reactance power factor, resonance, and antiresonance circuit. Upon completion, students will be able to explain the operation of motors and make them more efficient. Prerequisite: ELC 1112

**ELC-1113A ACDC Machines & Controls** 1 0 3 2

This course provides basic concepts of AC/DC current flow, inductive and capacitive reactance, phase angle impedance, and power factor for motors and transformers. Emphasis is placed on number of poles and motor speed, inductive reactance and capacitive reactance power factor, resonance, and antiresonance circuit. Upon completion, students will be able to explain the operation of motors and make them more efficient. Prerequisite: ELC 1112

**ELC-1113B ACDC Machines & Controls** 2 0 6 4

This course, a continuation of ELC 1113A, provides the basic concepts of AC/DC current flow, inductive and capacitive reactance, phase angle impedance, and power factor for motors and transformers. Emphasis is placed on number of poles and motor speed, inductive reactance and capacitive reactance power factor, resonance, and antiresonance circuit. Upon completion, students will be able to explain the operation of motors and make them more efficient. Prerequisites: ELC 1113A

**ELC-1113C ACDC Machines & Controls**

2 0 6 4

This course, a continuation of ELC 1113B, provides basic concepts of AC/DC current flow, inductive and capacitive reactance, phase angle impedance, and power factor for motors and transformers. Emphasis is placed on number of poles and motor speed, inductive reactance and capacitive reactance power factor, resonance, and antiresonance circuit. Upon completion, students will be able to explain the operation of motors and make them more efficient. Prerequisites: ELC 1113B

**ELC-1124A Residential Wiring**

3 0 3 4

This course provides instruction in planning, layout, and installation of wiring in residential application such as service, switchboards, branch circuits, and feeder. Emphasis is placed on blueprint reading, load calculation, and wire sizes. Upon completion, students will be able to install the service and wiring in a residential structure. Prerequisite: ELC 1113

**ELC-1124B Residential Wiring**

2 0 6 4

This course, a continuation of ELC 1124A, provides instruction in planning, layout, and installation of wiring in residential application such as service, switchboards, branch circuits, and feeder. Emphasis is placed on fuse and breaker size, services, and conduits. Upon completion, students will be able to install the service and wiring in a residential structure. Prerequisite: ELC 1124A

**ELC-1124X Residential Wiring**

5 0 6 7

This course provides instruction in planning, layout, and installation of wiring in residential applications such as service, switchboards, branch circuits, and feeder. Topics include blueprint reading, load calculation, wire size, fuse and breaker size, services, and conduits. Upon completion, students will be able to install the service and wiring in a residential structure. Prerequisite: ELC 1113; Corequisite: ELC 1124Y

**ELC-1124Y ELC-1124 Lab**

0 0 3 1

This course provides hands-on experience in installing wiring in residential applications. Topics include service, switchboards, branch circuits, fuses, breakers, and conduits. Upon completion, students will be able to install the service and wiring in a residential structure. Prerequisite: ELC 1113; Corequisite: ELC 1124X

**ELC-1125A Commercial & Indus Wiring**

3 2 3 5

This course provides instruction in layout, planning, and installation of wiring systems in commercial and industrial complexes with emphasis on the National Electric Code. Emphasis is placed on layouts, floor plans, wire size, and conduit size. Upon completion, students will be able to run conduit and pull wire to light receptacles. Prerequisite: ELC 1124

**ELC-1125B Commercial & Indus Wiring**

2 2 3 4

This course, a continuation of ELC 1125A, covers layout, planning, and installation of wiring systems in commercial and industrial complexes with emphasis on the National Electric Code. Emphasis is placed on motor control, heater size, switch sizes, and conduit installation. Upon completion, students will be able to run conduit and pull wire to light receptacles, motor switches, and panels and make necessary connections. Prerequisite: ELC 1125A

**ELC-1125X Commercial & Indus Wiring** 5 4 3 8

This course provides instructions in layout, planning, and installation of wiring systems in commercial and industrial complexes with emphasis on the National Electric Code. Emphasis is placed on layout, floor plans, motor control, wire, conduit, heater, and switch sizes, and conduits installation. Upon completion, students will be able to run conduit and pull wire to lights, receptacles, motor switches, and panels and make necessary connections. Prerequisite: ELC 1124; Corequisite: ELC 1125Y

**ELC-1125Y ELC-1125 Lab** 0 0 3 1

This course provides hands-on experience in installing wiring systems in commercial and industrial applications. Emphasis is placed on layout, floor plans, motor control, wire, conduit, heaters, and switches. Upon completion, students will be able to install conduit and connect wires to lights, receptacles, motor switches and panels. Prerequisite: ELC 1124; Corequisite: ELC 1125X

**ELC-1130 Industrial Motor Repair** 3 0 6 5

This course provides instruction in the maintenance and repair of heavy-duty electric motors, including replacing bearings, repairing commutators, connecting windings, and cleaning/ insulating stators. Topics include types of voltage and current, ball bearings, sleeve bearings, brushes, capacitors, and alignment procedures. Upon completion, students will be able to repair and maintain industrial motors. Prerequisites: Completion of E.I.M. program or equivalent

**ELC-1131 Preventive Maintenance** 3 0 3 4

This course provides general preventive maintenance (P.M.) procedures for various types of electrical apparatus such as motors, switchgear, transformers, batteries, etc. Topics include instruction on setting up a P.M. program with specifics concerning record keeping and evaluation of information gathered. Upon completion, students will be able to study chart recordings of current, voltage, temperature, and speed to aid in troubleshooting problems before they occur. Prerequisites: Completion of E.I.M. program or equivalent

**ELC-1132 Ind. Instrumentation** 2 0 6 4

This course is a study of the basic principles and instruments used in the measurement and control of industrial processes. Emphasis is placed on electronic, pneumatic, and hydraulic measurement devices which measure and control temperature, pressure, flow, humidity, etc. Upon completion, students will be able to assist in maintaining and troubleshooting industrial instrumentation devices. Prerequisites: Completion of E.I.M. program or equivalent

**ELC-1133 National Electrical Code** 4 0 0 4

This course introduces the National Electrical Code and local and state laws covering installation of electrical wiring and equipment. Emphasis is placed on services, calculations, grounding wire size, types of insulation, motor control, and hazardous locations. Upon completion, students will be able to select materials and design equipment installation in accordance with the National Electrical Code. Prerequisites: None



**ELC-1180 Basic Electricity**

3 0 0 3

This course covers the determination of resistance or impedance, voltage, current, and power for basic DC and AC, and transformer and power supply connections. Topics include electricity generation, magnetism, resistance, voltage, current, power, series, parallel, and series-parallel circuits, transformers, rectification, and welder connections. Upon completion, students will be able to calculate resistance, currents, voltage drops, and power of basic DC and AC circuits, and explain basic circuit connections. Prerequisites: None

**ELM-1140 Electromech. Devices**

3 0 6 5

This course is a study of the theory and operation of selected electromechanical devices used in industrial automatic control systems. Topics include electrical motors, sensors, actuators, and switching devices. Upon completion, students will be able to describe the operating characteristics and limitations of selected electromechanical devices. Prerequisites: Completion of E.I.M. program or equivalent

**ELM-1140A Electromech. Devices**

2 0 3 3

This course introduces the student to selected electromechanical devices used in industrial automatic control systems. Topics include the theory and operation of motors, sensors, actuators, and switching devices. Upon completion, students will be able to explain the operation of selected electromechanical devices. Prerequisite: Completion of E.I.M. program or equivalent

**ELM-1140B Electromech. Devices**

1 0 3 2

This course covers the operation and application of selected electromechanical devices used in industrial automatic control systems. Topics include the operation and application of motors, sensors, actuators and switching devices. Upon completion, students will be able to describe the operating characteristics and limitations of selected electromechanical devices. Prerequisites: Completion of E.I.M. program or equivalent and ELM 1140A

**ELN-100 Intro to Electronics**

3 2 0 4

This course is a study of solid-state electronic devices with emphasis placed on digital applications of these devices in automotive electronic circuitry. Topics include diodes, bipolar-junction and field-effect transistors, transistor amplifiers, transistor switches, and logic circuitry. Upon completion, students will be able to apply the concepts studied to troubleshoot and analyze electronic problems in automotive circuitry. Prerequisites: None

**ELN-102X Basic Logic Circuits**

2 0 0 2

This course provides an in-depth study of integrated logic circuits (RTL, HTL, TTL, IIL, ECL, MOS, and CMOS) with emphasis on circuit and system design. Topics include special base mathematics, logic codes, Boolean algebra, gates, multivibrators, coders, AD/DA converters, timers, counters, adders, multiplexers, and registers. Upon completion, students will be able to write and simplify Boolean equations for logic system design and discuss microcomputer circuit systems. Prerequisite: ELN 103; Corequisite: ELN 102Y

**ELN-102Y ELN-102 Lab**

0 2 0 1

This course provides hands-on experience designing and constructing logic systems using integrated circuit logic gates and discrete components. Emphasis is placed on logic systems design using integrated circuits AND, OR, NAND, NOR, counters, registers, adders, and decoders. Upon completion, students will be able to explain the principles of design and applications of logic circuits and systems. Prerequisite: ELN 103; Corequisite: ELN 102X

**ELN-103X Active Devices I**

2 0 0 2

This course provides a basic study of the P-N junction diode and transistor concepts using descriptive narratives, mathematical equations, device characteristic curves, and models. Topics include atomic structure of semiconductor materials, biased and unbiased P-N junctions, diode applications, and basic transistor amplifier configurations. Upon completion, students will be able to analyze and explain verbally and mathematically basic diode and transistor amplifier circuits. Prerequisite: ELC 101; Corequisite: ELN 103Y

**ELN-103Y ELN-103 Lab**

0 2 0 1

This course provides hands-on experience through laboratory experiments based upon lecture materials discussed in ELN 103X classes. Topics include diode characteristics and models; diode rectifiers, clippers, and clampers, and common base, common emitter, and common collector transistor configurations. Upon completion, students will be able to construct and test basic diode and transistor circuits using laboratory instruments and analyze test results. Prerequisite: ELC 101; Corequisite: ELN 103X

**ELN-104X Active Devices II**

4 0 0 4

This course provides in-depth study of bipolar junction transistors and field effect transistors using both a descriptive and mathematical approach to design and analysis. Topics include graphic analysis of BJT and FET, biasing, stabilization, large and small signal analysis, hybrid parameters, and cascaded amplifiers. Upon completion, students will be able to investigate, and explain in detail, the design and analysis of transistor amplifiers using BJT's and FET's. Prerequisites: ELN 103 and ELC 103; Corequisite: ELN 104Y

**ELN-104Y ELN-104 Lab**

0 0 3 1

This course provides hands-on experience through laboratory experiments based upon lecture materials discussed in ELN 104X classes. Topics include use of transistor curve tracer, bias and stabilization, hybrid parameters, amplifier gain, and coupling of amplifier stages. Upon completion, students will be able to design, construct, and test multi-stage BJT and FET amplifiers using laboratory instruments, and analyze and explain test results. Prerequisites: ELN 103 and ELC 103; Corequisite: ELN 104X

**ELN-106 Passive Networks I**

2 2 0 3

This course provides an in-depth analysis of passive networks under conditions of varying frequency or transient conditions. Topics include transfer functions, Bode plots, and Pascal programs of various filter networks, differentiator network, and integrator network. Upon completion, students will be able to investigate and explain the design and analysis of differentiators, integrators, and passive filters under varying frequency conditions. Prerequisites: ELC 103 and MAT 115

**ELN-110 Circuit Analysis w/Pascal**

3 2 0 4

This course introduces the programming language Pascal to students in Electronics Engineering Technology. Topics include an introduction to logic and implementation of Pascal for complex numerical calculations. Upon completion, students will be able to use Pascal for solving a variety of problems in Electronics Engineering Technology. Prerequisite: ELC 103

**ELN-1118 Industrial Electronics I** 3 0 6 5

This course covers operating characteristics and application of industrial electronics, such as switch gear, motor starters, time delay, counters, timers, power supplies and programmable controls. Emphasis is placed on push buttons and control stations, time relays, overload protection, individual dashpot relay, and programmable controllers. Upon completion, students will be able to perform maintenance, trouble-shoot industrial gear, and program simple logic. Prerequisite: ELC 1113

**ELN-1119 Industrial Electronics II** 3 0 6 5

This course covers industrial electronic systems, such as motor controls, alarm system controls, welding control, programmable controllers, and other basic types of industrial systems. Topics include solid state control, logic concept, and descriptions of programming devices. Upon completion, students will be able to perform maintenance, trouble-shoot industrial switch gear, and program simple logic. Prerequisite: ELC 1118

**ELN-206 Active Network Analy I** 2 0 3 3

This course includes a philosophical and mathematical study of transistor application to audio amplifiers and stabilizing circuits. Topics include circuit gains, frequency response, stability, and methods of interstage coupling. Upon completion, students will be able to apply information learned to the study of more advanced circuits. Prerequisite: ELN 104

**ELN-207 Active Network Analy II** 2 0 3 3

This course provides a study of the internal circuits of integrated operational amplifiers and the overall applications of operational amplifiers. Topics include operational amplifier applications to oscillators, comparators, active filters, and mathematical operators. Upon completion, students will be able to apply operational amplifiers to logic and linear systems. Prerequisites: ELN 106 and 206

**ELN-209 Passive Networks II** 3 0 0 3

This course provides a study of sophisticated resonant circuits and their behavior in coupling and impedance matching networks. Topics include quality factor, bandwidth, selectivity, universal resonance curve, voltage and current rise, impedance matching networks, and resonant transformers. Upon completion, students will be able to explain, in detail, verbally and mathematically the behavior of resonant circuits used in coupling and impedance matching networks. Prerequisite: ELN 106

**ELN-214 Computer Principles** 2 4 0 4

This course includes the evolution of computer architecture in three stages of increasing complexity using academic computers with emphasis on microcomputers. Topics include the detailed study of computer architecture and associated instructional sets and assembly language. Upon completion, students will be able to apply information learned to real-line microcomputers. Prerequisites: ELN 106 and 206

**ELN-216 Microcomputers** 6 0 6 8

This course provides a study of a real-line microprocessor computer and associated family of chips using instant design circuit boards. Topics include computer interfacing, software design, and system hardware expansion. Upon completion, students will be able to study the industrial application of computers, computer peripherals, and transmission standards. Prerequisites: ELN 207, 209, and 214

**ELN-220 Electronic Systems**

4 4 0 6

This course introduces electronic systems from the block diagram concept with emphasis on communication systems such as amplitude, frequency, and digital modulated transmitters and receivers. Topics include noise, LC circuits, RF oscillators, modulation, demodulation, communication techniques, digital communications, transmission lines, wave propagation, and antennas. Upon completion, students will be able to analyze electronic communication systems with respect to their design and operation. Prerequisites: ELN 207, 209, and 214

**ELN-235 Indus Mechanisms & Instr**

5 6 0 8

This course introduces electromechanical and electronic circuits as they apply to industrial control systems. Topics include three phase systems, transducers, classification of control systems, measuring means, final control elements, and special solid state components. Upon completion, students will be able to understand the methods, techniques, and skill required for installation, service, and operation of various industrial control systems. Prerequisites: ELN 207, 209, and 216

**ELN-240 Industrial Appl. of Micro**

4 0 3 5

This course is a continuation of ELN 216 with emphasis on the expanding family of special purpose chips and computer peripherals. Topics include theory of special purpose chips, computer peripherals, and computer applications to industrial processes. Upon completion, students will be able to maintain, modify, operate, and assist in the design of computers for industry. Prerequisites: ELN 216

**EMS-120 Intro to Emer Med Science**

4 2 0 5

This course introduces the student to the emergency medical care system, the components of the system, and their professional roles as Emergency Medical Technicians. Topics include basic life support material and basic EMT skills presented in a class and laboratory setting. Upon completion, students will have fulfilled the first part of the Emergency Medical Technical-Basic program. Prerequisites: None

**EMS-121 Emergency Skills I**

3 2 6 6

This course is a continuation of material in EMS 120. Emphasis is placed on the fundamental cognitive and manipulative skills practiced in emergency medical care. Upon completion, students will be able to apply for the Emergency Medical Technician-Basic Level certification exam. Prerequisite: EMS 120

**EMS-130 Emergency Skills II**

5 4 0 7

This course covers principles involved in performing physical assessment, medical and trauma management. Topics include the use of intravenous therapy, MAST, EOA, semiautomatic defibrillators and SQ injections. Upon completion, students will be able to apply for the Emergency Medical Technician-Intermediate level certification exam. Prerequisites: EMS 120 and 121; Corequisite: EMS 131

**EMS-131 Clinical I**

0 0 6 2

This course provides initial advanced life support emergency medical experience in the clinical and field settings at the EMT-Intermediate level. Emphasis is placed on rotation sites which include the emergency department, IV team, venipuncture laboratory, clinics, and field ambulance. Upon completion, students will have fulfilled a component of the required rotational hours for these clinical sites. Prerequisites: EMS 120 and 121; Corequisite: EMS 130

**EMS-132 Med Comm: Extrication/Res** 2 2 0 3

This course presents an introduction to medical communications, extrication, and rescue. Emphasis is placed on two-way radios, transmitting units, telemetry, disentanglement, packaging, and removal of patient. Upon completion, students will have fulfilled the majority of the hours required in the EMT-P program for the modules corresponding to these topics. Prerequisites: None

**EMS-140 Emergency Skills III** 4 2 0 5

This course is designed to prepare the student for advanced cardiac life support. Emphasis is placed on the respiratory system and pharmacology skills including drug administration, ET insertion, and drug calculations. Upon completion, students will be able to advance to EMS 220. Prerequisites: EMS 130 and 131; Corequisite: EMS 141

**EMS-141 Clinical II** 0 0 12 4

This course provides paramedic level emergency medical experience in specific clinical settings and in the field environment. Emphasis is placed on rotation sites including the operating room, recovery room, respiratory therapy team, emergency department, and field ambulance. Upon completion, students will have fulfilled a component of the required rotational hours for these clinical sites. Prerequisite: EMS 130 and 131; Corequisite: EMS 140

**EMS-220 Cardiology** 5 2 0 6

This course provides exposure to the mechanical and electrical anatomy and physiology of the cardiovascular system. Emphasis is placed on arrhythmia recognition, pharmacological and electrical intervention. Upon completion, students will be able to apply for the Emergency Medical Technician-Advanced Intermediate level certification exam. Prerequisites: EMS 140 and 141; Corequisite: EMS 221

**EMS-221 Clinical III** 0 0 12 4

This course provides paramedic level emergency medical experience in specific clinical sites and in the field ambulance. Emphasis is placed on rotation sites including the cardiac care unit, intensive care unit, operating room, emergency department, and field ambulance. Upon completion, students will have completed the majority of the required hours for these clinical sites. Prerequisites: EMS 140 and 141; Corequisite: EMS 220

**EMS-230 Emergency Skills IV** 3 0 0 3

This course presents cognitive and motor manipulative skills necessary in administering advanced life support emergency medical care to patients with specific system complications. Topics include the following modules: musculoskeletal system, soft tissue system, pediatrics, ob-gyn patients, and psychiatric patients. Upon completion, students will have fulfilled the majority of the hours required in the EMT-P program for the modules. Prerequisite: EMS 220 and 221; Corequisite: EMS 231

**EMS-231 Clinical IV** 0 0 12 4

This course provides paramedic level emergency medical experience in specific clinical sites and in the field ambulance. Emphasis is placed on rotational sites including the newborn nursery, intensive care nursery, pediatric area, labor and delivery, and the field ambulance. Upon completion, students will have completed the required rotation hours for these clinical sites as prescribed for a paramedic program of instruction. Prerequisites: EMS 220 and 221; Corequisite: EMS 230

**EMS-232 Water Rescue** 2 2 0 3

This course discusses water rescue concepts and techniques for emergency medical personnel. Emphasis is placed on personal approaches, scuba concepts, extrication procedures, and use of adjunct rescue equipment. Upon completion, students will have achieved the cognitive and motor manipulative skills necessary for water rescue of emergency patients. Prerequisites: None

**EMS-233 Emergency Skills V** 2 2 0 3

This course is a review of all EMT skills. Emphasis is placed on all basic, intermediate, and paramedic level skills utilized in caring for medical and trauma patients. Upon completion, students will be able to perform all skills included in a paramedic program at basic, intermediate, and paramedic levels. Prerequisites: EMS 230 and 231; Corequisite: EMS 234

**EMS-234 Clinical V** 0 0 9 3

This course provides paramedic level emergency medical experience in specific clinical settings and in the field environment. Emphasis is placed on rotation sites including the psychiatric care unit, the emergency department, and the field ambulance. Upon completion, students will have fulfilled a component of the required clinical and field hours for these sites. Prerequisites: EMS 230 and 231; Corequisite: EMS 233

**EMS-235 Methods of Instruction** 2 2 0 3

This course provides the student experience in a teaching role. Topics include all previous EMS material. Upon completion, students will be able to develop mini-courses that will be required for their continuing education credits. Prerequisites: EMS 233

**EMS-236 Practicum** 0 0 10 1

This course focuses on providing an opportunity for intensive experience in the field ambulance at the paramedic level. Emphasis is placed on perception of skills in actual field situations by paramedics. Upon completion, students will have achieved the national and state requirements for a paramedic training program. Prerequisite: EMS 220

**EMS-237 Seminar** 3 0 0 3

This course provides an environment for advanced study in EMS topics. Emphasis is placed on researching emergencies resultant from infectious disease, drugs and alcohol, endocrine problems, CNS problems, the environment, and trauma. Upon completion, students will be able to research and hold discussions on topics related to their profession. Prerequisites: EMS 233

**ENG-100 Reading Efficiency** 0 0 3 1

This course is designed to assist students in improving their reading rates, vocabulary, and comprehension. Emphasis is placed on timed readings, reading machines, and lab materials in order to enhance students' reading skills. Upon completion, students will be able to read for main ideas and details while varying rate according to purpose. Prerequisite: None

**ENG-101 Grammar** 3 0 0 3

This course is designed to improve the students' communicative skills by a thorough analysis of standard English usage. Emphasis is placed on the components of grammar and their function in communicating ideas effectively in sentences and short compositions. Upon completion, students will be able to construct sentences while observing standard English usage. Prerequisite: None

**ENG-102 Composition I** 3 0 0 3

This course is designed to aid the student in the improvement of self-expression in expository writing. Emphasis is on the paragraph and the whole composition. Prerequisite: ENG 101

**ENG-103 Composition II** 3 0 0 3

This course is designed to help students improve their communications skills. The course emphasizes the fundamentals involved, offers assorted specimens of current professional writing for study and analysis, and requires students to produce a variety of compositions such as process, description, progress, status, and periodic reports. Prerequisite: ENG 102

**ENG-1101 Comm Skills in Grammar** 3 0 0 3

This course is designed to aid students in the improvement of self-expression in written composition and oral usage. Emphasis is placed on grammar, diction, sentence structure, punctuation, and spelling. Upon completion, students will be able to apply the principles of English grammar in day-to-day situations at work and in social life. Prerequisites: None

**ENG-1102 Vocational Communications** 3 0 0 3

This course includes a review of major grammatical principles and the development of writing skills. Emphasis is placed on writing clear, effective, well-developed paragraphs and essays and applying standard grammar rules to writing. Upon completion, students will be able to communicate effectively through good language usage in writing, to think more clearly, and to reason more forcefully. Prerequisite: None

**ENG-1103 Report Writing** 3 0 0 3

This course is designed to help the student develop competency in report writing. Emphasis is placed on writing letters, writing informal reports, and developing communications skills. Upon completion, students will be able to write with accuracy and clarity reports, memoranda, business letters, the letter of application, and data sheet. Prerequisite: ENG 1102

**ENG-115 Medical Terminology & Voc** 3 0 0 3

This course introduces the basic tools for building a medical vocabulary and mastering the identification of anatomical words and components. Topics include the anatomy, vocabulary related terminology, and pathology of the musculoskeletal, respiratory, cardiovascular, and nervous systems. Upon completion, students will be able to recognize, identify, and define medical words through structural analysis and utilize medical terminology in written and verbal communication. Prerequisites: None

**ENG-115A Medical Terminology & Voc** 2 0 0 2

This course introduces the basic tools for building a medical vocabulary and mastering the identification of anatomical words and components. Topics include the anatomy, vocabulary related terminology, and pathology of the musculoskeletal, respiratory, cardiovascular, and nervous systems. Upon completion, students will be able to recognize, identify, and define medical words through structural analysis and utilize medical terminology in written and verbal communication. Prerequisites: None

**ENG-115B Medical Terminology & Voc** 1 0 0 1

This course, a continuation of ENG 115A, introduces the basic tools for building a medical vocabulary and mastering the identification of anatomical words and components. Topics include the anatomy, vocabulary related terminology, and pathology of the musculoskeletal, respiratory, cardiovascular, and nervous systems. Upon completion, students will be able to recognize, identify, and define medical words through structural analysis and utilize medical terminology in written and verbal communication. Prerequisite: ENG 115A

**ENG-121 English Composition** 5 0 0 5

This is a computer assisted composition course designed to develop the student's ability to express himself clearly, effectively, and correctly in expository writing. Emphasis is placed on sentence structure, mechanics, and the study of rhetorical methods of exposition to obtain clear, logical, and well-organized compositions. Upon completion, students will be able to write organized, mechanically correct compositions, reflecting careful thought and awareness of basic grammar, syntax, and punctuation. Prerequisites: None

**ENG-122 English Composition & Lit** 5 0 0 5

This course develops students' abilities in researching, writing, and documenting the research paper and in analyzing and interpreting short fiction, poetry, and drama. Emphasis is placed on plot, theme, character, and figurative language in selected literary works and on a short library paper. Upon completion, students will be able to construct a mechanically sound research paper and be able to understand, analyze, and write about literary works. Prerequisite: None

**ENG-131 Speech Communications** 5 0 0 5

This course is designed to improve communication skills of the speaker and to increase analytical and critical ability of the audience. Emphasis is placed on research, organization, audience analysis, grammar, vocabulary, articulation and delivery skills such as eye contact. Upon completion, students will be able to communicate better in informal situations and present well-prepared speeches for more formal occasions. Prerequisites: None

**ENG-204 Oral Communications** 3 0 0 3

This course is a study of basic concepts, techniques, and principles of oral communications. Emphasis is placed on preparation and delivery of informative, demonstrative, and persuasive speeches and other speaking assignments. Upon completion, students will be able to communicate with others verbally and to produce effective oral presentations. Prerequisites: None



**ENG-221 American Literature I** 5 0 0 5

This course covers readings from the seventeenth through the first two-thirds of the nineteenth century, focusing on literary trends of the period. Topics include the characteristics of Colonialism, Romanticism, and Reason and Revolution; hence the course features authors from John Smith through Walt Whitman. Upon completion, students will be able to understand, appreciate, and write compositions about the major literary works of this time. Prerequisites: ENG 121 and ENG 122

**ENG-222 American Literature II** 5 0 0 5

This course covers reading from the mid-nineteenth century to the present, placing attention on the literary trends of their time-span. Emphasis is placed on the literary characteristics of realistic and 20th century literature and includes authors from Whitman to Barthelme. Upon completion, students will be able to analyze, appreciate, and write compositions about the major literary works of this period. Prerequisites: ENG 121 and ENG 122

**ENG-231 English Literature I** 5 0 0 5

This course provides a chronological survey of British literature from Anglo-Saxon poetry to Restoration drama. Emphasis is placed on discussing selected works of major writers in the context of the chief traditions of their age. Upon completion, students will be able to discuss major works and trace major trends of English verse and prose through the eighteenth century. Prerequisites: ENG 121 and ENG 122

**ENG-232 English Literature II** 5 0 0 5

This course covers readings from the late 1700's to the present, placing attention on the literary trends of the era. Topics include Romantic, Victorian, and Modern English literature, and the course covers authors from Blake through Hughes. Upon completion, students will be able to analyze, appreciate, and write compositions about the major works of this period. Prerequisites: ENG 121 and ENG 122

**ENG-241 World Literature I** 5 0 0 5

This course surveys literary Masterpieces of Western culture from the Ancient World through the Renaissance. Emphasis is placed on analyzing works as they typify period, culture, and genre and reflect ideas formative of Modern Western thought. Upon completion, students will be able to discuss the content and style of major works that seize the Western mind. Prerequisites: ENG 121 and ENG 122

**ENG-242 World Literature II** 5 0 0 5

This course surveys literary Masterpieces of Western culture from the eighteenth century to the present day. Emphasis is placed on analyzing works characteristic of these major periods: Neoclassicism, Romanticism, Realism, Naturalism, and Modernism. Upon completion, students will be able to discuss major literary works and trends of the eighteenth and twentieth centuries. Prerequisites: ENG 121 and ENG 122

**ENG-50 Reading Proficiency** 6 4 0 8

This course is designed for high school graduates who can benefit from instruction in reading improvement. Emphasis is placed on techniques, exercises, and application to increase reading rates, comprehension, and spelling ability. Upon completion, students will be able to demonstrate reading habits that promote success in subsequent developmental courses. Prerequisites: None

**ENG-80 Applied Reading Skills 3 2 0 4**

This course is designed to develop or enhance the ability of students in using successful reading skills. Emphasis is placed on improving performance in mastering academic work. Upon completion, students will be able to apply reading skills to specific textbook assignments.

**ENG-88 English as a 2nd Language 3 2 0 4**

This course provides a background of English fundamentals to the student for whom English is a second language. Topics include grammatical patterns, vocabulary development, and pronunciation, presented through skills practice in reading, writing, and speaking. Upon completion, students will be more confident and functional in using the English language. Prerequisites: None

**ENG-89 Comp for Non-Native Speak 3 2 0 4**

This course, designed for students who can comprehend written and spoken English, emphasizes the application of grammatical principles. Topics include English usage, grammatical forms, methods of paragraph development, pronunciation, and intonation. Upon completion, students will be able to write grammatically correct, well-developed paragraphs and short themes. Prerequisite: ENG 88

**ENG-94 Prescriptive Reading 3 2 0 4**

This course is designed to remediate reading deficiencies by strengthening and/or developing literal and critical reading skills. Emphasis is placed on improving vocabulary, comprehension, and rate. Upon completion, students will be able to read materials efficiently at a minimum of the 7.5 grade level. Prerequisites: None

**ENG-95 Vocabulary & Reading I 3 2 0 4**

This course provides for reading and vocabulary development and is devoted to developing good reading skills and habits. Emphasis is placed on dictionary skills, word attack, and reading speed and comprehension. Upon completion, students will be able to utilize independent reading habits that promote success at the 9.0 grade level. Prerequisites: None

**ENG-96 Vocabulary & Reading II 3 2 0 4**

This course is a remedial reading and vocabulary course devoted primarily to developing good reading skills and habits. Emphasis is placed on the principles of rhetoric through the reading of selected essays. Upon completion, students will be able to read efficiently at a minimum of the 11.0 grade level. Prerequisites: None

**ENG-97 Grammar and Composition 3 2 0 4**

This course is designed to help the student employ standard English usage in written expression. Emphasis is placed on rules of grammar, sentence structure, punctuation, and spelling that apply to written compositions. Upon completion, students will be able to apply standard rules of grammar. Prerequisites: None

**ENG-98 Composition** 3 2 0 4

This course is a composition course devoted to teaching developmental writers the skills that are necessary to succeed in college-level writing. Emphasis is placed on the five steps of the writing process: generating ideas, organizing them, writing the paper, revising it, and editing it. Upon completion, students will be able to write college-level compositions. Prerequisites: None

**ENV-1100 Basic Biology** 2 0 3 3

This course introduces techniques utilized in determining the bacteriological status of both potable and nonpotable water. Emphasis is placed on laboratory technique and validity of results from the use of approval procedures. Upon completion, students will be able to perform approved bacteriological procedures and interpret the results. Prerequisites: None

**ENV-1101 Water Laboratory Control** 2 0 6 4

This course is designed to cover the theory and laboratory technique for control tests used in water purification plants. Topics include color, turbidity, pH, alkalinity, hardness, bacteriology, coagulation, fluoride, iron, manganese, and detergents. Upon completion, students will be able to perform tests, interpret results, and apply data to proper facility operation. Prerequisites: None

**ENV-1102 Water Plant Operations** 3 2 0 4

This course introduces construction features and operational techniques of the water purification facilities and equipment. Topics include continuity of operation and proper control of chemical dosages for purification purposes. Upon completion, students will be able to discuss public health and safety aspects of water treatment plant operations. Prerequisites: None

**ENV-1103 Waste Laboratory Control** 2 0 6 4

This course introduces the theory and laboratory techniques used for control and testing of wastewater treatment plant operations. Emphasis is placed on residue, demand tests, nutrient tests, physical tests, bacterial enumeration, and the respective proper techniques associated with these procedures. Upon completion, students will be able to perform tests, interpret results, and apply data to proper plant operations. Prerequisites: None

**ENV-1104 Waste Plant Operations** 3 2 0 4

This course introduces construction features and operational techniques of wastewater purification process equipment. Topics include operator responsibility in the successful operation of wastewater treatment facilities. Upon completion, students will be able to identify equipment and processes and comprehend proper plant operations. Prerequisites: None

**ENV-1105 Maintenance** 2 0 3 3

This course introduces preventive maintenance procedures and keeping of records for basic and specialized equipment used in water and wastewater plants. Topics include equipment nomenclature, a preventive maintenance program, and operation and maintenance processes. Upon completion, students will be able to use operation and maintenance manuals and prepare programs of preventive maintenance. Prerequisites: None

**ENV-1106 Environmental Microbio** 2 0 3 3

This course introduces techniques to determine the bacteriological quality of various environments encountered in natural and manufacturing processes. Emphasis is placed on procedures for testing air, water, wastewater, food, milk, and cosmetics. Upon completion, students will be able to perform tests according to standard procedures and interpret the results obtained. Prerequisites: None

**ENV-1107 Stream Studies** 2 0 3 3

This course is a study of the natural purification process that occurs in streams and the chemical, biological, and mechanical tests used to determine purity. Emphasis is placed on methods of evaluating streams at various locations and determining the assimilation capacity of them. Upon completion, students will be able to perform a stream survey determining the stream's ecological and biological classification. Prerequisites: None

**ENV-1108 Control Systems** 3 0 3 4

This course introduces application and operation of hydraulic, pneumatic, mechanical, and electronic control systems utilized in water and wastewater treatment facilities. Emphasis is placed on calibration and limitations of various types of equipment used to control particular units. Upon completion, students will be able to manipulate the various types of control systems. Prerequisites: None

**ENV-1109 Water & Waste Dist Sys** 3 0 3 4

This course introduces methods of sizing, maintaining, and constructing collection systems for wastewater and distribution systems for potable water supplies. Emphasis is placed on the purposes and construction details of appurtenances and structures of collection and distribution systems. Upon completion, students will be able to determine adequate structure capacities for wastewater collection and potable water systems. Prerequisites: None

**ENV-1110 Introduction to Ecology** 2 0 3 3

This course introduces and demonstrates some of the many systems associated with environmental manipulation and overall protection of the public's health. Topics include methods of disease transmission, ground water protection, vector control, waste disposal, pool sanitation, and industrial hygiene. Upon completion, students will be able to comprehend the role of ecology in local and universal systems. Prerequisites: None

**ENV-1111 Industrial Wastes** 2 0 3 3

This course introduces sources of industrial wastes and their effects on streams and treatment facilities. Emphasis is placed on methods available to reduce problems with particular wastes at industrial sites. Upon completion, students will be able to apply various alternatives available to properly dispose of industry generated wastes. Prerequisites: None

**ENV-1112 Environmental Problems** 3 0 0 3

This course introduces students to the application of accumulated information to a specific environmental setting for more intense study. Emphasis is placed on choosing a topic and developing a plan of study for that subject area. Upon completion, students will be able to analyze environmental related problems systematically. Prerequisites: None

**ENV-1180 Intro to Plant Operations** 2 0 6 4

This course introduces new and advanced mechanical, biological, and chemical treatment techniques to the wastewater treatment facility operator. Emphasis is placed on more closely controlled mechanical, biological, and chemical treatment for facilities in operation. Upon completion, students will be able to operate treatment facilities more efficiently and within design parameters. Prerequisites: None

**FSE-101 Intro to Funeral Service** 3 0 0 3

This course includes the principles of funeral service and its history. Emphasis is placed on the ethical obligations and fundamental requirements involving skill, aptitude, and qualifications of funeral directors. Upon completion, students will be able to recognize historical names, places, and events from the past which directly effect the future of funeral service. Prerequisites: None

**FSE-115 Funeral Law** 3 0 0 3

This course provides the student with insight into the fundamentals of mortuary law. Emphasis is placed on North Carolina Mortuary Law, OSHA, anatomical donations, vital statistics, and general law relative to mortuary law. Upon completion, students will be able to complete death certificates, notification of death forms, medical examiner forms, and other required forms. Prerequisites: None

**FSE-121 Funeral Service Practices** 3 0 0 3

This course helps develop a knowledge of funeral service procedure of various religions and provides a study of the customs and funeral practices in the U.S. Topics include the study of liturgical and non-liturgical Protestant, Catholic, Jewish, and many other religious groups. Upon completion, students will be able to discuss the different religious and fraternal groups and know how their services are conducted. Prerequisites: None

**FSE-122 Anatomy for Funeral Serv** 3 0 0 3

This course provides the student with sufficient knowledge of general anatomy to serve as a working basis for studies in other related subjects. Topics include anatomical terminology, understanding the normal structure and function of the human body with emphasis placed on the circulatory system. Upon completion, the student will be able to understand the normal structure and function of the human body in order to develop habits of healthy living. Prerequisites: None

**FSE-206 Embalming Chemistry** 3 2 0 4

This course covers the fundamentals of organic chemistry and biochemistry as related to the funeral service profession. Emphasis is placed on chemical changes in the human body during life, after life, and during chemical preservation. Upon completion, students will be able to use various embalming chemicals and various solutions in the embalming process. Prerequisite: CHM 101

**FSE-209 Intro to Embalming Pract** 3 0 0 3

This course introduces the student to the various procedures in an embalming room setting. Emphasis is placed on the laboratory environment and equipment employed in standard funeral homes. Upon completion, students will be able to identify various instruments, select chemicals, and conduct themselves in a professional manner in the preparation room. Prerequisites: None

**FSE-210 Embalming Theory I** 3 0 0 3

This course covers the purpose, history, and need for embalming, types of death, and signs of death which the student must fully understand. Topics include ethics of embalming law, laws relative to decomposition, anatomical limits, and linear guides, and discussion of theoretical cases. Upon completion, students will be able to demonstrate theoretical case analysis to actual embalming procedures used in funeral homes. Prerequisites: None

**FSE-211 Embalming Theory II** 3 0 0 3

This course is a continuation of FSE 210 primarily designed to go into more detail about disease and how it may affect the embalmer. Topics include sanitizing, positioning features, mixing of chemical solutions, and case analysis. Upon completion, students will be able to become more involved in the death process and protect themselves as well as the public. Prerequisite: FSE 210

**FSE-212 Embalming Practicum I** 0 0 10 1

This course is designed for students with the general knowledge of embalming techniques. Emphasis is placed on the actual preparation of the remains in a funeral home. Upon completion, students will be able to utilize sanitation and disinfection procedures properly and prepare the body for burial properly. Prerequisites: None

**FSE-213 Embalming Practicum II** 0 0 10 1

This course is a continuation of FSE 212 and covers proficient embalming skills which the student is required to demonstrate. Emphasis is placed on the student's ability to understand and relate to the actual embalming process. Upon completion, students will be able to analyze each case to determine the proper techniques to be used in that particular embalming situation. Prerequisite: FSE 212

**FSE-214 Restorative Arts I** 2 4 0 4

This course utilizes the general aspects of restorative art as applied to funeral service. Topics include anatomical modeling, expression, and familiarization with tools, materials, and techniques. Upon completion, students will be able to reconstruct human features, properly employ color in cosmetics, and demonstrate special laboratory skills. Prerequisites: None

**FSE-215 Restorative Arts II** 2 4 0 4

This course covers the terminology of traumatic and pathological conditions frequently seen and restored in funeral service. Topics include basic restoration, legal aspects, use of photographs, and stains and their solvents. Upon completion, students will be able to use materials and techniques in the actual restorations of human remains. Prerequisite: FSE 214

**FSE-222 Embalming Practice I** 0 0 3 1

This course is designed for students with the general knowledge of embalming techniques. Emphasis is placed on the actual preparation of the remains in our laboratory. Upon completion, students will be able to utilize sanitation and disinfection procedures properly and prepare the body for burial properly. Prerequisites: None

**FSE-223 Embalming Practice II** 0 0 3 1

This course is a continuation of FSE 222 and covers proficient embalming skills which the student is required to demonstrate. Emphasis is placed on the student's ability to understand and relate to the actual embalming process. Upon completion, students will be able to analyze each case to determine the proper techniques to be used in that particular embalming situation. Prerequisite: FSE 222

**FSE-224 Funeral Home Operations** 4 0 0 4

This course will outline all phases of funeral home operations, and students will develop a basic approach to successful business techniques. Topics include establishing a funeral home, choosing and financing a location, building, remodeling, merchandising, caskets, vaults, and planning. Upon completion, students will be able to discuss proper procedures in operating, supervising, and owning their own funeral home. Prerequisites: None

**FSE-226 Funeral Service Computers** 0 0 3 1

This course introduces the student to automated record keeping in the funeral service environment. Topics include automated case documentation, service arrangements, merchandise selection, cemetery, physician, and account information, stored and retrieved from the computer. Upon completion, students will be able to prepare standard printouts to include death certificates, V.A. forms, account information, obituaries, etc. Prerequisite: BUS 109 preferred

**FSE-257 Pathology I** 3 0 0 3

This course is designed to provide the student with general knowledge of the disease process. Topics include pathological terminology, basic body functions, trauma, disease process, and etiology. Upon completion, students will be able to recognize various terminology used in the medical profession and will have a more acute awareness of the disease process. Prerequisites: None

**FSE-268 Funeral Counseling** 3 0 0 3

This course is a study of the principles of counseling that will be of assistance to funeral directors whose work requires counseling ability. Topics include the personality and role of the counselor, techniques of counseling, and philosophies of counseling. Upon completion, students will be able to relate more effectively to those who are experiencing the grief process. Prerequisites: None

**FSE-280 Professional Practicum** 0 0 20 2

This course will provide experience in the funeral home under the direction of a licensed funeral director. Emphasis is placed on all phases of funeral service operations in and around the funeral home. Upon completion, students will be able to function more professionally within the funeral service environment. Prerequisite: Dept. Chrp. approval

**FSE-282 Seminar** 3 0 0 3

This course will review the entire two years of courses in Funeral Service Education. Topics include anatomy, chemistry, restorative art, embalming, pathology, microbiology, psychology, sociology, history, accounting, and business law. Upon completion, students will be able to successfully pass the National or State Board Exam. Prerequisite: Dept. Chrp. approval

**FSO-101 Intro to Foodservice**

2 0 0 2

This course introduces the branches, position, and various opportunities available in the foodservice industry today. Emphasis is placed on the history of quantity cooking, current issues and problems, and the future of the foodservice industry. Upon completion, students will be able to discuss their knowledge of the principles for all branches of the foodservice industry. Prerequisites: None

**FSO-102X Food Preparation I**

3 0 0 3

This course includes the scientific principles of food preparation and cooking procedures. Topics include stocks, soups, sauces, gravies, beverages, cereals and cereal products, vegetables, fruits, and salads. Upon completion, students will be able to apply their understanding of these basic principles used in the foodservice industry. Prerequisites: None; Corequisite: FSO 102Y

**FSO-102Y FSO-102 Lab**

0 0 6 2

This course includes application of the scientific principles of food preparation and cooking procedures. Topics include stocks, soups, sauces, gravies, beverages, cereals and cereal products, vegetables, fruits, and salads. Upon completion, students will be able to apply their understanding of these basic principles used in the foodservice industry. Prerequisites: None; Corequisite: FSO 102X

**FSO-103X Equipment Layout & Design**

3 0 0 3

This course is designed to engage students actively in the study and planning of food facility layouts. Topics include food facility planning, the selection, use, and care of equipment, and layout design. Upon completion, students will be able to apply their understanding of the basic layout design and equipment selection used in the foodservice industry. Prerequisites: None ; Corequisite: FSO 103Y

**FSO-103Y FSO-103 Lab**

0 2 0 1

This course includes application of the study and planning of food facility layouts. Topics include food facility planning, the selection, use, and care of equipment, and layout design. Upon completion, students will be able to apply their understanding of the basic layout design and equipment selection used in the foodservice industry. Prerequisites: None; Corequisite: FSO 103X

**FSO-104 Sanitation and Safety**

3 0 0 3

This course develops knowledge of the recommended standards of personal hygiene, sanitation, and safety in foodservice operations. Emphasis is placed on the basic principles of personal hygiene, sanitation, and safety as related to food storage, preparation, and service. Upon completion, students will be able to develop a sanitation and safety plan for foodservice operations. Prerequisites: None

**FSO-105 Sanitation & Equipment**

3 2 0 4

This course covers the principles of sanitation and service. Topics include dishroom operations, cleaning and sanitizing, personal hygiene, and accident prevention. Upon completion, students will be able to demonstrate knowledge of the operation and maintenance of food service equipment, measuring and proportioning devices, knives, hand tools, and small equipment. Prerequisites: None



**FSO-106 Nutrition & Menu Planning**

4 0 0 4

This course includes principles of nutrition using the four basic food groups and the application of the principles to the planning of nutritionally adequate diets. Topics include four basic food groups, nutrients, balanced menus, food habits, and current problems/issues in the study of nutrition. Upon completion, students will be able to construct balanced menus using the four basic food groups and will be aware of issues in the study of nutrition. Prerequisites: None

**FSO-107X Baking I**

2 0 0 2

This course is designed to teach fundamental principles, procedures and techniques used in the bakeshop. Students will learn bakeshop organization and how to use baking tools and equipment. Emphasis is placed on ingredient functions, bakers percentages, measuring techniques, yeast dough formulas and preparation and quick bread formulas and preparation. Upon completion, students will be able to select and accurately measure ingredients, use correct mixing techniques in the bakeshop, and successfully prepare yeast and quick bread products. Prerequisites: None; Corequisite: FSO-107Y

**FSO-107Y FSO-107 Lab**

0 0 6 2

This course provides hands-on training in the fundamental principles, procedures and techniques used in the bakeshop. Students will learn bakeshop organization and how to use baking tools and equipment. Emphasis is placed on ingredient functions, bakers percentages, measuring techniques, yeast dough formulas and preparation and quick bread formulas and preparation. Upon completion, students will be able to select and accurately measure ingredients, use correct mixing techniques in the bakeshop, and successfully prepare yeast and quick bread products. Prerequisites: None; Corequisite: FSO-107X

**FSO-108 Food Serv Personnel Mgmt**

3 0 0 3

This course is a study of the job responsibilities and duties of the foodservice worker, with emphasis on understanding human behavior. Topics include motivating, training, and communicating with people, planning, delegating, and following up and handling human relations problems. Upon completion, students will be able to apply these skills and knowledge to job responsibility in foodservice industry areas. Prerequisites: None

**FSO-109 Principles of Food Prep**

3 0 12 7

This course introduces basic cooking principles. Included will be a study of cooking terms, recipe structure, measuring procedures, preparation, cooking methods and portion control. Upon completion, students will be able to demonstrate preparation of sauces, soups, meats, poultry, fish, vegetables, fruits, breads, salads, sandwiches, breakfast products, convenience products and typical food dishes using various cooking methods. Prerequisites: None

**FSO-110 Food Serv Internship I**

0 0 20 2

This course includes work in a foodservice operation under the direction of the instructor and with the cooperation of the employer. Training areas include sanitation, warehousing, service (plate, tray set up), and meat, vegetables, salads, breads, desserts, and beverage preparation. Upon completion, students will be able to apply these techniques in the foodservice industry areas. Prerequisites: All other foodservice courses

**FSO-111 Seminar I** 1 0 0 1

This course will be used to review experiences received in work experience FSO 110. Topics include sanitation, warehousing, service (plate, tray set up), and meat, vegetables, salads, breads, desserts, and beverage preparation. Upon completion, students will be able to provide solutions to their work problems and will be competent workers in the foodservice industry. Prerequisites: All other foodservice courses; Corequisite: FSO 110

**FSO-112X Food Preparation II** 3 0 0 3

This course develops the skills and knowledge of meat analysis and identification. Topics include meats, beef, poultry, and seafood; also included are milk, eggs, cheese, and sandwiches. Upon completion, students will be able to apply the basic knowledge and techniques in the foodservice industry. Prerequisite: FSO 102; Corequisite: FSO 112Y

**FSO-112Y FSO-112 Lab** 0 0 6 2

This course provides hands-on training of laboratory methods and techniques as they relate to supporting instruction material of FSO 112X. Topics include meats, beef, poultry, and seafood; also included are milk, eggs, cheese, and sandwiches. Upon completion, students will be able to apply the basic knowledge and techniques in the foodservice industry. Prerequisite: FSO 102 ; Corequisite: FSO 112X

**FSO-113 Dining Room Service** 2 2 0 3

This course includes an overview of the waiter/waitress duties and responsibilities in a variety of foodservice operations. Topics include interpreting the menu, ordering the meal, serving and cleaning, and preparing and presenting the check. Upon completion, students will be able to apply their knowledge and skills in a job as a waiter or waitress in the foodservice field. Prerequisites: None

**FSO-114 Garnishing** 1 0 3 2

This course provides the fundamental principles of food decoration and design with emphasis on garnishing tools and materials. Topics include preparation of garnishes for plates, platters, special dishes, desserts, entrees, hors-d'oeuvres, buffets, and cafeteria lines. Upon completion, students will be able to apply their understanding of food design and decoration used in the foodservice industry. Prerequisites: None

**FSO-115 Cake Decorating** 2 0 6 4

This course is designed to provide the fundamental skills needed for decorating cakes and cookies and an introduction to sugar cookery and basic confectioneries. Topics include icing (borders, flowers, figures, writing, and cake design), torting, and assembling cakes for decoration. Upon completion, students will be able to decorate cakes and cookies and do basic sugar cookery and confectioneries in the foodservice industry. Prerequisite: FSO 107

**FSO-116 Ice Carving** 1 0 3 2

This course is designed to teach basic skills in ice carving. Topics include tools of the trade, ice handling, pattern design, and techniques of ice carving. Upon completion, students will be able to handle and carve ice for decoration. Prerequisites: None

**FSO-117X Baking II**

2 0 0 2

Baking II (Intermediate) is designed to teach intermediate skills in baking and dessert preparation. This course provides practical bakeshop experiences with pies, pastries, and basic dessert products. Emphasis is placed on sugar cooking, basic creams, dessert sauces, pie doughs, short doughs, tarts, puff pastries, choux paste, strudel, phylla and meringues. Upon completion, students will be able to successfully prepare a variety of pastry products, assemble and bake a variety of pies and prepare attractive desserts. Prerequisites: FSO 107 or Department Chair approval; Corequisite: FSO 117Y

**FSO-117Y FSO-117 Lab**

0 0 6 2

This course provides hands-on training of intermediate skills in baking and dessert preparation. This course provides practical bakeshop experiences with pies, pastries, and basic dessert products. Emphasis is placed on sugar cooking, basic creams, dessert sauces, pie doughs, short doughs, tarts, puff pastries, choux paste, strudel, phylla and meringues. Upon completion, students will be able to successfully prepare a variety of pastry products, assemble and bake a variety of pies and prepare attractive desserts. Prerequisites: FSO 107 or Department Chair approval; Corequisite: FSO 117X

**FSO-118 Confectioneries**

1 0 3 2

This course introduces the principles and development of skills in sugar cookery and candy making. Emphasis is placed on the elements of sugar cookery and the preparation of crystalline, noncrystalline, spongy, molded, and hand dipped candies. Upon completion, students will be able correctly and successfully to prepare and judge the quality of crystalline, noncrystalline, spongy, molded, and hand dipped candies. Prerequisites: None

**FSO-119 Mixology**

1 2 0 2

This course includes the proper techniques of mixing drinks, products to use, sanitation, and organization of a mixology station. Topics include use and care of hand tools and equipment of a mixology station and regulations of the Alcoholic Beverage Control Agency. Upon completion, students will be able to operate a mixology station properly in the foodservice industry. Prerequisites: None

**FSO-120 School Foodserv Menu Plng**

1 2 0 2

This course is an overview of the principles of planning nutritious, appealing, and low cost meals that meet requirements of USDA for Child Nutrition Programs. Topics include menu planning requirements and policies, commodities quality assurance, and food habits as controlled by USDA. Upon completion, students will be able to explain and implement the USDA regulations as they apply to menu planning in Child Nutrition Programs. Prerequisites: None

**FSO-122X Food Preparation III**

2 0 0 2

This course includes an overview of quantity meal preparation. Topics include recipe conversion, costing, portion control, purchasing, meal organization, hot and cold food presentation, set meal service, buffets, receptions and special parties, preparation of hors d'oeuvres and party foods. Upon completion, students will be able to plan, organize, prepare, and evaluate quantity meal functions, buffets and receptions. Prerequisites: FSO 102 and FSO 112; Corequisite: FSO 122Y

**FSO-122Y FSO-122 Lab**

0 0 9 3

This course applies the principles of quantity meal preparation. Topics include recipe conversion, costing, portion control, purchasing, meal organization, hot and cold food presentation, set meal service, buffets, receptions and special parties, preparation of hors d'oeuvres and party foods. Upon completion, students will be able to plan, organize, prepare and evaluate quantity meal functions, buffets and receptions. Prerequisites: FSO 102 and FSO 112; Corequisite: FSO 122X

**FSO-125 Catering**

2 0 0 2

This course is designed to provide the fundamental skills needed to carry out various types of catering events. Emphasis is placed on organizing catering services, contracting catering services, on and off premises catering, accommodator service, Kosher catering, menu planning for catered events. Upon completion, students will be able to organize, plan menus, make arrangements and write contracts for various types of catering events. Prerequisites: None

**FSO-202 Food Preparation IV**

2 0 6 4

This course is designed to continue development of skills in food preparation, on a quantity level, of whole meal preparations. Topics include planning food bar concepts, cafeteria line serving, short-order meals, brunches, breakfast, selective menus, and convenience foods in menu planning. Upon completion, students will be able to apply their knowledge and skills in foodservice management. Prerequisite: FSO 122

**FSO-203 Organization & Management**

3 0 0 3

This course is a study of the organization structure, application of the principles of scientific management, and the effectiveness of personnel. Topics include planning, organizing, managing, and directing a foodservice operation using quality control, production, and cost techniques. Upon completion, students will be able to compete using the five functions of management in foodservice management. Prerequisite: FSO 108

**FSO-204 Food Purch & Cost Control**

3 0 0 3

This course teaches fundamentals of sound food purchasing methods and procedures based on cost control, specifications, quantity, and storage. Topics include source selection, price considerations, buying strategy, service and vendor relations, and value analysis as a purchasing tool. Upon completion, students will be able to use effective purchasing techniques in foodservice management. Prerequisites: None

**FSO-205 Diet Therapy Menu Plng**

3 0 0 3

This course is designed to teach the mechanics of menu planning. Included are manual methods and computerizing the menu planning process. Emphasis is placed on menu planning for hospitals, nursing homes, elderly groups, adolescents and children, college students, industrial groups, state institutions and restaurant customers. Upon completion, students will be able to plan menus applying consumer worker, management and nutritional considerations for various subgroups. Prerequisite: FSO 106

**FSO-207 Food Merchandising**

3 2 0 4

This course is an overview of the principles of foodservice merchandising. Emphasis is placed on menu design, menu pricing, on-premises promotions, personal selling, advertising, and behavior of foodservice consumers. Upon completion, students will be able to design a marketing plan for a foodservice establishment. Prerequisite: FSO 122

**FSO-210 Food Serv Internship II** 0 0 20 2

This course provides student work experience in a mid-management or supervisory level under the direction of the instructor and with the cooperation of the employer. Topics include inventories, record accountability, scheduling of employees, quality and quantity inspection of equipment, and commodities. Upon completion, students will be able to apply these techniques in industrial foodservice management. Prerequisites: All other FSO courses ; Corequisite: FSO 211

**FSO-211 Seminar II** 2 0 0 2

This course will be used to review experiences received in work experience FSO 210. Topics include resume writing, problem research, and areas covered in work experience. Upon completion, students will be able to provide solutions to their work problems and will be competent in foodservice management jobs. Prerequisites: All other FSO courses; Corequisite: FSO 210

**FSO-212 Food Preparation V** 1 0 6 3

This course includes the planning of special meals and menus. Emphasis is placed on catering, party foods, international cuisine, modified diets, and school lunch menus. Upon completion, students will be able to plan and prepare special meals in the foodservice industry. Prerequisite: FSO 202

**FSO-215 Advanced Cake Decorating** 1 0 3 2

This course is designed to provide intermediate and advanced cake decorating skills. Emphasis is placed on advanced borders and flowers, color flow preparation, marzipan, filigree, stringwork, pattern making, cake designing, tier cake design and assembly. Upon completion, students will be able to design and decorate cakes and deserts using advanced decorating techniques. Prerequisite: FSO 115

**FSO-217X Baking III** 2 0 0 2

Baking III (Advanced) is designed to teach advanced baking principles and techniques in the bakeshop. This course provides practical experience with advanced dessert assembly and decoration. Emphasis is placed on cake formulas, mixing and baking cakes, tortes, European style cakes, cookies, assembling and decorating cakes, cookies and dessert products. Upon completion, students will be able to successfully prepare, assemble and decorate cakes, cookies, petits fours, tortes and a variety of dessert products in the bakeshop. Prerequisites: FSO 107, 117 or Department Chair approval; Corequisite: FSO 217

**FSO-217Y FSO-217 Lab** 0 0 9 3

This course includes the application of advanced baking principles and techniques in the bakeshop. This course provides practical experience with advanced dessert assembly and decoration. Emphasis is placed on cake formulas, mixing and baking cakes, tortes, European style cakes, cookies, assembling and decorating cakes, cookies and dessert products. Upon completion, students will be able to successfully prepare, assemble and decorate cakes, cookies, petits fours, tortes and a variety of dessert products in the bakeshop. Prerequisites: FSO 107, 117 or Department Chair approval; Corequisite: FSO 217X

**HIS-121 Western Civilization I** 5 0 0 5

This course introduces the student to Western civilization from prehistory to 1600 A.D. Topics include Ancient Greece, Rome, Christian institutions of the Middle Ages, and the development of national monarchies in Western Europe. Upon completion, students will be able to discuss and identify sociopolitical problems and solutions during this period. Prerequisites: None

**HIS-122 Western Civilization II**

5 0 0 5

This course is a continuation of HIS 121, and covers the period of history from 1600-present. Topics include the religious wars, the industrial revolution, European government restoration, World Wars I & II, and alliances. Upon completion, students will be able to discuss and identify the historical sociopolitical problems and solutions during this era. Prerequisites: None

**HIS-221 American History I**

5 0 0 5

This course is a survey of American history from the discovery of America through the end of the nineteenth century. Topics include migrants to the New World, colonial peoples, new thought, the American Revolution, Slavery, the Civil War, and reconstruction. Upon completion, students will be able to discuss American social and political reform and development up to the start of the twentieth century. Prerequisites: None

**HIS-222 American History II**

5 0 0 5

This course is a continuation of HIS 221 from the beginning of the twentieth century to the present. Topics include industrialization, World War I, the Great Depression, World War II, the cold war with Russia, and social unrest. Upon completion, students will be able to discuss America's foreign and domestic political and social decisions developed since the turn of the century. Prerequisites: None

**HIS-231 World Civilization I**

5 0 0 5

This course introduces the student to World history from the dawn of civilization to approximately the year 1500 A.D. Topics include food gatherers and food growers, Eurasian civilizations, Greco-Roman civilizations, the rise of Christianity, Islam, and Byzantine cultures. Upon completion, students will be able to better understand the social, political, and cultural differences being demonstrated among present day societies. Prerequisites: None

**HIS-232 World Civilization II**

5 0 0 5

This course is a continuation of HIS 231 and covers the period of World history from the year 1500-present. Topics include the Moslem World, the Confucian World, West European expansion, India, and China, and Second Industrial Revolution. Upon completion, students will be able to better understand the social, political, and cultural differences being demonstrated among present day societies. Prerequisites: None

**HIS-241 Black History**

5 0 0 5

This course introduces the student to the role played by Blacks in the historical development of this country. Topics include the slave trade, western pioneers, the quasi-free Negro, the Civil War, reconstruction, democracy and the Black Revolution. Upon completion, students will be able to identify the social and political problems facing blacks in society and offer insight for reform. Prerequisites: None

**HIS-251 North Carolina History**

5 0 0 5

This course is a study of geographical, political, economic, and social conditions existing in North Carolina from America's discovery to the present. Topics include state institutional development before, during, and after the colonial period, Civil War, and World Wars I and II. Upon completion, students will be able to discuss major life styles of North Carolinians historically, politically, and socially from the states beginning to the present. Prerequisites: None

**HOR-110 Soil Science & Fertilizer** 4 2 0 5

This course introduces the basic principles of efficient classification, evaluation, and management of agricultural soils. Emphasis is placed on the care, cultivation, and fertilization of the soil and the conservation of soil fertility. Upon completion, students will be able to conduct and evaluate soil tests and to implement recommendations or other corrective measures. Prerequisites: None

**HOR-120 Plant Materials I** 4 2 0 5

This course is designed to develop the student's knowledge and understanding of herbaceous plant material. Emphasis is placed on the identification, utilization, propagation, and landscape uses of economically important plants. Upon completion, students will be able to identify common herbaceous plants, be partially prepared for the Plantsman Certification Test, and be knowledgeable of plant use. Prerequisites: None

**HOR-121 Plant Materials II** 4 2 0 5

This course is designed to develop the student's knowledge and understanding of wood plant material. Emphasis is placed on the identification, utilization, propagation, and landscape use of trees, shrubs, vines, and ground covers. Upon completion, students will be able to identify common woody plants, be partially prepared for the Plantsman Certification Test, and be knowledgeable of plant use. Prerequisites: None

**HOR-130 Intro to Agricultural Eco** 3 2 0 4

This course introduces economics, the function of the agricultural economic system, and the role of agriculture in the economy. Emphasis is placed on the functions of a small business manager and the principles used in making economic decisions. Upon completion, students will be able to make management decisions pertinent to the success of a business based upon sound economic principles. Prerequisites: None

**HOR-135 Plant Science** 5 2 0 6

This course introduces general botany and provides a study of fundamental principles of plant culture. Emphasis is placed on plant physiology, morphology, and anatomy and other factors relating to plant culture. Upon completion, students will be able to apply basic principles of botanical science to horticultural and agronomic science. Prerequisites: None

**HOR-150 General Houseplant Hort** 3 2 0 4

This course covers the basics of identifying, growing, and using indoor plants. Emphasis is placed on identification, culture, propagation, and uses. Upon completion, students will be able to identify specific houseplants by common and scientific names and know culture and propagation techniques. Prerequisites: None

**HOR-153 Greenhouse Management** 3 2 0 4

This course covers the application of the basic principles of plant and soil science in greenhouse crop production. Emphasis is placed on the production of greenhouse crops, greenhouse construction, physical maintenance, and environmental control. Upon completion, students will be able to plan and implement crop production and those factors related such as chemical application, photoperiod control, and fertilization. Prerequisite: HOR 135 or Dept. Chrp. approval

**HOR-157 Sm Equip Oper Rep & Maint** 1 4 0 3

This course covers repair of small engines, principles of operation, and maintenance of small gas powered equipment. Emphasis is placed on operations of types of small engines and attachments normally used in agriculture and horticulture. Upon completion, students will be able to disassemble and diagnose problems and repair and operate small equipment. Prerequisites: None

**HOR-160 Hort Plant & Prod Display** 2 2 0 3

This course provides a practical introduction to horticultural product display. Emphasis is placed on the design and implementation of a successful plant and product exhibit. Upon completion, students will be able to determine important factors in plant and product appeal and implement an attractive exhibit. Prerequisite: Sophomore standing

**HOR-171 Bedding Plant Production** 2 2 0 3

This course is a continuation of HOR 170 and covers ordering, scheduling, and preparing bedding plant crops for commercial sale. Topics include the identification, production, and maintenance of bedding plants. Upon completion, students will be able to produce or work with bedding plants in a commercial business. Prerequisite: None

**HOR-180 Residential Landscape Dsg** 2 2 0 3

This course covers basic residential landscape horticulture principles with an emphasis on practical application for the homeowner. Topics include planning, design, plant selection, proper maintenance, and special effects to enhance a residential landscape. Upon completion, students will be able to apply basic landscape principles to enhance the aesthetic and practical value of a private residence. Prerequisites: None

**HOR-181 Vegetable & Fruit Garden** 2 2 0 3

This course covers basic aspects of home vegetable and fruit gardening in a limited area. Topics include efficient planning, crop succession and utilization, variety selection, soil preparation, care, and maintenance of the garden. Upon completion, students will be able to develop an efficient vegetable and fruit production area for home use. Prerequisites: None

**HOR-182 Non-Commercial Floral Dsg** 2 2 0 3

This course introduces the construction of horticultural arrangements and floral designs. Emphasis is placed on developing the awareness and skills necessary to design and implement aesthetically pleasing floral designs. Upon completion, students will be able to design and construct floral arrangements using living and/or silk flowers and other related horticultural arrangements. Prerequisites: None

**HOR-183 Indoor Plant Care & Ident** 2 2 0 3

This course introduces the identification, care, and arrangement of common indoor plants in the home. Topics include plant identification, selection, cultivation, care and utilization of home plants. Upon completion, students will be able to display indoor plants in an aesthetically pleasing arrangement and care for all cultural requirements. Prerequisites: None



**HOR-190 Prod of Plants & Crops** 3 2 0 4

This course is designed to survey traditional and novel production practices in horticultural plants. Emphasis is placed on soil preparation, planting, cultivation, harvest, and marketing of flowers, fruits, and vegetables. Upon completion, students will be able to discuss the advantages and disadvantages of various production practices. Prerequisites: None

**HOR-200 Landscape Horticulture I** 3 4 0 5

This course introduces residential and commercial landscape principles and practices. Emphasis is placed on drafting, common elements of good design, plant material selection, and proper utilization. Upon completion, students will be more able to read, plan, draft, and render a landscape design. Prerequisite: HOR 121 or Dept. Chrp. approval

**HOR-201 Landscape Horticulture II** 3 4 0 5

This course introduces residential and commercial landscape development, cost analysis, and installation of a landscape design. Emphasis is placed on job cost estimates, installation of a planned landscape design, and post installation maintenance. Upon completion, students will be able to read blueprints of a landscape design, develop cost estimates, and implement the design. Prerequisite: HOR 200

**HOR-202 Floral Design I** 3 2 0 4

This course covers the principles of floral design, retail marketing, and other factors pertinent to the florist trade. Emphasis is placed on flower selection, arrangement, display, and the development of appropriate pricing and marketing. Upon completion, students will be able to construct floral displays, corsages, silk arrangements, and other products commonly found in the retail florist shop. Prerequisites: None

**HOR-204 Plant Management Practice** 4 2 0 5

This course is designed to identify the general principles and practices involved in turf, nursery, and orchard establishment and management. Topics include ornamental nursery management, fruit orchard management, and sod production. Upon completion, students will be able to plan, direct, and manage the operation of a small ornamental, fruit, or turf nursery. Prerequisite: HOR 135

**HOR-205 Horticulture Marketing** 3 2 0 4

This course covers marketing principles utilized in the retail horticulture trade. Topics include how to operate a small business such as a garden center involved in selling horticultural plants and supplies. Upon completion, students will be able to perform sales or management tasks in a small retail horticulture business. Prerequisites: None

**HOR-210 Vegetable & Fruit Prod** 3 2 0 4

This course covers the basics of fruit and vegetable production which include variety selection, soil preparation, culture, and harvest techniques. Emphasis is placed on variety selection, soil management, propagation, cultivation, insect and disease control, harvesting, and marketing. Upon completion, students will be able to plan, establish, and manage a fruit or vegetable operation. Prerequisites: None

**HOR-215 Survey/Irrigation Design** 2 4 0 4

This course is designed to provide hands-on training and experience in plane surveying and irrigation technology for horticultural applications. Topics include care and use of instruments, taping, differential and profile leveling, transit, stadia, transit-tape surveys, hydraulics, basic irrigation design, overhead systems, low pressure "trickle" systems, distribution patterns, pump/reservoir requirements and installation methods. Upon completion, students will be able to apply the theory of surveying and irrigation technology to determine boundaries, areas, volumes, and implement a basic irrigation system design. Prerequisites: None

**HOR-220 Computers in Horticulture** 1 0 3 2

This course introduces hands-on experience in the use of microcomputers as tools in horticulture business. Topics include how to operate a microcomputer and use major types of software applicable to horticulture business. Upon completion, students will be able to utilize word processing, inventory control, and production management software. Prerequisites: BUS 191 or 192 recommended

**HOR-224 Landscape Management** 2 4 0 4

This course provides a practical introduction to residential landscape maintenance. Topics include lawn, shrub, tree, flower maintenance and related pruning, disease, and insect chemical control measures. Upon completion, students will be able to maintain commercial or residential grounds utilizing current technology, equipment, and pesticides. Course offers excellent review for NC Commercial Pesticide License. Prerequisites: None

**HOR-228 Plant Disease & Parasites** 3 2 0 4

This course introduces the disease and insect pests which have an economic or aesthetic impact on horticultural production. Emphasis is placed on disease and insect identification, natural and artificial control measures, and economic impact. Upon completion, students will be able to identify common disease and insect problems and prescribe appropriate control measures based upon North Carolina state recommendations. Prerequisites: HOR 135 and/or HOR 120 and 121

**HOR-250 Fruit and Nut Production** 3 2 0 4

This course covers the basics of fruit and nut production which will include cultivar selection, soil preparation, and harvest procedures. Emphasis is placed on production and culture of peach, plum, blueberry, strawberry, grape, pecan, walnut, bramble crops, and other regional fruit and nut crops. Upon completion, students will be able to plan, establish, and manage an orchard or nut production. Prerequisites: None

**HOR-254 Plant Propagation** 3 2 0 4

This course covers the study of the fundamental principles involved in the sexual and asexual reproduction of plants. Emphasis is placed on seed production techniques, grafting, stem and root propagation, and a brief introduction to micropropagation technique. Upon completion, students will be able to select and implement a propagation program for several commonly utilized horticultural plants. Prerequisites: None

**HOR-258 Turf Management** 3 2 0 4

This course is designed to identify the principles and practices involved in turf establishment, culture, and management. Emphasis is placed on grass identification, site and soil requirements, soil preparation, fertilization, pest control, and maintenance practices. Upon completion, students will be able to plan, direct, and maintain a commercial or residential turf area. Prerequisite: HOR 135

**HOR-298 Seminar** 1 0 0 1

This course introduces students to current topics in horticultural production, marketing, and sales. Emphasis is placed on professionalism in horticulture, new production techniques, and new trends in plant material selection. Upon completion, students will be able to deliver an organized presentation on a pertinent horticultural topic. Prerequisites: None

**HOR-299 Internship** 0 0 20 2

This course is designed to provide the student with an opportunity to pursue and be involved in work experience in a specialty field. Topics include employment involving production, processing, manufacturing, distributing, marketing, and inspecting horticultural products. Upon completion, students will be able to evaluate career potential in horticulture. Prerequisite: 35 hours horticulture instruction or Dept. Chrp. approval

**INS-215 Life Insurance** 5 0 0 5

This course covers types of life insurance, policy provisions, applicable laws and regulations, and buying practices. Topics include term, permanent, endowment and special life plans, and required and optional policy provisions. Upon completion, students will be able to discuss types of life insurance, appropriate policy provisions, appropriate legal principles, and their applicable use. Prerequisite: None

**INS-216 Property & Casualty Ins** 5 0 0 5

This course covers types of property and casualty coverages, policy provisions, applicable laws and regulations, buying procedures, government property, and casualty coverages. Topics include general liability insurance, automobile insurance, homeowner's insurance, commercial, fire, and extended coverages, worker's compensation, and various policy provisions. Upon completion, students will be able to discuss types of property and casualty coverages, appropriate policy provisions, and appropriate legal principles and their applicable uses. Prerequisites: None

**INS-217 Insurance Adjustment** 3 0 0 3

This course covers methods, theories, and practices involved in insurance claims handling by adjusters. Topics include tort law, auto and homeowner's insurance policies, investigation, negotiation, and evaluation and settlement of injury and property claims. Upon completion, students will be able to discuss and apply various adjusting principles and concepts involved in settlement of property and casualty claims. Prerequisite: INS 216

**INS-220 Financial Services** 2 2 0 3

This course provides an overview of the environment in which financial service professionals assist clients in meeting their financial security needs. Emphasis is placed on identifying client objectives and formulating and assessing plans to achieve them. Upon completion, students will be able to be more effective in information gathering and client counseling techniques. Prerequisites: None

**INS-221 Income Tax** 2 2 0 3

This course deals with the federal income tax system with particular reference to the taxation of life insurance and annuities. Emphasis is placed on the income taxation of individuals, sole proprietorships, partnerships, corporations, trusts, and estates. Upon completion, students will be able to render more professional financial service planning that can result in avoidance, minimization, or deferral of taxation. Prerequisites: None

**INS-222 Economics** 2 2 0 3

This course is designed to explain the basic economic principles and institutions necessary for explaining and solving business and government economic problems. Emphasis is placed on the price system, the market economy stabilization policy, the supply and demand for money, unemployment, and inflation. Upon completion, students will be able to understand, appreciate, and explain alternative solutions for the more common economic problems facing private and government sectors. Prerequisites: None

**INS-223 Fin Stmt Analy/Ins Ben** 2 2 0 3

This course covers various topics related to personal and business financial statements and describes individual insurance coverages concerning life, personal, property, and liability risks. Emphasis is placed on the techniques of financial statement analysis and personal budgeting relative to individual insurance needs and liability risks. Upon completion, students will be able to analyze a client's financial condition as it relates to insurance and risk management. Prerequisites: None

**INS-224 Insur Environment & Oper** 2 2 0 3

This course concerns legal aspects of contract formation, policy provisions, assignments, ownership rights, creditor rights, beneficiary designations, and disposition of life insurance proceeds. Emphasis is placed on insurance company types, organizations, and regulations with one assignment addressing psychological aspects of death and dying. Upon completion, students will be able to explain the regulatory aspects of company investments, reserves, privacy, surrender values, policy approval, and company examination. Prerequisites: None

**INS-225 Grp Benefits & Social Ins** 2 2 0 3

This course analyzes group insurance benefits, including the regulatory environment, contract provisions, marketing, underwriting, rate making, plan design, and alternative funding methods. Emphasis is placed on both government and private group programs related to the economic problems of death, old age, employment, and disability. Upon completion, students will be able to coordinate the various government programs and social insurance with group benefits available from the private sector. Prerequisites: None

**INS-226 Pension & Retirement Plns** 2 2 0 3

This course introduces qualified and nonqualified deferred compensation, pension, profit sharing plans, and funding instruments for these plans. Emphasis is placed on design, cost factors, and income and estate tax aspects of qualified and nonqualified plans. Upon completion, students will be able to assist individuals and business owners in planning for employee retirement income. Prerequisites: None

**INS-227 Employee Benefits** 2 2 0 3

This course focuses on the economic problems arising from death, old age, unemployment, and disability, and the benefit plans that alleviate them. Emphasis is placed on Social Security and other government programs, group insurance benefits, pension plans, and other deferred compensation arrangements. Upon completion, students will be able to apply their knowledge of the fundamental features of employee benefit plans sponsored by employers. Prerequisites: None

**INS-228 Investments** 2 2 0 3

This course relates to various aspects of investment principles and their application to personal financial planning. Emphasis is placed on investment markets, evaluation of common stock, real estate, debt management, mutual funds, variable annuities, and tax-sheltered investments. Upon completion, students will be able to discuss the growing importance of money management and assist in personal portfolio management. Prerequisites: None

**INS-229 Wealth Accumulation Plng** 2 2 0 3

This course deals with the establishment of a "living estate" through wise investment and tax planning. Emphasis is placed on real estate investment, tax-sheltered investments, and various retirement and tax planning vehicles. Upon completion, students will be able to advise and counsel individual investors on the strategies and means of accumulating wealth. Prerequisites: None

**INS-230 Estate & Gift Tax Plng** 2 2 0 3

This course is concerned with estate and gift tax planning including the nature, valuation, disposition, administration, and taxation of property. Emphasis is placed on providing a basic understanding of unified estate and gift tax systems. Upon completion, students will be able to assist individuals in development of appropriate personal estate plans using various estate planning devices. Prerequisites: None

**INS-231 Plng for Business Owners** 2 2 0 3

This course concerns the tax and legal aspects of organizing a business and the problems in continuing the business after an owner's death. Emphasis is placed on insured buy-sell agreements, retirement of a business owner, corporate recapitalizations, stock dividends, and stock redemptions. Upon completion, students will be able to assist business owners in the techniques of business uses of life and health insurance plans. Prerequisites: None

**INS-232 Financial Planning Applic** 2 2 0 3

This course applies what students have learned in earlier ChFC courses with a case study approach to typical financial and estate problems. Emphasis is placed on sample cases from simple fact patterns to complex situations involving personal and business financial problems. Upon completion, students will be able to put into practice applications of integrating the tax, insurance, and investment planning strategies covered in earlier courses. Prerequisites: None

**INS-234 Advanced Estate Planning** 2 2 0 3

This course addresses the federal estate and gift tax marital deductions as critical factors in the comprehensive estate planning process. Topics include TAMRA rules (1988), rates of transfer taxation and citizen vs non-citizen spouse tax rates. Upon completion, students will be able to discuss the issue of taxation of inter-vivos transfers vs taxation of testamentary transfers.

**INS-235 Personal Risk Mgmt/Ins I** 2 2 0 3

This course focuses on personal property-liability insurance products for handling loss exposures faced by individuals and families. Emphasis is placed on the role of homeowners, automobile, and liability insurance in handling loss exposures faced by the typical family. Upon completion, students will be able to apply product knowledge in formulating solutions to common personal liability problems. Prerequisites: None

**INS-236 Personal Risk Mgmt/Ins II** 2 2 0 3

This course focuses on the use of life and health insurance products for handling loss exposures faced by individuals and families. Emphasis is placed on the role of investments, retirement planning, business insurance, and estate planning in handling loss exposures. Upon completion, students will be able to apply product knowledge in formulating solutions to common personal financial problems. Prerequisites: None

**INS-237 Multi-Line Ins Laws/Oper** 2 2 0 3

This course focuses on the legal aspects, underwriting, and pricing of life, health, and property-liability insurance products. Emphasis is placed on multi-line insurance laws, operations, and claims handling. Upon completion, students will be able to provide, as a practitioner, a comprehensive analysis of personal lines of insurance to clients for meeting their loss exposures. Prerequisites: None

**ISC-102 Industrial Safety** 2 2 0 3

This course provides an overview of the principles of functional risk management in the industry. Topics include job safety analysis, accident prevention models, special analysis of hazards, and employee motivation. Upon completion, students will be able to evaluate jobs for safety hazards, effect hazard elimination, and develop safe conditions. Prerequisites: None

**ISC-120 Principles of Indus Mgmt** 3 0 0 3

This course provides an introductory overview of the history and evolution of American industry. Emphasis is placed on functional areas of the industry and their contribution to overall organizational effectiveness. Upon completion, students will be able to apply the principles of functional industrial management in the organizational setting. Prerequisites: None

**ISC-140 Manufacturing Process** 3 0 0 3

This course provides an overview of the various materials and processes in today's industrial sector. Topics include properties of materials, process selection, cost factors, and processing innovations. Upon completion, students will be able to analyze industrial processes for function, cost, and feasibility. Prerequisites: None

**ISC-201 Production & Inv Control** 2 2 0 3

This course is designed to survey concepts of control in production processes and inventory management. Topics include production scheduling, ROP, MRP, JUST IN TIME, TIME PHASING, and COMPUTER SYSTEMS. Upon completion, students will be able to analyze production and inventory systems for inefficiencies and formulate functional solutions to reduce the inefficiencies. Prerequisites: ISC 120 and 140, and MAT 112

**ISC-202 Quality Control** 3 0 0 3

This course is designed to survey the principles of process control by statistical methods. Topics include data collection, analysis, control charts for variables and attributes, and problem solving. Upon completion, students will be able to tabulate and present data and construct, plot, and analyze process control elements. Prerequisites: None

**ISC-204 Value Analysis** 2 2 0 3

This course introduces the principles of cost-function relationships in products and processes. Topics include product and process analysis, value engineering, value purchasing, and function enhancement. Upon completion, students will be able to analyze products and processes for function and value. Prerequisites: None

**ISC-205 Purchasing** 3 0 0 3

This course is designed to survey the concepts of modern industrial purchasing. Emphasis is placed upon just-in-time, single sourcing methods in high output industries. Upon completion, students will be able to implement the concepts and systems for optimizing procurement. Prerequisites: None

**ISC-221 Intro to Ind Engineering** 3 2 0 4

This course provides an overview of the principles of motion and time study, process efficiency studies, and cost reduction. Topics include motion economy, time study, synthetic time systems, line balancing, standard data, and reporting. Upon completion, students will be able to apply the principles of industrial engineering to work stations and processes to effect efficiency and cost reduction. Prerequisites: ISC 120 and 140

**ISC-234 Industrial Mgmt Seminar** 2 0 3 3

This course provides classroom preparation for Industrial Management's Practicum course. Emphasis is placed on actual problems encountered by industrial managers and methods of problem resolution. Upon completion, students will be able to evaluate process and product problem parameters and formulate viable solutions. Prerequisite: Sophomore standing

**ISC-235 Industrial Mgmt Practicum** 0 0 10 1

This course is the classroom complement for ISC 234. Emphasis is placed on evaluation of practical experiences of the student during the seminar hours. Upon completion, students will be able to evaluate through discussion problems encountered in "real world" seminar experiences. Prerequisites: Second year standing; ISC 221, 102, and 202

**ISC-236 Management Science** 2 2 0 3

This course is designed to survey quantitative methods of management and operations. Topics include statistics, project scheduling, linear programming, and decision theory. Upon completion, students will be able to apply scientific principles of management to industrial operations. Prerequisites: MAT 112 and 113, BUS 282, ISC 140

**ISC-241 Industrial Training** 3 0 0 3

This course introduces the student to the fundamental principles of industrial training. Topics include learning curve analysis, training project analysis, task analysis, simulators, training models, and manual preparation. Upon completion, students will be able to complete a training analysis and prepare training audio and visual aids. Prerequisites: None

**ISC-250 Computer Aided Mfg**

3 4 0 5

This course is designed to survey areas of computer integration in the manufacturing system. Topics include computer inventory systems, graphics, and control concepts. Upon completion, students will be able to apply basic computer knowledge to problem solving and manufacturing efficiency. Prerequisites: MAT 112, EDP 103 and 116, ISC 140 and 220

**ISC-251 Organizational Effective**

3 0 0 3

This course provides both a theoretical and applicatory approach to organizational behavior. Topics include time management, motivational models, productivity models, creativity projects, and stress analysis. Upon completion, students will be able to apply effective organizational behavior techniques in the industrial setting. Prerequisites: None

**ISC-252 Materials Handling**

3 0 0 3

This course is designed to survey materials management, movement, and storage. Topics include automatic storage and retrieval, equipment, and plant layout. Upon completion, students will be able to analyze materials management requirements and objectives and formulate viable strategies to accomplish them. Prerequisites: ISC 120 and 140

**LCJ-100 Basic Law Enforcement Trn**

15 0 27 24

This course contains all required studies for certification as a law enforcement officer as prescribed in the state of North Carolina basic training certification standards. Topics include an overall view of the criminal justice system, criminal law, motor vehicle law, and patrol procedures. All credits are earned through successful completion of the basic law enforcement training school. Prerequisites: None

**LCJ-101 Intro to Criminal Justice**

5 0 0 5

This course is a study of the American criminal justice system including police, court, and correctional components. Emphasis is placed on the history, philosophy, responsibilities, and functions of the various criminal justice system components. Upon completion, students will be able to explain the responsibilities and functions of the various components of the criminal justice system. Prerequisites: None

**LCJ-102 Constitutional Law**

5 0 0 5

This course introduces the history and fundamental concepts and principles of the U.S. Constitution and its Amendments. Topics include problems of federalism, safeguards to privacy, life, liberty, and property, and protection of civil and political rights. Upon completion, students will be able to relate U.S. Constitutional law to the criminal justice system in the U.S. Prerequisites: None

**LCJ-103 Criminology**

5 0 0 5

This course is an overview of research into the causes of crime. Topics include the learning theories, bio-social dynamics, and psychological factors thought to be important in the causation of crime. Upon completion, students will be able to relate theoretical concepts of criminology to practical attempts at crime control. Prerequisites: None



**LCJ-104 Law Enforcement Oper**

3 0 0 3

This course is a study of the development, organization, and management of police departments. Topics include management theory, organizational behavior, policy-making, planning, decision making, budgeting, personnel management, manpower allocation, and productivity. Upon completion, students will be able to apply management theory, concepts, and principles in a police department. Prerequisites: None

**LCJ-105 Intro to Corrections**

3 0 0 3

This course is a study of the correctional system in America, historical perspectives, contemporary philosophies, and the treatment of offenders in a modern correctional system. Emphasis is placed on North Carolina corrections, alternatives to imprisonment, and current issues in corrections. Upon completion, students will be able to explain the organization and functions of the American correctional system. Prerequisites: None

**LCJ-106 Correctional Counseling**

3 2 0 4

This course is an overview of the rehabilitation theories and techniques applicable to correctional casework and counseling. Topics include psychotherapy, behavior modification, and rational therapy. Upon completion, students will be able to apply basic counseling principles to clients within the correctional setting. Prerequisites: PSY 101 and LCJ 105 or Instructor consent

**LCJ-107 Comm Based Corrections**

3 0 0 3

This course is an examination of the theoretical underpinnings and practical processes involved in probation and parole. Emphasis is placed upon community supervision as an important element of rehabilitation ideology. Upon completion, students will be able to discuss the true purposes and practices of probation and parole within our society. Prerequisite: LCJ 105 or Instructor consent

**LCJ-108 Criminal Law**

5 0 0 5

This course includes a history of the development and philosophy of criminal law, theory and practice of criminalization, liability laws, crimes, and defenses. Emphasis is placed on North Carolina General Statutes, specifically Chapter 14. Upon completion, students will be able to explain elements of specific offenses against property, habitation, and person and apply criminal law concepts to enforcement. Prerequisite: LCJ 102 or Instructor consent

**LCJ-109 Criminal Evidence & Proc**

3 0 0 3

This course introduces the laws relating to arrest, search, seizure, and confessions. Topics include recent U.S. Supreme Court decisions and possible trends in relevant laws. Upon completion, students will be able to explain the history and expansion of individual rights of arrest, search, seizure, and confessions through judicial interpretation. Prerequisite: LCJ 102

**LCJ-110 Investigative Photography**

1 4 0 3

This course includes the study of photographic equipment and its application to the field of public service. Emphasis is placed upon crime scene recording, micro and macro photography, and the processing of negative and positive materials. Upon completion, students will be able to produce and process photographic prints suitable for forensic purposes. Prerequisites: None

**LCJ-111 Interpersonal Comm for CJ** 3 2 0 4

This course examines the theory, concepts, and principles of effective interpersonal communication in the criminal justice field. Emphasis is placed on the effective application of listening, assertion, conflict-management, and collaborative problem-solving skills to job-related situations. Upon completion, students will be able to make effective application of communication skills in client centered encounters. Prerequisites: None

**LCJ-112 Confinement Facilities Mg** 3 0 0 3

This course is an examination of principles and processes involved in the administration of correctional institutions and agencies. Topics include management techniques, supervision styles, and organizational structures. Upon completion, students will be able to understand the methods and frameworks necessary for the routine administration of complex organizations. Prerequisites: None

**LCJ-114 Organizational Theory** 5 0 0 5

This course provides an overview of organizational theory and behavior. Topics include organizational functions, structures, processes, and behavior and the manifestation of these phenomena in the criminal justice system. Upon completion, students will be able to discuss organizational theory as it applies to the criminal justice system. Prerequisite: PSY 101

**LCJ-200 Criminal Justice Planning** 4 2 0 5

This course is a study of the planning process in criminal justice agencies. Emphasis is placed on problem identification, problem solving technique, program development and implementation, program evaluation, and application of microcomputers in the planning process. Upon completion, students will be able to apply the principles of effective criminal justice planning. Prerequisite: None

**LCJ-201 Traffic Planning** 4 2 0 5

This course covers the history of traffic enforcement, the organization of the traffic unit, and enforcement responsibilities. Topics include the 3 E's and legislation, enforcement tactics, evaluation of traffic program effectiveness, and allocation of personnel and materials. Upon completion, students will be able to explain current traffic problems and the responsibilities of the law enforcement officer to the traffic function. Prerequisites: None

**LCJ-202 Judicial Process** 4 2 0 5

This course is a study of the judicial process in America with special focus on the courts of original and appellate jurisdiction in North Carolina. Emphasis is placed on the roles of judicial personnel, pretrial process, jury selection, trial procedures, sentencing, and current problems in the courts. Upon completion, students will be able to explain the organization and operation of the American judicial system. Prerequisite: LCJ 102

**LCJ-203 White Collar Crime** 3 0 0 3

This course is an examination of business and organizational deviance. Emphasis is placed on the methods utilized and rationale for committing crime in the workplace. Upon completion, students will be able to identify the techniques and theories that relate to white collar crime. Prerequisites: None

**LCJ-206 Criminal Justice Issues** 3 0 0 3

This course provides an analysis of contemporary problems that affect the criminal justice system in America today. Topics include causes of violent crime, gun control, stress, police deadly force, plea bargaining, prison conditions, and others. Upon completion, students will be able to discuss and analyze critical issues facing police, courts, and corrections in America today. Prerequisite: LCJ 101 or Instructor consent

**LCJ-207 Interview & Interrogation** 3 0 0 3

This course includes a survey of the sources of information available to criminal justice personnel and the techniques used in collecting information, interviewing, and interrogation. Emphasis is placed on the application of constitutional and democratic guidelines in obtaining admissions and confessions. Upon completion, students will be able to record admissions and confessions permanently and utilize the proper application of the polygraph. Prerequisite: Instructor consent

**LCJ-208 Identification Techniques** 2 2 0 3

This course includes the study of various identification methods and how they evolved into the present day systems. Emphasis is placed on various fingerprint classification systems and will include dental and skeletal identification. Upon completion, students will be able to classify, file, and retrieve fingerprint records and recognize the application of other forms of identification. Prerequisite: LCJ 210 or Instructor consent

**LCJ-209 Juvenile Delinquency** 5 0 0 5

This course examines the prevention, control, and treatment of juvenile delinquency. Emphasis is placed on causes of delinquency, juvenile court processes, juvenile corrections, and the role of family and school in delinquency prevention. Upon completion, students will be able to discuss the theories, concepts, and principles of juvenile delinquency prevention, control, and treatment. Prerequisite: LCJ 103 or Instructor consent

**LCJ-210 Criminal Investigation I** 3 2 0 4

This course introduces the student to the fundamentals of criminal investigation. Topics include crime scene search and recording, collection and preservation of evidence, and case preparation and presentation. Upon completion, students will be able to process crime scenes and prepare evidence collected for court. Prerequisites: None

**LCJ-211 Community Relat & Ethics** 4 2 0 5

This course is designed to create an awareness of the need for good police and community relations. Topics include problems confronting police personnel, solutions to these problems, and strategies for improving police community relations. Upon completion, students will be able to initiate and complete a community related project employing the theories and strategies taught in the class. Prerequisite: Second year standing or Instructor consent

**LCJ-212 Prisoners Rights** 3 0 0 3

This course is an examination of the legal and constitutional rights granted to those incarcerated in American prisons. Emphasis is placed upon important legal decisions and their overall effect upon prison administration. Upon completion, students will be able to identify and understand the rationale behind institutional practices regarding the legal rights of inmates. Prerequisite: LCJ 102

**LCJ-213 Firearms & Defensive Tact** 4 2 0 5

This course is designed to help the student develop an understanding of the need for use of and respect for firearms and defensive tactics. Emphasis is placed on the development of proficiency in the use of handguns, shotguns, and non-lethal weapons and defensive methods. Upon completion, students will be able to approach the use of firearms and defensive tactics in job related situations with selectivity and knowledgeability. Prerequisites: None

**LCJ-219 Intro to Criminalistics** 1 4 0 3

This course includes a survey of the various forensic sciences and their application to the field of law enforcement. Topics include common forensic applications such as weights, measurements, and comparisons, blood grouping, blood alcohol, luminol, drug analysis, and number restoration. Upon completion, students will be able to recognize, collect, and preserve evidence in the field, thereby contributing to the effectiveness of the crime laboratory. Prerequisite: LCJ 210

**LCJ-221 Substance Abuse** 5 0 0 5

This course is designed to present a history of drugs, in general, and the use and abuse of narcotic drugs, specifically. Topics include pharmacology and pharmacognosy; emphasis is placed on familiarizing the student with characteristics of drugs and drug abusers. Upon completion, students will be able to identify the general characteristics of narcotic drugs and narcotic drug abusers. Prerequisites: None

**LCJ-231 Int to Sec Serv/Loss Prev** 3 0 0 3

This course provides an overview of the role of Security and the Security Practitioner in the contemporary business and governmental community. Topics include the administrative, personnel and physical aspects of security and loss prevention. Upon completion, students will be able to explain the basic security concepts and principles and the relationship of security to the Criminal Justice process. Prerequisites: None

**LCJ-232 Comm/Retail Loss Prev** 3 0 0 3

This course deals with security function of mercantile establishments. Topics include dishonest employees, shoplifters, receiving and warehousing, inventory control, special laws for shop owners and commercial enterprise. Upon completion, students will be able to understand the complexity of commercial/retail relationship to profitability and public relations. Prerequisite: LCJ 231 or Dept. Chrp. approval

**LCJ-233 Ind/Private Security Mgmt** 3 0 0 3

This course covers organization, administration and management of security and plant protection units and programs in business, industry and government. Emphasis is placed on adapting the security function to meet organizational needs. Upon completion, students will be able to understand how the personnel and budget process relates to policy and decision making. Prerequisite: LCJ 231 or Dept. Chrp. approval

**LEG-101 Intro to Paralegalism** 3 0 0 3

This course includes an overview of the federal and state legal systems, observation of actual trials, and a study of legal terminology. Topics include an introduction to investigation, litigation, legal ethics, paralegal duties, constitutional law, legal research, and statutory and caselaw. Upon completion, students will be able to name sources of law, describe courtroom procedure, identify courts and their jurisdiction, and recognize unauthorized practice of law. Prerequisites: None

**LEG-105 Partnership & Corp Law** 3 0 0 3

This course introduces the student to the creation, organization, operation, and termination of the proprietary, partnership, and corporate forms of business. Topics include types of business enterprise, the formation and operation of sole proprietorships, partnerships, corporations, dissolution, and tax consequences. Upon completion, students will be able to prepare corporate charters, by-laws, other necessary corporate documents, partnership agreements, dissolutions, and check lists. Prerequisites: None

**LEG-108 Admin & Governmental Law** 3 0 0 3

This course involves a study of the scope and authority of administrative agencies of federal and state government and the role of paralegals in them. Emphasis is placed on the role of governmental agencies, exhausting administrative remedies, rules of evidence, and practice before such agencies. Upon completion, students will be able to represent a client before agencies where permitted, investigate cases, prepare necessary forms, and follow appellate process. Prerequisites: None

**LEG-113 Family Law** 3 2 0 4

This course involves the study of annulment, divorce, separation, agreements, child custody, support, alimony, equitable distribution, adoption, and name changes. Emphasis is placed on drafting documents relating to the above topics and recent legislation modifying prior caselaw. Upon completion, students will be able to draft complaints and judgments relating to divorce, custody, support and equitable distribution, and to complete adoption forms. Prerequisites: None

**LEG-115 Contract Law & the UCC** 3 0 0 3

This course is designed to cover the requirements of enforceable contracts, remedies for breach of contract and selected articles of the Uniform Commercial Code. Emphasis is placed on the law of contracts and Uniform Commercial Code as it relates to commercial paper, sales, and secured transactions. Upon completion, students will be able to apply the principles learned to the practice of business law in a law office. Prerequisites: None

**LEG-117 Tort Law** 3 0 0 3

This course involves the study of the law of negligence, intentional torts, and strict liability. Emphasis is placed on negligence with the preparation of pleadings, discovery devices, and the settlement brochure as course projects. Upon completion, students will be able to identify the elements of various torts and prepare pleadings, discovery devices, and the settlement brochure. Prerequisites: None

**LEG-118 Elements of Criminal Law** 2 0 0 2

This course covers substantive criminal law - the elements comprising each crime and the facts sufficient to establish each element. Emphasis is placed on the analysis of all significant misdemeanor and felony crimes in North Carolina. Upon completion, students will be able to determine whether a specific factual situation is sufficient to support a criminal conviction for a particular crime. Prerequisites: None

**LEG-119 Criminal Procedure** 3 0 0 3

This course covers the procedures involved in a criminal case including both police procedures and those procedures which govern the trial of criminal case. Topics include arrest, search and seizure, confessions, pretrial discovery, guilty pleas, pretrial motions, special defenses, sentencing and capital cases. Upon completion, students will be able to identify improper police procedures and to assist in disposition of a criminal case through guilty plea or trial. Prerequisites: None

**LEG-130 Legal Research** 4 2 0 5

This course teaches students to research law using statutory, caselaw, and constitutional authorities. Emphasis is placed on N.C. authorities as well as federal laws. Upon completion, students will be able to competently research legal problems on both the state and federal levels. Prerequisites: None

**LEG-131 Legal Writing** 2 4 0 4

This course is a continuation of LEG 130 and teaches the student the mechanics of legal writing. Emphasis is placed on teaching students to analyze legal authority, draft legal issues, and use proper writing style. Upon completion, students will be able to write a legal memorandum of law, a trial brief, and an appellate brief. Prerequisite: LEG 130

**LEG-135 Civil Litigation I** 5 0 0 5

This course involves the study of N.C. Rules of Civil Procedure relating to complaints, answers, counterclaims, crossclaims, and third party practice, service of process, and default judgment. Emphasis is placed on the practical aspects of service of process and the preparation of the above mentioned documents. Upon completion, students will be able to accomplish service of process and draft pleadings as well as use with confidence the Rules of Civil Procedure. Prerequisites: None

**LEG-136 Civil Litigation II** 3 0 0 3

This course is a continuation of Civil Litigation I and involves the study of motions and orders as well as the discovery devices. Emphasis is placed on the preparation of discovery devices and pretrial motions. Upon completion, students will be able to effectively use the discovery devices and to draft and serve motions. Prerequisites: None

**LEG-140 Bankruptcy & Collections** 2 2 0 3

This course involves the study of the two types of individual bankruptcy, specifically, straight bankruptcy and Chapter Thirteen. Emphasis is placed on the taking of financial information, preparing bankruptcy petitions, and the notification of creditors. Upon completion, students will be able to take financial information, prepare bankruptcy petitions, and deal with creditors. Prerequisites: None

**LEG-204 Investigation** 4 0 0 4

This course is designed to provide the student with a working knowledge of various aspects of civil and criminal investigation. Topics include interviewing techniques, obtaining records, sketching and photographing accident and crime scenes, collecting and preserving evidence, and tracing missing witnesses. Upon completion, students will be able to prepare questionnaires, interview witnesses, obtain criminal, motor vehicle, medical, and accident records, trace missing witnesses, and sketch scenes. Prerequisites: None

**LEG-214 Property I - Real Estate**

4 0 0 4

This course involves study of land ownership, present and future interests, absolute and conditional transfers, retained powers, and documents necessary to establish interest in land. Topics include freehold and less than freehold estates, fixtures, types of ownership, contracts, deeds, mortgages, intangible interests, liens, and recording. Upon completion, students will be able to identify personalty, realty and fixtures, intangible interests of estate conveyed, and requirements of deeds and explain recording system. Prerequisites: None

**LEG-215 Property II-Title Search**

2 4 0 4

This course is a continuation of LEG 214 and involves the actual examination of real estate titles to determine ownership, encumbrances, liens, and taxes. Topics include establishing the chain, checking out conveyances and liens, checking taxes and assessments, and writing the opinion. Upon completion, students will be able to trace chain of title, locate all liens, prepare forms for closing, and write rough draft of title opinion. Prerequisites: LEG 214 and 224

**LEG-216 Property III-RE Closing**

3 0 0 3

This course includes a study of intellectual property; a study of real estate closing. Topics include patent, trademark and copyright law; conventional, FHA, VA, FmHA closings, and closing documents. Upon completion, students will be able to prepare and explain necessary documents and conduct various types of real estate closings and explain intellectual property law. Prerequisites: None

**LEG-220 Remedies**

3 0 0 3

This course familiarizes the student with the various legal and equitable remedies which are available to a plaintiff in a lawsuit. Topics include a study of legal damages in tort and contract cases, injunctions, specific performance, declaratory judgments, and restitution. Upon completion, students will be able to evaluate a potential lawsuit as to which of the available legal and equitable remedies are most desirable. Prerequisites: None

**LEG-224 Wills, Trusts & Estates**

4 2 0 5

This course includes a study of types of wills and trusts, probate and estate, administration, intestacy, wills and estates checklist, death taxes, and administration of trusts. Topics include terminology, law of wills, contesting wills, small estates, taxation, testamentary trusts, probate, and administration of estates. Upon completion, students will be able to draft and probate simple wills, compute death taxes, identify types of wills and trusts, and administer estates and trusts. Prerequisites: None

**LEG-225 Law Office Management**

2 0 0 2

This course includes study of types of law practice, setting up and maintaining administrative and mini-maxi systems, billing, flowcharting, and monitor systems. Topics include forms of law practice, monitoring, time-keeping, filing, bookkeeping, billing systems, drafting resumes, library maintenance, and case management systems. Upon completion, students will be able to set up and maintain various law office systems, hire and supervise non-lawyer personnel, and monitor case progress. Prerequisites: None

**LEG-226 Consumer Protection** 3 0 0 3

This course includes the study of factors creating the need for consumer protection, consumer protection laws, and government agencies administering those laws. Emphasis is placed on government agencies including the Food and Drug Administration, Federal Trade Commission, and Consumer Product Safety Commission. Upon completion, students will be able to identify the procedure to enforce consumer rights through courts and government agencies. Prerequisites: None

**LEG-228 Constitutional Law** 3 0 0 3

This course is an introduction to constitutional analysis by familiarizing the student with the basic principles of constitutional law. Topics include a study of the most significant portions of the U.S. Constitution as they relate to current events. Upon completion, students will be able to better understand the practical application of the U.S. Constitution as it relates to their daily lives. Prerequisites: None

**LEG-230 Law Office Computer Use** 2 0 3 3

This course is designed to instruct the student in computer use in a law office, equipment available, and hands-on training for the various uses. Topics include computer literacy, computer use in legal research, billing, timekeeping, legal forms and other legal systems. Upon completion, students will be able to recognize computer capabilities in a law office, purchase equipment and operate computers in a law office setting. Prerequisites: None

**LEG-290 Internship** 0 0 30 3

This course includes supervised on-the-job training in a law office for thirty hours per week for eleven weeks. Emphasis is placed on actual job training in law offices (two major areas of law), supervised by instructor and attorney. Upon completion, students will be able to understand law practice in Cumberland County and in general, put skills learned through classroom experience into practice. Prerequisites: All courses except LEG 216 and 228

**LEG-291 Seminar** 3 0 0 3

This course includes the exchange of internship experiences by the students, review of critical courses, guest speakers, and evaluation of all courses required by curriculum. Topics include work experiences of interns, written evaluation of courses, evaluation of internship, and review of major courses. Upon completion, students will be able to join the working world of legal assistants under supervision of attorneys. Prerequisites: All courses except LEG 216 and 228

**MAS-1100 Intro to Bricklaying** 2 0 6 4

This course covers the history of the bricklaying industry, the types of brick, and the tools needed in the trade. Topics include laying foundations and concepts in arithmetic as it applies to masonry. Upon completion, students will be able to better understand the fundamentals of masonry. Prerequisites: None

**MAS-1101 Masonry Concepts** 2 0 6 4

This course covers the types of brick, bonding, and various uses of tools needed in masonry. Topics include laying brick and an introduction to reading blueprints. Upon completion, students will be able to read simple blueprints, will be knowledgeable in the different types of brick and tools. Prerequisites: None



**MAS-1102 Fund of Bricklaying I**

2 0 6 4

This course introduces bonding, actual use of the tools, and spreading mortar. Topics include laying block and more in-depth interpretations of blueprint reading as it applies to masonry. Upon completion, students will be able to spread mortar, interpret blueprints, and lay brick. Prerequisites: None

**MAS-1107 Fund of Bricklaying II**

4 0 18 10

This course introduces the practical application of selecting mortar, the proper use of bonds, expansion strips, and wall ties, and methods of caulking. Topics include the construction of various building elements to include walls, chimneys, and arches. Upon completion, students will be able to read details of blueprints for grades, foundations, walls, elevations, chimneys, fireplaces, and arches. Prerequisites: MAS 1100, MAS 1101, MAS 1102

**MAS-1107A Fund of Bricklaying II**

2 0 6 4

This course is designed to introduce bonds and how they are used. Topics include the construction of walls and other masonry projects. Upon completion, students will be able to lay brick to the line and will be more skilled at bonding. Prerequisite: MAS 1100, MAS 1101, MAS 1102

**MAS-1107B Fund of Bricklaying II**

1 0 6 3

This course is a continuation of MAS 1107A and introduces the practical application of selecting mortar and the proper use of wall ties. Topics include construction of walls and chimneys. Upon completion, students will be able to lay brick and block walls with some skill and accuracy. Prerequisite: MAS 1107A

**MAS-1107C Fund of Bricklaying II**

1 0 6 3

This course is a continuation of MAS 1107B and includes the proper use of bonds, expansion joints, and methods of caulking. Topics include the construction of fireplaces and arches. Upon completion, students will be able to read details of blueprints for foundations, walls, chimneys, fireplaces, and arches. Prerequisite: MAS 1107B

**MAS-1108A Fund of Masonry I**

2 0 6 4

This course introduces students to the actual layout of masonry lintels and fireplaces. Topics include the calculation of required quantities. Upon completion, students will be able to do estimates of basic structures. Prerequisite: MAS 1107

**MAS-1108B Fund of Masonry I**

2 0 6 4

This course is a continuation of MAS 1108A and covers more difficult blueprints and the use of tile and stone. Topics include estimating materials and the cost of materials. Upon completion, students will be able to estimate with a good deal of accuracy and read more complex blueprints. Prerequisite: MAS 1108A

**MAS-1108C Fund of Masonry I**

2 0 6 4

This course is a continuation of MAS 1108B and provides more hands-on experience and in-depth estimation of materials, cost, and labor. Topics include labor and material costs. Upon completion, students will be able to estimate materials, cost, and labor and will have attained speed and accuracy in laying masonry units. Prerequisite: MAS 1108B

**MAS-1108X Fund of Masonry I** 6 0 12 10

This course introduces students to the layout and construction of footings and walls. Topics include brick and concrete footings, various types of walls, and bonding. Upon completion, the students will be knowledgeable in the construction of masonry footings and walls. Prerequisites: MAS 1107; Corequisite: MAS 1108Y

**MAS-1108Y MAS-1108 Lab** 0 0 6 2

This course provides hands-on application of the procedures and techniques introduced in MAS 1108X. Emphasis is placed on footing and masonry wall construction. Upon completion, the students will have the skills necessary to layout and construct footings and walls. Prerequisites: MAS 1107; Corequisite: MAS 1108X

**MAS-1109A Fund of Masonry II** 2 0 6 4

This course is designed to include a variety of masonry techniques. Topics include grading and forming. Upon completion, students will be able to demonstrate the basics of laying out building lines and digging footings. Prerequisite: MAS 1108

**MAS-1109B Fund of Masonry II** 2 0 6 4

This course is a continuation of MAS 1109A and includes fundamentals of masonry. Topics include mixing by proportions and stepped footing. Upon completion, students will be able to lay brick and block under more difficult circumstances than previously covered. Prerequisite: MAS 1109A

**MAS-1109C Fund of Masonry II** 2 0 6 4

This course is a continuation of MAS 1109B and is designed to employ the techniques and fundamentals of the entire course. Topics include the curing of concrete. Upon completion, students will be able to compete for jobs by demonstrating skill in various techniques and much improvement in speed and accuracy. Prerequisite: MAS 1109B

**MAS-1109X Fund of Masonry II** 6 0 12 10

This course is designed to include all the fundamentals and techniques used in masonry construction. Emphasis is placed on columns, concrete masonry, and fireplaces. Upon completion, students will be knowledgeable in the fundamentals and techniques used in masonry construction. Prerequisite: MAS 1108; Corequisite: MAS 1109Y

**MAS-1109Y MAS-1109 Lab** 0 0 6 2

This course provides hands on application of the procedures and techniques introduced in MAS 1109X. Emphasis is placed on columns, concrete, and fireplaces. Upon completion, the students will have the skills necessary to construct columns and fireplaces and to pour concrete. Prerequisite: MAS 1108; Corequisite: MAS 1109X

**MAS-1110 Masonry Estimating** 3 0 0 3

This course introduces the procedures for estimating costs of materials and labor in connection with masonry projects. Emphasis is placed on the total quantities of materials and labor needed to construct a building or other masonry project. Upon completion, students will be able to perform a quantity take-off from blueprints and determine the cost of constructing the project. Prerequisites: None

**MAS-1113 Masonry Regulations**

4 0 0 4

This course covers building codes and the minimum requirements for local and state masonry construction regulations. Emphasis is placed on the minimum requirements of the North Carolina Building Codes relating to residential structures. Upon completion, students will be able to determine if the masonry portion of a residential structure is in compliance with the North Carolina Building Codes. Prerequisite: None

**MAT-1101 General Math**

3 2 0 4

This course is designed to develop basic mathematical concepts and principles. Topics include whole numbers, fractions, decimal fractions, percents, and English and metric measurement systems. Upon completion, students will be able to solve practical problems in their specific area of study. Prerequisites: None

**MAT-1102 Algebra**

3 2 0 4

This course introduces basic algebraic concepts and develops basic algebraic skills. Topics include signed numbers, solving equations, exponents, roots, radicals, formula evaluation, and graphing. Upon completion, students will be able to apply these algebraic concepts to solve practical problems and employ them in subsequent math or science courses. Prerequisite: MAT 1101 or equiv.

**MAT-1103 Geometry**

3 0 0 3

This course provides an introduction to basic concepts in elementary geometry. Emphasis is placed on angles and their measures, triangles, areas, and perimeters of polygons, circles, geometric solids and geometric constructions. Upon completion, students will be able to apply their knowledge of these principles to their specific areas of study. Prerequisite: MAT 1101 or equiv.

**MAT-1104 Trigonometry**

3 2 0 4

This course provides an introduction to the trigonometric concepts which relate to mechanical drafting and shop problems. Topics include fundamental concepts of triangles, right triangle trigonometry, trigonometric functions for any angle, and the solution of oblique triangles. Upon completion, students will be able to employ their knowledge of right and oblique triangles in the solution of practical problems. Prerequisite: MAT 1102

**MAT-1105 Math for Nurses**

2 2 0 3

This course provides the practical nursing student with a review of fundamental mathematical concepts, with applications to nursing procedures. Topics include whole numbers, fractions, decimals, percents, proportions, systems of measurement, oral and injectable medications, and pediatric dosages. Upon completion, students will be able to use basic mathematical concepts in the calculations for various types of adult and pediatric medications. Prerequisites: None

**MAT-111 Basic Mathematics**

5 0 0 5

This course provides a rapid review of concepts in arithmetic, systems of measurements, elementary algebra, and basic statistics. Topics include whole numbers, fractions, decimals, ratios, proportions, percents, English and metric measurement, signed numbers, linear equations, and statistical graphs. Upon completion, students will be able to employ their knowledge of these topics in the solution of practical problems in their specific areas of study. Prerequisites: None

**MAT-1116 Math for Plumbers** 3 2 0 4

This course provides skills necessary for the layout, measurement, and computation of pipe lengths, volumes, pressures, and capacities of water tanks and pipes. Topics include basic arithmetic, linear equations, linear measurement using angles to compute offset, diagonal, rise or run, percent, areas, and volumes. Upon completion, students will be able to apply skills learned to solve practical problems in the plumbing trade. Prerequisites: None

**MAT-112 Algebra I** 5 0 0 5

This course is designed to provide the student with fundamental concepts of algebra and trigonometry. Topics include basic operations of algebra, linear equations and inequalities, exponents, polynomials, and right triangles. Upon completion, students will be able to apply their knowledge of algebra and trigonometry to solve practical problems. Prerequisite: MAT 111 or MAT 94 or equiv.

**MAT-113 Algebra II** 5 0 0 5

This course is a continuation of MAT 112 with additional study of algebraic techniques. Emphasis is placed on factoring, algebraic fractions, graphing and solving linear systems, roots, radicals, and quadratic equations. Upon completion, students will be able to apply their knowledge of algebra to solve practical problems. Prerequisite: MAT 112

**MAT-114 Algebra & Trigonometry I** 5 0 0 5

This course is designed to develop the elementary algebraic and trigonometric skills necessary for the solution of practical problems. Topics include the four basic operations with algebraic expressions, functions, trigonometry, j-operator, exponents, and vectors. Upon completion, students will be able to interpret and employ trigonometric concepts and use algebraic skills in solving practical problems. Prerequisites: MAT 95, 96, and 97 or MAT 112, 113 or equiv.

**MAT-115 Algebra & Trigonometry II** 5 0 0 5

This course, a continuation of MAT 114, develops skills in solving equations and inequalities and in graphing techniques with algebraic and transcendental functions. Topics include systems of equations, logarithmic and exponential functions, graphs of trigonometric functions, higher degree equations, inequalities, variation, and progressions. Upon completion, students will be able to solve higher degree equations and inequalities and use graphic techniques on exponential, logarithmic, and trigonometric functions. Prerequisite: MAT 114

**MAT-116 Basic Calculus I** 5 0 0 5

This course, a continuation of MAT 115, develops skills in using trigonometric identities, solving trigonometric equations, analyzing functions, and differentiating algebraic functions. Emphasis is placed on trigonometric identities, solving trigonometric equations, analytic geometry, limits, differentiation, and applications of the derivative. Upon completion, students will be able to solve trigonometric equations, analyze functions, and apply differentiation to practical problems. Prerequisite: MAT 115

**MAT-117 Basic Calculus II**

3 0 0 3

This course is a continuation of MAT 116 and develops skills in using the techniques of differentiation and integration. Topics include integration and differentiation of logarithmic, trigonometric, inverse trigonometric, exponential, and algebraic functions. Upon completion, students will be able to solve practical problems using the techniques of differentiation and integration. Prerequisite: MAT 116

**MAT-131 College Mathematics**

5 0 0 5

This course provides the student with a survey of mathematical topics applicable to a liberal arts education. Emphasis is placed on sets, logic, the metric system, consumer mathematics, probability, and statistics. Upon completion, students will be able to employ their knowledge of these topics to specific areas in their curricula. Prerequisites: MAT 95 and MAT 96 or equiv.

**MAT-132 College Algebra**

5 0 0 5

This course provides a conceptual approach to the principles of algebra while concurrently strengthening the student's manipulative skills in algebra. Topics include the basic concepts of algebra: equations, inequalities, absolute value, and functions (linear, polynomial, rational, and inverse). Upon completion, students will be able to work effectively with functions and equations and apply this knowledge to further mathematical studies. Prerequisites: MAT 95 and MAT 96 or equiv.

**MAT-133 Pre-Calculus I**

5 0 0 5

This course is designed to emphasize those topics in college algebra which are fundamental to the study of calculus. Topics include review of basic concepts; equations and inequalities in one variable; functions; systems of equations and inequalities. Upon completion, students will be able to apply their knowledge of college algebra to the study of calculus. Prerequisites: MAT 132 or equiv.

**MAT-134 Pre-Calculus II**

5 0 0 5

This course, a continuation of MAT 133, is designed to emphasize topics in trigonometry, analytic geometry and other areas fundamental to the study of calculus. Topics include exponential and logarithmic functions; right and oblique triangles; trigonometric identities and equations; conic sections; vectors; Binomial Theorem. Upon completion, students will be able to apply their knowledge of trigonometry, logarithms and conic sections to the study of calculus. Prerequisite: MAT 133

**MAT-150 Geometry**

5 0 0 5

This course introduces fundamental concepts of geometry and trigonometry that are necessary for solving problems related to the machinist program. Emphasis is placed on using geometric and trigonometric concepts to solve related problems. Upon completion, students will be able to apply geometric and trigonometric concepts to machine shop problems. Prerequisite: MAT 113

**MAT-151 Trigonometry I**

5 0 0 5

This course reviews geometric concepts and extends trigonometric concepts to include oblique triangles with application to practical shop problems. Topics include geometric propositions and trigonometry of right and oblique triangles (the sines and cosines laws). Upon completion, students will be able to apply both geometric and trigonometric concepts in the solution of problems encountered in the machine shop. Prerequisite: MAT 150

**MAT-152 Trigonometry II** 5 0 0 5

This course covers the fundamental concepts of solid (three dimensional) geometry and includes the solution of compound angles. Emphasis is placed on use of plane trigonometry and solid geometry to solve compound angles from pictorial and orthographic drawings. Upon completion, students will be able to solve compound angle problems pertaining to the tool and die shop. Prerequisite: MAT 151

**MAT-221 Calculus I** 5 0 0 5

This course introduces basic concepts necessary to provide a comprehensive treatment of limits and an introduction to derivatives and integrals. Topics include Cartesian plane and functions, limits and continuity, the derivative and its applications, and the integral. Upon completion, students will be able to apply differentiation and basic integration techniques to algebraic functions of one variable. Prerequisite: MAT 134 or equiv.

**MAT-222 Calculus II** 5 0 0 5

This course is a continuation of MAT 221 with emphasis on applications of integration and differentiation and integration of transcendental functions. Topics include applications of integration, differentiation and integration of transcendental functions, techniques of integration, and conic sections. Upon completion, students will be able to solve application problems using integration to problems involving transcendental functions. Prerequisite: MAT 221 or equiv.

**MAT-50 General Mathematics** 6 4 0 8

This course provides a lecture and laboratory setting to improve the mathematical background of those students who need to review the basic operations of arithmetic. Topics include the four basic operations of addition, subtraction, multiplication, and division of whole numbers, common fractions, and decimal fractions. Upon completion, students will be able to perform the four basic operations of arithmetic with emphasis on practical applications. Prerequisites: None

**MAT-91 Basic Math I** 3 2 0 4

This course is designed to improve the mathematical background of those students who need to review the basic operations of arithmetic. Topics include the four basic operations of addition, subtraction, multiplication, and division of whole numbers, common fractions, and decimal fractions. Upon completion, students will be able to perform the four basic operations of arithmetic with emphasis on practical application. Prerequisites: None

**MAT-92 Basic Math II** 3 2 0 4

This course covers the relationships between percent, ratios, and proportions and introduces signed numbers. Emphasis is placed on ratio, proportion, percent, and operations with signed numbers. Upon completion, students will be able to solve problems involving percent by using proportion as well as perform the four basic operations with signed numbers. Prerequisite: MAT 91 or equiv.

**MAT-93 Basic Math III** 3 2 0 4

This course covers the English and metric systems of measurement, roots and radicals, basic geometry, and basic algebra. Emphasis is placed on roots and radicals, English and metric measurements, Pythagorean theorem, algebraic expressions, and linear equations. Upon completion, students will be able to apply their skills to solve practical problems using basic geometry and elementary algebra. Prerequisite: MAT 92 or equiv.

**MAT-94 Pre-Algebra**

3 2 0 4

This course provides a rapid review of arithmetic, basic geometry, and elementary algebra. Topics include basic operations of arithmetic and signed numbers, percent, radicals, metric and English systems, perimeter, area, volume, and right triangle. Upon completion, students will be able to apply arithmetic and basic geometry to solve problems. Prerequisites: None

**MAT-95 Algebra I**

3 2 0 4

This course introduces basic mathematics concepts and develops the algebraic skills needed in subsequent courses in either mathematics or science. Emphasis is placed on number systems, solving equations and inequalities, exponents and polynomials, factoring, and applications. Upon completion, students will be able to use the algebraic skills acquired to solve problems as well as continue to subsequent mathematics or science courses. Prerequisite: MAT 94 or equiv.

**MAT-96 Algebra II**

3 2 0 4

This course is a continuation of MAT 95, covering more advanced topics in algebra. Emphasis is placed on rational expressions, graphing, linear systems, roots and radicals, and quadratic equations. Upon completion, students will be able to use the algebraic skills acquired to permit them to achieve success in college level or technical mathematics courses. Prerequisite: MAT 95 or equiv. Algebra I course

**MAT-97 Algebra III / Trig**

3 2 0 4

This course provides a comprehensive review of basic algebra and covers the trigonometric concepts pertaining to right triangles, oblique triangles, and vectors. Topics include basic numeric and algebraic concepts, ratio, proportion, variation, right triangle trigonometry, graphing, trigonometric functions, oblique triangles, and vectors. Upon completion, students will be able to graph functions, solve both right and oblique triangles, and apply algebraic and trigonometric concepts in solving technical problems. Prerequisites: MAT 95 and 96 or two years of algebra

**MAT-98 Math of Dosages/Solutions**

3 2 0 4

This course provides the pre-ADN student with a review of mathematical topics and a discussion of calculation of dosages and solutions. Topics include fractions, decimals, percents, proportions, systems of measurement, oral and injectable medications, intravenous medications, and pediatric dosages. Upon completion, students will be able to employ mathematical concepts in the calculation of dosages for various types of adult and pediatric medications. Prerequisite: Instructor approval

**MEC-100 Industrial Specifications**

3 0 0 3

This course is designed to acquaint the student with industrial specifications on nuts, bolts, steel, gears, dowels, and other tools for machines and equipment. Emphasis is placed on studying machine tool and hand tool specifications, job sheets, and procedure sheets along with specification sheets. Upon completion, students will be able to use the specification charts and the machinist handbook. Prerequisite: None

**MEC-101X Theory & Practice I**

3 0 0 3

This course introduces machine shop technology. Emphasis is placed on identification and basic fundamentals of tools and machinery in a machine shop. Upon completion, students will be able to understand procedures and safety of using hand tools, inspection equipment, and grinders. Prerequisites: None; Corequisite: MEC 101Y

**MEC-101Y MEC-101 Lab**

0 0 12 4

This course provides practical hands-on use of the machine shop equipment. Emphasis is placed on proper use of the tools, inspection equipment, and grinders. Upon completion, students will be able to use the tools, inspection equipment, and grinders in a machine shop. Prerequisites: None; Corequisite: MEC 101X

**MEC-102X Theory & Practice II**

3 0 0 3

This course introduces lathe and lathe accessories used in machine shop operations. Emphasis is placed on operation of the lathe and lathe accessories. Upon completion, students will be able to explain the purpose and operation of the lathe. Prerequisite: MEC 101; Corequisite: MEC 102Y

**MEC-102Y MEC-102 Lab**

0 2 6 3

This course provides hands-on experience with the lathe, band saw, and drill press. Emphasis is placed on practicing the operation of the lathe, band saw, and drill press. Upon completion, students will be able to operate the lathe, band saw, and drill press safely. Prerequisite: MEC 101; Corequisite: MEC 102X

**MEC-103X Theory & Practice III**

3 0 0 3

This course introduces the mill machine and its attachments. Emphasis is placed on proper operation of mill machines. Upon completion, students will be able to explain the uses of the mill machine and its attachments. Prerequisite: MEC 101; Corequisite: MEC 103Y

**MEC-103Y MEC-103 Lab**

0 2 6 3

This course provides hands-on experiences in operating the mill machine and its attachments. Emphasis is placed on using the different functions of the mill machine and its attachments. Upon completion, students will be able to safely operate the mill machine and its attachments. Prerequisite: MEC 101; Corequisite: MEC 103X

**MEC-104X Theory & Practice IV**

3 0 0 3

This course provides more emphasis on the use of machine shop equipment. Emphasis is placed on set-up and machining of different metals and shapes. Upon completion, students will be able to explain the operation and tooling for machine shop equipment. Prerequisite: MEC 103; Corequisite: MEC 104Y

**MEC-104Y MEC-104 Lab**

0 0 9 3

This course provides hands-on experience operating all machinery in the machine shop. Emphasis is placed on each machine. Upon completion, students will be able to operate with more understanding of machines and metal shapes. Prerequisite: MEC 103; Corequisite: MEC 104X

**MEC-105 Physical Metallurgy**

3 2 0 4

This course is designed to acquaint the student with the equipment used in heat treating of ferrous and nonferrous metals. Emphasis is placed on the effects of hardening, tempering, and annealing upon the structure and physical properties of metals. Upon completion, students will be able to use equipment for heat treatment and will know what quench medium to use with different types of steels. Prerequisite: MEC 103



**MEC-106 Precision Machines**

1 4 9 6

This course is designed to assist students in machining parts in close tolerances and to help them understand the importance of these processes to industry. Emphasis is placed on close tolerances, surface finish, and proficiency using precision measuring and gauging instruments. Upon completion, students will be able to machine parts to very close tolerances. Prerequisite: MEC 104

**MEC-1104 Structure of Metals**

3 2 0 4

This course covers the identification of metal structures, markings, manufacturing and classification, properties, and specifications derived from manuals and charts. Topics include processing metals through controlled experiments by preparation and hands-on work performed by the student in the lab. Upon completion, students will be able to identify specific metals through lab and microscopic processing and determine properties of metal through lab techniques. Prerequisites: None

**MEC-1108 Industrial Materials**

1 0 3 2

This course includes a study of modern industrial materials with emphasis on their physical properties and applications. Emphasis is placed on methods by which materials are produced and processed; testing data is analyzed and recorded on diagrams. Upon completion, students will be able to use manuals, select certain qualities, and do basic materials testing. Prerequisite: PHY 1101

**MEC-1110 Machine Processes I**

1 0 3 2

This course introduces the basic equipment used in a machine shop. Emphasis is placed on understanding the uses of the equipment and attachments. Upon completion, students will be able to understand the uses of the various equipment in a machine shop. Prerequisites: None

**MEC-1111 Intro to Mfg Processes**

2 0 3 3

This course covers manufacturing methods and processes, including textbook material and shop demonstrations. Topics include various manufacturing processes not previously covered presented by text, films, and field trips. Upon completion, students will be able to explain the broad capabilities of the most important manufacturing processes. Prerequisite: MEC 1110 or equiv.

**MEC-1112 Machine Shop Processes**

1 0 6 3

This course introduces the basic equipment in a machine shop. Emphasis is placed on understanding the uses of machine shop equipment and attachments. Upon completion, students will be able to use the various machines in a machine shop. Prerequisites: None

**MEC-1135 Hydraulics & Pneumatics**

3 0 3 4

This course covers basic theories of hydraulic and pneumatic systems used in industry. Topics include use of standard hydraulic symbols, pumps, control valves, control assemblies, and actuators used in hydraulic circuits. Upon completion, students will be able to explain sizing of piping, controls, fluids, and reservoirs required for successful operation of hydraulic and pneumatic circuits. Prerequisites: Completion of E.I.M. program or equivalent

**MEC-1136 Mechanical Ind. Systems**

2 0 6 4

This course is a study of the components of mechanical systems including drives, belts, couplings, clutches, gears, sprockets, chains and component locking devices. Emphasis is placed on basic mechanical functions, motions and forces in addition to basic lubrication principles as applied to mechanical systems. Upon completion, students will be able to explain the operation of components of mechanical systems and to describe how these systems are maintained and lubricated. Prerequisites: Completion of E.I.M. program or equivalent

**MEC-1137 Rigging & Moving**

2 0 6 4

This course is a study of devices and machines used in moving industrial machinery and equipment. Emphasis is placed on the proper and safe use of rope, chains, hoists and cranes, in relation to moving, aligning and anchoring. Upon completion, students will be able to display a working knowledge of safe and proper rigging and moving principles and practices. Prerequisites: Completion of E.I.M. program or equivalent

**MEC-1151 Jigs & Fixtures**

1 0 6 3

This course involves methods of fastening parts together, clamping and locating methods, and the application of jigs and fixtures to production machining. Emphasis is placed on the quality of workmanship and precision tolerances. Upon completion, students will be able to show proficiency in working to very close tolerances. Prerequisite: Machine Shop

**MEC-1152 Gauges & Special Tools**

1 0 6 3

This course includes an overview of precision gages and special tools and their application to production. Topics include the making of slide tools, form tools, fly cutters, and grinding fixtures. Upon completion, students will be able to apply these skills to industrial situations for production machining. Prerequisite: None

**MEC-1153 Tool Making**

1 0 9 4

This course is a continuation of MEC 1152 with advanced instructions in form dressing procedures, surface finishes, precision tolerances, and general tool making. Topics include complicated jigs and fixtures, safety, magnification and amplification of error. Upon completion, students will be able to demonstrate proficient use of these devices in challenging situations. Prerequisite: MEC 1152

**MEC-1154 Die Making I**

2 0 6 4

This course introduces students to the principles of dies and metal stamping and the terminology common to the trade. Topics include accuracy, surface finish, importance of clearances, radiuses, and the press cycle. Upon completion, students will be able to design a simple progressive blanking and piercing die. Prerequisite: Machine Shop

**MEC-1155 Die Making II**

2 0 9 5

This course is a continuation of MEC 1154 and covers the development of correct working habits and close tolerance machining. Topics include insufficient and excessive cutting clearances, bending stresses, stripping forces, bend allowance curves, and angular clearances. Upon completion, students will be able to demonstrate techniques used by diemakers in industrial situations. Prerequisite: MEC 1154

**MEC-1156 Die Making III**

2 0 6 4

This course is a continuation of MEC 1155 involving advanced theory and design of progressive dies. Topics include pilot locations, grinding operations, blank development, and set-up of a three or more stage progressive die. Upon completion, students will be able to discuss, design, machine, and assemble a multiple station progressive die. Prerequisite: MEC 1155

**MEC-1159 Tool Making III**

2 0 6 4

This course is a continuation of MEC 1153 with advanced tool making practices in single and multi-point cutting tools. Emphasis is placed on design, machining, heat-treating, and sharpening of form tools. Upon completion, students will be able to demonstrate effective methods of form cutting and grinding. Prerequisite: MEC 1153

**MEC-1160 Intro to Plastic Molding**

2 2 6 5

This course includes the different types, uses, and the behavior of plastics and terminology common to the trade. Topics include injection molding, the standard mold base, and design and machining of mold components. Upon completion, students will be able to design and apply these techniques used in industrial situations. Prerequisite: Machine Shop

**MEC-1161 Mold Making I**

2 2 6 5

This course includes the basic design and machining of the standard injection mold base. Topics include optical finishes, grating, runner systems, ejection methods, venting and cooling, and final assembly procedures. Upon completion, students will be able to design and apply state-of-the-art techniques used in industrial settings. Prerequisite: MEC 1160

**MEC-1162 Mold Making II**

2 0 6 4

This course covers the molds, materials, and methods for molding thermoset plastics. Emphasis is placed on compression and transfer molding techniques. Upon completion, students will be able to design and apply their knowledge of thermoset plastics in industrial settings. Prerequisite: MEC 1161

**MEC-1163 Mold Making III**

1 0 9 4

This course is a continuation of MEC 1162 with advanced instruction involving molds for thermoset plastics. Topics include the blow molding process and the more recent in-line screw injection process. Upon completion, students will be able to apply these techniques as needed in industrial situations. Prerequisite: MEC 1162

**MEC-1198X Automotive Machine Shop**

2 0 0 2

This course is provided to familiarize the student with cylinder block boring equipment, cylinder head surfacing, valve reconditioning, and piston pin servicing equipment. Emphasis is placed on proper use of equipment and maintaining close tolerances to specifications during repair work to automotive engine parts. Upon completion, students will be able to use properly and safely automotive engine reconditioning equipment. Prerequisites: None; Corequisite: MEC 1198Y

**MEC-1198Y MEC-1198 Lab**

0 0 6 2

This course is the shop application of the 1198X course. Emphasis is placed on the operation of lathes, boring bar, cylinder head resurfacing equipment, valve guide and seat equipment, and piston pin fitting. Upon completion, students will be able to use safely and correctly the automotive machine equipment. Prerequisites: None; Corequisite: MEC 1198X

**MEC-1290 EDM Machining I**

2 2 3 4

This course provides an introduction to the basic EDM machine tool types, set up, operation and uses. Emphasis is placed on the proper settings for voltages, amperages, frequency, and selection of electrode materials. Upon completion, students will be able to explain proper settings and discuss situations applicable to EDM machining. Prerequisites: None

**MEC-1291 EDM Machining II**

2 2 0 3

This course, a continuation of MEC 1290, is designed to further acquaint the student by actual applications of both conventional and wire EDM machines. Emphasis is placed on MDI programming and different set-ups as applied to both machines. Upon completion, students will be able to set power settings, program a part, set-up the machines and produce the final product. Prerequisites: MEC 1290

**MEC-182 Jig & Fixture Making**

3 0 9 6

This course is designed to acquaint the student with the principles of jigs and fixtures, their application to industry, and the basic fabrication methods. Emphasis is placed on developing self-confidence and accuracy in the student's ability to do high precision work. Upon completion, students will be able to explain the working aspects of jig and fixture and their components. Prerequisite: MEC 154

**MEC-183 Machine Repair**

2 0 3 3

This course is designed to acquaint the student with movable parts of machine tools and basic methods of joining parts together to obtain satisfactory service. Emphasis is placed on developing an understanding of the operation, hydraulic and electrical systems, and rebuilding of machine tools. Upon completion, students will be able to do minor repairs on machines and will have a working knowledge of machine tools. Prerequisite: MEC 106

**MEC-201X Numerical Cntrl in Mfg I**

3 0 0 3

This course introduces the student to basic programming of the ANILAN GXM on a standard milling machine and the Compac 5 CNC Lathe. Emphasis is placed on using codes to complete a simple part program. Upon completion students will be able to use codes and follow a simple part boundary. Prerequisites: MAT 150, MEC 104; Corequisite: MEC 201Y

**MEC-201Y MEC-201 Lab**

0 0 3 1

This course provides practical experience in programming the ANILAN GXM on a standard milling machine and the Compac 5 CNC Lathe. Emphasis is placed on the set-up and operation of control units. Upon completion, students will be able to set-up and operate the control unit for simple parts. Prerequisite: MAT 150, MEC 104; Corequisite: MEC 201X

**MEC-202X Numerical Cntrl in Mfg II** 2 0 0 2

This course is designed to further acquaint the student with CNC controls including operating the (Fanuc) 3TC controller and the ANILAN GXM control unit. Emphasis is placed on complex part programs and machine set-up. Upon completion, students will be able to set-up equipment and run part programs. Prerequisite: MEC 201, MAT 150; Corequisite: MEC 202Y

**MEC-202Y MEC-202 Lab** 0 4 6 4

This course is designed to further acquaint the student with CNC controls like the (Fanuc) 3TC controller and the ANILAM GXM control unit. Emphasis is placed on the Cartesian coordinates, keyboard, modes of operation, address codes, programming, and operation. Upon completion, students will be able to do complex part programming and run the machine. Prerequisites: MEC 201, MAT 150; Corequisite: MEC 202X

**MEC-203X Numerical Ctrl in Mfg III** 2 0 0 2

This course is a continuation of MEC 202X and includes further development on CNC Controls and doing complex part programs with the use of personal computers. Emphasis is placed on doing complex part programs and showing how personal computers are interfaced with equipment. Upon completion, students will be able to complete a program on a computer and download it to the machine. Prerequisites: MAT 151, MEC 202X, MEC 202Y, MEC 211; Corequisite: MEC 203Y

**MEC-203Y MEC-203 Lab** 0 0 15 5

This course is a continuation of MEC 202Y and includes further development of CNC Controls and doing complex parts program with the use of personal computers. Emphasis is placed on execution of these CNC programs and the ones developed with the use of a computer. Upon completion, students will be able to run these programs on the machine, do set-up and download from a personal computer. Prerequisites: MAT 151, MEC 202X, MEC 202Y, MEC 211; Corequisite: MEC 203X

**MEC-211 Basic CAD/CAM** 1 4 3 4

This course introduces the student to the basics of Computer Aided Drafting and Computer Aided Manufacturing. It includes the study of computer graphics, the components and operation of computers, the methods of program execution, and how to develop a CNC program. Upon completion, the student will be able to construct a working drawing and produce a CNC Program. Prerequisite: MEC 201; Corequisite: MAT 151

**MEC-212 Advanced CAD/CAM** 1 2 12 6

This course is a continuation of MEC 203 and MEC 211 and includes further development of CAD/CAM as it is used in the machine shop by doing more difficult part programming. Topics include Master CAM and CNC programs for machine tool and setting up machine for different parts. Upon completion, students will be able to draw and design a complex part and develop a useable program. Prerequisites: MEC 203X, MEC 203Y, MEC 211; Corequisite: MEC 213

**MEC-213 CAD/CAM Applications** 1 4 0 3

This course provides the student with the opportunity to apply theory principles of CAD/CAM and CNC, as it is used in industry. Topics include how Master Cam is used to produce CNC programs and how to set-up the machine for different parts. Upon completion, students will be able to use Master Cam and set-up and run the CNC equipment. Prerequisite: MEC 212; Corequisite: None

**MEC-253 Advanced Machine Process**

3 0 6 5

This course is designed to further acquaint the student with advanced set-ups and operation of machines for mass production. Emphasis is placed on advanced set-ups to motivate students to apply themselves to find ways of improving methods of production equipment. Upon completion, students will be able to do various complex set-ups on milling machines, lathes, and grinders. Prerequisite: MEC 106

**MKT-219 Credit Procedures**

3 0 0 3

This course provides the individual consumer and business with an understanding of what credit is, what it does, and what it can and cannot do. Emphasis is placed on the credit decision, limit setting, and collection policies of consumers and commercial credit institutions. Upon completion, students will be able to exhibit a basic knowledge of credit procedures and practices used today by business, industry, and government. Prerequisites: None

**MKT-225 Techniques in Selling**

3 0 0 3

This course is an overview of selling from its introduction, through the selling process, to the management of a territory. Topics include selling roles in business and the economy, types of selling, selling skills, and effective sales management. Upon completion, students will recognize and follow the selling process and evaluate its results. Prerequisites: None

**MKT-239 Marketing**

5 0 0 5

This course is a study of the functions of management as applied to the field of marketing. Topics include the marketing concept, its impact on business, and key concepts of consumerism, research, product, price, promotion, and distribution. Upon completion, students will be able to integrate marketing concepts, techniques, and strategies into a business situation. Prerequisites: None

**MKT-240 Advanced Marketing**

2 2 0 3

This course includes explanation of the role marketing plays in the economy and the way marketing is planned and managed in companies. Topics include the strategic planning process, the marketing environment as it relates to consumer and organizational buyers, the principles and tools for measuring and forecasting demand, marketing management systems, international marketing and case studies. Upon completion, students will be able to develop marketing strategies, successfully develop marketing plans, and understand how they relate to company goals and forecasts. Prerequisite: MKT 239

**MKT-241 Market Research**

2 2 0 3

This course provides information for decision making by providing guidance in developing, analyzing, and using data. Emphasis is placed on marketing research as a tool in decision making and providing experience for marketers in real situations. Upon completion, students will be able to conduct a marketing research project and interpret the results. Prerequisite: MKT 239

**MKT-243 Advertising Principles**

5 0 0 5

This course is concerned with giving an overview of advertising from the marketing viewpoint; terminology, types of advertising, management, and planning of advertising are studied. Emphasis is placed on the basic steps in selecting an overall media plan for implementing the marketing strategy for a company. Upon completion, students will be able to make advertising decisions concerning choice of media, advertising content, and creation for a product, service or idea. Prerequisites: None

**MKT-244 Physical Distribution**

3 0 0 3

This course deals with the coordination of the physical movement aspects of an organizations' operations so that a flow of raw materials, parts, and finished goods is achieved in such a way that cost is minimized for the level of service desired. Topics include transport, inventory control, warehouse management, order processing, packaging, material handling, location analysis and international distribution. Upon completion, students will understand the component of physical distribution as a part of a business logistics system. Prerequisites: None

**MKT-245 Retailing**

5 0 0 5

This course is an introduction to retailing as a part of the business community. Topics include retail structure, functions performed, principles governing operational and managerial problems, and retail entrepreneurship leading to effective decision making. Upon completion, students will be able to apply their understanding of retail importance in business, consumer buying motives, organization, functions, opportunities, and problems facing retailers. Prerequisites: None

**MKT-246 Textiles**

3 0 0 3

This course is a survey course of the textile field. Topics include construction, selection, use, and care of textiles made from natural and man-made sources. Upon completion, students will be able to act as a communicator between the textile industry and consumers of textiles. Prerequisites: None

**MKT-249 Buying and Merchandising**

1 4 0 3

This course is an examination of the buying and merchandising functions of a retail buyer. Topics include buyer environment, responsibility, and management of the buying and retailing functions for profitable sale. Upon completion, students will be able to plan and manage buying and merchandising activities of a retail operation. Prerequisites: MKT 245, BUS 160

**MKT-251 Consumer Behavior**

3 0 0 3

This course presents insights into consumer behavior developed from other disciplines and offers practical application of these concepts to marketing situations. Emphasis is placed on expanding the ideas presented in MKT 239 concerning consumer demographics and lifestyles. Upon completion, students will be able to apply the basics of consumer behavior to the marketing plan for a specific product or service. Prerequisite: MKT 239

**MKT-254 Promotion**

3 0 0 3

This course is an overview of the diverse fields of advertising, personal selling, sales promotion, and publicity. Topics include product, service, and idea promotion from the conceptual, managerial, and creative approaches. Upon completion, students will be able to manage processes, opportunities, and problems in the public relations field. Prerequisites: None

**MKT-255 Public Relations**

3 0 0 3

This course is an overview of the range and breadth of public relations. Topics include the basic principles that guide public relations activities as applied to business, services, institutions, and associations. Upon completion, students will be able to perform the writing, editing, and researching activities of the public relations profession. Prerequisites: None

- 3 0 0 3
- MKT-256 Marketing Leadership**
- This course is designed to help students develop leadership skills for business. Topics include self-evaluation, career planning, communications, assertiveness, image building, motivation, decision making, problem solving, and stress and time management. Upon completion, students will be able to communicate more effectively and lead a business in a more effective manner. Prerequisites: None
- 3 0 0 3
- MKT-260 Special Marketing**
- This course is designed to introduce and develop an understanding of current marketing trends. Emphasis is placed on direct marketing, non-profit marketing and services marketing. Upon completion, students will be able to recognize specific marketing problems and identify the players in each of these market segments. Prerequisite: MKT 239
- 2 0 3 3
- MKT-285 Salesmanship**
- This course is designed to emphasize the necessity of selling skills in a modern business career. Emphasis is placed on industrial selling, legal aspects of selling, and the techniques involved in various types of sales situations. The selling process is given a thorough step-by-step treatment in order to expose the student to vital concepts that they must be acquainted with. Prerequisites: None
- 2 4 0 4
- MKT-287 Commercial Display**
- This course explores visual merchandising as a tool for increasing the return on promotional investments of a business. Topics include history and changes in techniques, elements of design, and the development of skills in presentation. Upon completion, students will be able to plan and build displays according to the elements of design and evaluate display effectiveness. Prerequisites: None
- 2 2 0 3
- MKT-288 Fashion in Retailing**
- This course introduces the fashion industry as it relates to retailers. Topics include the history and movement of fashion, impact on the business world, industry structure, and elements of fashion. Upon completion, students will be able to demonstrate skills in recognizing and forecasting fashion to fulfill job requirements for entry level positions. Prerequisites: None
- 5 0 0 5
- MUS-221 Music Appreciation**
- This course is designed to further the development of knowledge, understanding, and appreciation for all mediums of music. Emphasis is placed on historical development, forms and styles, and correct listening; analysis is conducted through lectures, reports, projects, and listening. Upon completion, students will be able to appreciate all mediums of music and their styles through listening. Prerequisites: None
- 6 4 3 9
- NUR-101 Nursing Child/Adult I**
- This course introduces process threads of the ADN curriculum: life-span functional health patterns, wellness-illness continuum, nursing process and roles of the ADN. Topics include basic concepts of pharmacology, asepsis, safety, nutrition, ethical-legal aspects and pathophysiology. Upon completion, students will be able to apply select components of the nursing process to the care of the assigned clients. Prerequisites: None



**NUR-102 Nursing Child/Adult II**

6 4 3 9

This course re-emphasizes process threads of the ADN curriculum: life-span functional health patterns, wellness-illness continuum, nursing process and roles of the ADN. Emphasis is placed on patterns of and alterations in immunologic, integumentary, and musculoskeletal functioning. Upon completion, students will be able to apply the nursing process to the care of select clients. Prerequisites: NUR 101, BIO 106X, BIO 106Y, PSY 101

**NUR-103 Nursing Child/Adult III**

6 2 9 10

This course focuses on application of the nursing process in the care of clients of all age levels with alterations in selected functional health patterns. Emphasis is placed on patterns of and alterations in gastro-intestinal, endocrine, reproductive functions and neoplasia. Upon completion, students will be able to apply the nursing process to the care of select clients. Prerequisites: NUR 102, BIO 107X, BIO 107Y, PSY 231

**NUR-104 Nursing Child/Adult IV**

4 0 6 6

This course focuses on application of the nursing process to the care of the childbearing family. Emphasis is placed on patterns of and alterations in reproductive functioning and role relationships. Upon completion, students will be able to apply the nursing process to the care of the childbearing family. Prerequisites: NUR 103, BIO 108X, BIO 108Y

**NUR-1110 Nursing Transition**

3 0 0 3

This course is designed to assist the Licensed Practical Nurse in the transition to the role of the Associate Degree Nurse. Topics include philosophy and conceptual framework of the ADN Program, the nursing process, and scope of practice of the RN. Upon completion, students will be able to describe the roles of the ADN: provider and manager of care and member of the discipline. Prerequisites: None

**NUR-205 Nursing Child/Adult V**

6 2 12 11

This course focuses on application of the nursing process in the care of clients of all age levels with alterations in selected functional health patterns. Emphasis is placed on patterns of and alterations in mental health functioning. Upon completion, students will be able to apply the nursing process to the care of select clients. Prerequisite: NUR 104

**NUR-206 Nursing Child/Adult VI**

6 2 12 11

This course focuses on application of the nursing process in the care of clients of all age levels with alterations in selected functional health patterns. Emphasis is placed on patterns of and alterations in cardiovascular, respiratory, hematolymphatic and ENT functioning. Upon completion, students will be able to apply the nursing process to the care of select clients. Prerequisite: NUR 104

**NUR-207 Nursing Child/Adult VII**

6 0 12 10

This course focuses on application of the nursing process in the care of clients of all age levels with alterations in selected functional health patterns. Emphasis is placed on patterns of and alterations in neurologic, eye, renal, and multi-system functioning. Upon completion, students will be able to apply the nursing process to the care of select clients. Prerequisites: NUR 205 and 206

**NUR-208 Nursing Child/Adult VIII**

3 0 3 4

This course focuses on the role of the nurse as a manager of care and member of the discipline. Topics include management of groups of patients, employment expectations and strategies, and contemporary nursing issues. Upon completion, students will be able to manage the care of a group of clients and supervise the care given by less credentialed personnel. Prerequisites: NUR 205 and 206; Corequisite: NUR 207

**NUR-3023 Nursing Assistant I**

2 2 6 5

This course introduces personal hygiene and basic skills for nursing care of adults. Emphasis is placed on needs of the elderly; patient's rights; nutrition; elimination; safety; communication; documentation; human body functioning; and the role of the nursing assistant. Upon satisfactory completion, the student will be eligible to apply for listing as a Nurse Aide I by the North Carolina Board of Nursing. Prerequisites: None

**NUR-3024 Nursing Assistant II**

3 4 9 8

This course is designed to prepare graduates to perform more complex skills for patients or residents regardless of setting. Emphasis is placed on infection control; elimination procedures; respiratory procedures; fluid management; and the role of the Nursing Assistant II. Upon satisfactory completion, the student will be eligible to apply for listing as a Nurse Aide II by the North Carolina Board of Nursing. Prerequisite: NUR 3023 or a Board of Nursing approved Nursing Assistant I course.

**NUR-3025 Home Care**

2 2 0 3

This course is designed to prepare students to provide basic health and personal care to patients in the home. Topics include growth and development; nutrition; medications; safety; home emergencies; family dynamics; and community resources. Upon completion, students will be able to provide home care under the supervision of a licensed nurse. Prerequisites: Instructor approval

**NUT-101 Nutrition**

3 0 0 3

This course is a study of the basic knowledge from the field of nutrition and the relationship of poor nutrition to general and oral diseases. Topics include basic nutrients, nutritional physiology, and the effects of vitamins, mineral, hormonal, and dietary deficiencies on oral tissues. Upon completion, students will be able to interpret clinical and dietary findings to provide patient counseling as part of a total treatment plan. Prerequisites: BIO 107 and 110, and DEN 214

**PHI-101 Intro to Philosophy**

3 0 0 3

This course is designed as an introductory course utilizing a historical approach to the understanding of philosophy. Emphasis is placed on the basic concepts of theories, themes, and arguments of ancient, medieval, modern, and contemporary philosophers. Upon completion, students will be able to explain some of the basic issues of human existence and develop his or her own life philosophy. Prerequisites: None

**PHI-102 Intro to Logic**

3 0 0 3

This course is designed to help the student acquire the ability and habit of correct reasoning and sound thinking. Emphasis is placed on the traditional logic of syllogism and modern symbolic logic including classical fallacies in logical arguments. Upon completion, students will be able to apply the knowledge learned to develop logical judgments and use logical arguments. Prerequisites: None

**PHI-221 Intro to Philosophy**

5 0 0 5

This course is designed as an introductory course utilizing a historical approach to the understanding of philosophy. Emphasis is placed on the basic concepts of theories, themes, and arguments of ancient, medieval, modern, and contemporary philosophers. Upon completion, students will be able to explain some of the basic issues of human existence and develop his or her own life philosophy. Prerequisites: None

**PHI-222 Introduction to Logic**

5 0 0 5

This course is designed to help the student acquire the ability and habit of correct reasoning and sound thinking. Emphasis is placed on the traditional logic and syllogism and modern symbolic logic including classical fallacies in logical arguments. Prerequisites: None

**PHM-101 Intro to Pharmacy**

5 0 0 5

This course includes an orientation to institutional and community pharmacy, responsibilities of pharmacy technicians, and medical terminology. Topics include prescription orders (interpretation and dispensing), legal and ethical aspects of pharmacy support personnel, and the Health Care System. Upon completion, students will be able to explain the role of pharmacy technicians, recognize medical words, interpret prescription orders, and utilize pharmacy reference materials. Prerequisites: None

**PHM-102 Pharmacology I**

5 0 0 5

This course includes a study of the properties, effects, and therapeutic value of the primary agents in major drug categories. Topics include nutritional products, blood modifiers, hormones, diuretics, cardiovascular, respiratory drugs, and gastrointestinal agents. Upon completion, students will be able to place major drugs into correct therapeutic categories and identify indications, side effects, and trade and generic names. Prerequisite: PHM 101

**PHM-103 Pharmacology II**

5 0 0 5

This course is a continuation of PHM 102 in which the properties, effects, and therapeutic value of major drugs are discussed. Topics include drugs affecting the autonomic nervous system, muscle relaxants, tranquilizers, antiepileptic agents, analgesics, anti-inflammatory agents, and anti-infectives. Upon completion, students will be able to place major drugs into correct therapeutic categories and identify indications, side effects, and trade and generic names. Prerequisite: PHM 102

**PHM-104 Pharmaceutical Prep I**

3 4 0 5

This course covers pharmaceutical dosage forms and considerations in their preparation with lab experiences designed to develop skills necessary for preparation of large volume parenterals and intermittent admixtures. Topics include routes of drug administration, dosage form design, good manufacturing practices, tablets, capsules, solutions, syrups, suspensions, and elixirs. Upon completion, students will be able to describe characteristics of pharmaceutical dosage forms covered and perform steps involved in admixture preparation. Prerequisites: PHM 101 and 110, BUS 191 or equiv.

**PHM-105 Pharmaceutical Prep II**

3 4 0 5

This course is a continuation of PHM 104 and includes lab experiences in extemporaneous compounding of capsules, charts, solutions, creams and ointments. Topics include injections, biologicals, sterile fluids, aerosols, transdermal delivery systems, topical preparations, ophthalmics, otics, and other dosage forms. Upon completion, students will be able to describe characteristics of pharmaceutical dosage forms covered and prepare capsules, divided powders, solutions, creams and ointments. Prerequisite: PHM 104

**PHM-107 Community Pharmacy**

3 0 6 5

This course covers non-prescription drug products, their compositions and indications, and provides appropriate lab experiences. Topics include antacids, gastrointestinals, cold and allergy products, analgesics, and diabetes care products. Upon completion, students will be able to identify selected drug products, explain their composition and indications, and perform normal clerical and technician-level responsibilities in a retail or health facility pharmacy. Prerequisites: PHM 103, 105, and 110

**PHM-109X Hospital Pharmacy**

3 0 0 3

This course covers hospital pharmacy practice in depth. Emphasis is placed on organizational structure, committee functions, use of reference materials, purchasing and inventory control, and drug dispensing systems. Upon completion, students will be able to explain organizational structure of the hospital, identify committee functions, explain drug delivery systems, and describe pharmacy personnel functions. Prerequisites: None; Corequisite: PHM 109Y

**PHM-109Y PHM-109 Lab**

0 2 0 1

This course provides the lab portion of PHM 109X and introduces patient profiles, unit dose dispensing, and intravenous admixtures. Emphasis is placed on transcribing physician orders, filling unit dose carts, and preparing intravenous admixtures. Upon completion, students will be able to read and transcribe physician orders onto patient profiles, properly fill the unit dose carts, and prepare intravenous admixtures. Prerequisites: None; Corequisite: PHM 109X

**PHM-110 Pharmaceutical Calc**

5 0 0 5

This course includes introduction to the metric and apothecary systems of measurement and calculations used in pharmacy practice. Topics include dosage determinations, percentage preparations, reducing and enlarging formulas, dilution and concentration problems, aliquots and ratio and proportion problems. Upon completion, students will be able to make appropriate calculations relating to properly filling a prescription order. Prerequisites: None

**PHM-111 Pharmacy Seminar**

2 0 0 2

This course is designed to provide the students with current trends, concepts, and topics which pertain to contemporary pharmacy practice. Topics include Area Health Education Centers, the role of pharmacy in public health care, nursing home care, and patient education. Upon completion, students will be able to demonstrate conversational knowledge of topics discussed and present a lecture on approved topic. Prerequisites: All prior PHM courses; Corequisite: PHM 107

**PHM-200 Hospital Clinical I**

0 0 15 5

This course provides an opportunity for the student to actually work in the hospital pharmacy setting under pharmacist supervision. Emphasis is placed on effective communication with personnel, developing proper employee attitude, and dispensing of medications both to inpatients and outpatients. Upon completion, students will be able to demonstrate understanding of department roles in patient care, utilize reference materials, dispense medications, and prepare patient charges. Prerequisites: PHM 101, 109, and 110

**PHM-210 Hospital Clinical II**

0 0 15 5

This course is a continuation of PHM 200 with the student in a different hospital pharmacy. Emphasis is placed on the use of computers in pharmacy operation and preparation of intravenous admixtures. Upon completion, students will be able to enter information into the computer properly, prepare intravenous admixtures, and dispense medications to inpatients and outpatients. Prerequisites: PHM 200

**PHY-101X Properties of Matter**

3 0 0 3

This course is an introduction course in the properties of matter. Emphasis is placed on the mechanical properties of matter such as density, elasticity, fluid mechanics, temperature, heat, and thermodynamics. Upon completion, students will be able to explain how these properties affect the technology of the world in which we live. Prerequisite: Algebra; Corequisite: PHY 101Y

**PHY-101Y PHY-101 Lab**

0 2 0 1

This course is an introduction laboratory course that uses selected experiments and observations that will support the instructional material in PHY 101X. Emphasis is placed on the scientific method as the students perform experiments and make observations of specific PHY 101X concepts. Upon completion, students will be able to apply the concepts introduced in PHY 101X because of the concrete examples they observe. Prerequisite: Algebra; Corequisite: PHY 101X

**PHY-102X Work, Energy & Power**

3 0 0 3

This course is an introduction to the physical concepts of work, energy, and power. Topics include statistics, forces, translational motion, machines, and rotational motion. Upon completion, students will be able to explain how these concepts affect the technology of the world in which we live. Prerequisites: Algebra, Trigonometry; Corequisite: PHY 102Y

**PHY-102Y PHY-102 Lab**

0 2 0 1

This course is an introductory laboratory course that uses selected experiments and observations to support the instructional material in PHY 102X. Emphasis is placed on the scientific method as the students perform experiments and make observations of specific PHY 102X concepts. Upon completion, students will be able to apply the concepts introduced in PHY 102X because of the concrete examples they observe. Prerequisites: Algebra, Trigonometry; Corequisite: PHY 102X

**PHY-103X Electricity**

3 0 0 3

This course is an introduction to the concepts of electricity and magnetism. Topics include electrostatics, electrodynamics, magnetic fields, induction, AC theory, and power productions. Upon completion, students will be able to explain how these concepts affect the technology of the world in which we live. Prerequisites: Algebra, Trigonometry; Corequisite: PHY 103Y

**PHY-103Y PHY-103 Lab**

0 2 0 1

This course is an introductory laboratory course that uses selected experiments and observations to support the instructional material in PHY 103X. Emphasis is placed on scientific method as students perform experiments and make observations of specific PHY 103X concepts. Upon completion, students will be able to apply the concepts introduced in PHY 103X because of the concrete examples they observe. Prerequisites: Algebra, Trigonometry ; Corequisite: PHY 103X

**PHY-104X Light & Sound**

3 0 0 3

This course is an introduction to the physics of sound, light, and modern physics. Topics include harmonic motion, wave theory, physical optics, and selected topics in quantum mechanics and nuclear physics. Upon completion, students will be able to apply many of these concepts in their chosen fields. Prerequisite: PHY 102; Corequisite: PHY 104Y

**PHY-104Y PHY-104 Lab**

0 2 0 1

This course is an introductory lab that supports the instructional material presented in PHY 104X. Emphasis is placed on scientific observations and data as students observe and perform selected experiments to show PHY 104X concepts. Upon completion, students will be able to apply how these physical concepts affect the technology of today by the observation of concrete examples. Prerequisite: PHY 102; Corequisite: PHY 104X

**PHY-1101X Properties of Matter**

3 0 0 3

This course is an introductory course in the properties of matter and heat transfer. Topics include states of matter, physical properties of matter, temperature, heat, and energy transfer. Upon completion, students will be able to explain how these concepts relate to the physical environment and their chosen vocations. Prerequisites: None; Corequisite: PHY 1101Y

**PHY-1101Y PHY-1101 Lab**

0 2 0 1

This course is an introductory laboratory course to enhance the topics presented in PHY 1101X. Emphasis is placed on the scientific approach using selected experiments and demonstrations for observations and calculations. Upon completion, students will be able to apply the concepts introduced in PHY 1101X as a result of concrete examples observed. Prerequisites: None; Corequisite: PHY 1101X

**PHY-1102X Electricity**

3 0 0 3

This course is an introduction to the concepts of electricity and magnetism. Topics include electrostatics, Ohm's law, circuit analysis, magnetic fields, induction transformers, and an introduction to magnetic fields. Upon completion, students will be able to explain how the concepts of electromagnetism affect the technology in their chosen vocations. Prerequisites: None; Corequisite: PHY 1102Y

**PHY-1102Y PHY-1102 Lab**

0 2 0 1

This course is a laboratory course that uses selected experiments and observations to support the instruction in PHY 1102X. Emphasis is placed on the scientific approach using selected experiments for observation and calculation. Upon completion, students will be able to apply the concepts introduced in PHY 1102X as a result of concrete examples observed. Prerequisites: None; Corequisite: PHY 1102X

**PHY-1103X Work, Energy & Power**

3 0 0 3

This course is an introductory course in the laws associated with the concepts of mechanics. Topics include motion, Newton's Laws, energy, work, power, and machines. Upon completion, students will be able to explain how these concepts affect the technology of the physical world. Prerequisite: MAT 1101; Corequisite: PHY 1103Y

**PHY-1103Y PHY-1103 Lab**

0 2 0 1

This course is a laboratory course that uses selected experiments and demonstrations to support the instructional materials in PHY 1103X. Emphasis is placed on the scientific approach using selected experiments for observation and calculation. Upon completion, students will be able to apply the concepts introduced in PHY 1103X as a result of concrete examples observed. Prerequisite: MAT 1101; Corequisite: PHY 1103X

**PHY-110X Topical Physics**

4 0 0 4

This course is designed to cover fundamental physics concepts for the health sciences. Topics include velocity, work, machines, properties of matter, electricity and wave motion. Upon completion, students will be able to better apply these concepts to their chosen field of study. Prerequisite: Algebra; Corequisite: PHY 110Y

**PHY-110Y PHY-110 Lab**

0 2 0 1

This course is an introductory laboratory course that uses selected experiments and observations to support the instructional material in PHY 110X. Emphasis is placed on the scientific method as the student performs experiments and makes observations of specific PHY 110X concepts. Upon completion, students will be able to apply the concepts introduced in PHY 110X because of the concrete examples they observe. Prerequisite: Algebra; Corequisite: PHY 110X

**PHY-120 Radiographic Physics I**

3 0 0 3

This course is an introduction to electromagnetic waves, electricity, and magnetism. Emphasis is placed on energy waves, electrical energy, power, circuits, electromagnetism, transformers, and AC electricity relating to radiographic physics. Upon completion, students will be able to explain the operation of the components of an x-ray machine. Prerequisite: Algebra

**PHY-121 Radiographic Physics II**

3 0 0 3

This course examines the mature methods of production and the uses of x-rays. Emphasis is placed on x-ray devices, circuits, targets, filtration, and dosimetry. Upon completion, students will be able to apply these concepts to the diagnostic area of x-ray physics. Prerequisite: PHY 120

**PHY-130X Technical Physics I**

3 0 0 3

This course is an introductory study of work, power, and energy. Topics include vectors, translational motion, machines, and rotational motion. Upon completion, students will be able to explain how these concepts apply to the technology of their chosen vocations. Prerequisite: MAT 112; Corequisite: PHY 130Y

**PHY-130Y PHY-130 Lab** 0 2 0 1

This course is an introductory lab that presents concrete examples for observation and experimentation of the PHY 130X concepts. Emphasis is placed on scientific observations and adaptation of physical concepts to vocational study. Upon completion, students will be able to apply these physical concepts to the technology of their chosen vocations. Prerequisites: MAT 112

**PHY-131X Physics II** 3 0 0 3

This course is an introductory study of electricity and magnetism. Topics include static electricity, Ohm's law, circuits, power, energy, electromagnetism, induction, and AC theory. Upon completion, students will be able to explain how these concepts affect the technology of their chosen vocations. Prerequisite: MAT 112; Corequisite: PHY 131Y

**PHY-131Y PHY-131 Lab** 0 2 0 1

This course is an introductory lab that presents concrete examples for observation and experimentation of the PHY 131X concepts. Emphasis is placed on scientific observation and adaptation of physical concepts to vocational study. Upon completion, students will be able to apply these physical concepts to the technology of their chosen vocations. Prerequisite: MAT 112 ; Corequisite: PHY 131X

**PHY-132X Physics III** 3 0 0 3

This course is an introductory presentation of the properties of matter and heat energy. Topics include density, stress, strain, electric modules, fluid flow, and the effects of heat, temperature, and thermodynamics. Upon completion, students will be able to explain how these physical concepts affect the technology of their chosen vocations. Prerequisite: MAT 112 ; Corequisite: PHY 132Y

**PHY-132Y PHY-132 Lab** 0 2 0 1

This course is an introductory lab that shows concrete examples for observation and experimentation of PHY 132X concepts. Emphasis is placed on scientific observation and adaptation of the concepts discussed in PHY 132X to vocational study. Upon completion, students will be able to apply these physical concepts to the technology of their chosen vocation. Prerequisite: MAT 112 ; Corequisite: PHY 132X

**PHY-221X General Physics I** 5 0 0 5

This course is an introductory course in classical mechanics, mechanical and thermal properties of matter. Topics include force and motion, circular motion, energy, work, power, momentum, density, elasticity, temperature, and heat. Upon completion, students will be able to explain how these concepts affect the technology of the world in which we live. Prerequisite: College Algebra; Corequisite: PHY 221Y

**PHY-221Y PHY-221 Lab** 0 2 0 1

This course is an introductory laboratory course that uses selected experiments and observations that will support material in PHY 221X. Emphasis is placed on the scientific method as the students perform experiments and make observations of specific PHY 221X concepts. Upon completion, students will be able to apply the concepts introduced in PHY 221X because of the concrete examples they observe. Prerequisite: College Algebra; Corequisite: PHY 221X



**PHY-222X General Physics II**

5 0 0 5

This course is a continuation of PHY 221X which includes electricity, magnetism, physical optics, and modern physics. Topics include electrical field, electric current, magnetic field, AC and DC circuits, light, relativity, particles and waves, and quantum mechanics. Upon completion, students will be able to explain how these concepts affect the technology of the world in which we live. Prerequisite: College Algebra and PHY 221X; Corequisite: PHY 222Y

**PHY-222Y PHY-222 Lab**

0 2 0 1

This course is an introductory laboratory course that uses selected experiments and observations that will support material in PHY 222X. Emphasis is placed on the scientific method as the students perform experiments and make observations of specific PHY 222X concepts. Upon completion, students will be able to apply the concepts introduced in PHY 222X because of the concrete examples they observe. Prerequisite: College Algebra; Corequisite: PHY 222X

**PHY-91X Physical Sci I Level I**

3 0 0 3

This course presents laws of motion, work, energy, power relationships, gravitation, and properties of solids, liquids, and gases. Emphasis is placed on concepts with emphasis on mathematical calculations. Upon completion, students will be able to explain basic physical phenomena of the real world. Prerequisites: None Corequisites: PHY 91Y and MAT 91

**PHY-91Y PHY-91 Lab**

0 2 0 1

This course is designed to develop an understanding of laboratory methods and techniques. Emphasis is placed on a practical approach by use of suitably chosen laboratory exercises, demonstrations, experiments, and appropriate audiovisual aids. Upon completion, students will be able to apply the concepts presented in MAT 91 and PHY 91X. Prerequisites: None Corequisites: PHY 91X and MAT 91

**PHY-92X Physical Sci II Level I**

3 0 0 3

This course presents the basic concepts of heat, sound, and light. Emphasis is placed on mathematical calculations. Upon completion, students will be able to explain basic concepts of the physical environment. Prerequisites: None Corequisites: PHY 92Y and MAT 92

**PHY-92Y PHY-92 Lab**

0 2 0 1

This course is designed to develop a better understanding of the mathematical concepts presented in PHY 92X. Emphasis is placed on a practical approach by use of suitably chosen laboratory experiments, demonstrations, and appropriate audiovisual aids. Upon completion, students will be able to apply the concepts presented in MAT 92 and PHY 92X. Prerequisites: None; Corequisite: PHY 92X and MAT 92

**PHY-93X Physical Sci III Level I**

3 0 0 3

This course presents the basic concepts of electricity and magnetism, atomic and nuclear physics, and relativity. Emphasis is placed on mathematical calculations. Upon completion, students will be able to explain basic concepts of the physical world in which they live. Prerequisites: None Corequisites: PHY 93Y and MAT 93

**PHY-93Y PHY-93 Lab**

0 2 0 1

This course provides experience in laboratory techniques and methods as they relate to the instructional materials in PHY 93X. Emphasis is placed on an inquiry approach using selected experiments, demonstration experiments, and appropriate audiovisual aids. Upon completion, students will be able to apply the material presented in PHY 93X. Prerequisites: None Corequisites: PHY 93X and MAT 93

**PHY-94X Physical Sci I Level II**

3 0 0 3

This course is an introduction to some mathematical concepts of physics. Topics include work, energy, power, simple machines, fluids, and heat. Upon completion, students will be able to apply practical, problem-solving methodology. Prerequisite: MAT 94 Corequisites: PHY 94Y and MAT 95

**PHY-94Y PHY-94 Lab**

0 2 0 1

This course is an introductory laboratory course that uses selected experiments and observations to support the instructional materials in PHY 94X. Emphasis is placed on the scientific method as the students perform experiments and make observations of specific PHY 94X concepts. Upon completion, students will be able to apply mathematical concepts introduced in PHY 94X and MAT 95 as a result of the concrete examples observed. Prerequisite: MAT 94 Corequisites: PHY 94X and MAT 95

**PHY-95X Physical Sci III Level II**

3 0 0 3

This course is a mathematical approach to electricity and magnetism. Topics include electrostatics, electricity, electromagnetism, induction, and power transfer. Upon completion, students will be able to explain how these concepts affect the technology of the physical world. Prerequisite: MAT 95 Corequisites: PHY 95Y and MAT 96

**PHY-95Y PHY-95 Lab**

0 2 0 1

This course is laboratory course that uses selected experiments and observations to support the instructional materials in PHY 95X. Emphasis is placed on the scientific approach using selected experiments on PHY 95X concepts for observation and calculation. Upon completion, students will be able to apply the concepts introduced in PHY 95X and MAT 96 as a result of the concrete examples observed. Prerequisite: MAT 95 Corequisites: PHY 95X and MAT 96

**PLU-1110 Plumbing Pipework**

5 0 15 10

This course introduces the student to the use of plumbing tools, equipment, pipe, fittings, and system design. Emphasis is placed on recognition of the various types and kinds of pipe and fittings and shop work. Upon completion, students will be able to assemble the various pipes and fittings into small projects. Prerequisites: None

**PLU-1110A Plumbing Pipework**

3 0 3 4

This course introduces the student to the safe and proper use of tools and equipment; recognition of pipe and fittings is also stressed. Emphasis is placed on proper use of hand tools, motorized equipment, and types of pipe and fittings. Upon completion, students will be able to use the proper tools for joining various types of pipe. Prerequisites: None

**PLU-1110B Plumbing Pipework**

1 0 6 3

This course is a continuation of PLU 1110A and covers plumbing codes, system designs, and techniques for installing small systems. Emphasis is placed on the use of codes in plumbing schematics and system design. Upon completion, students will be able to install a simple plumbing system within the plumbing code. Prerequisite: PLU 1110A

**PLU-1110C Plumbing Pipework**

1 0 6 3

This course is a continuation of PLU 1110B and covers water and drain piping design, as well as installing and servicing some fixtures. Emphasis is placed on the use of codes in plumbing drainage and venting and also on fixture installation. Upon completion, students will be able to install the drains and vents for some fixtures according to the plumbing code. Prerequisite: PLU 1110B

**PLU-1111 Domestic Water Systems**

2 0 9 5

This course covers private and public water and sewer distribution systems; water heating devices are also studied. Topics include water and sewage treatment in cities, and pumps, wells, and septic tanks in rural areas. Upon completion, students will be able to discuss purification of water from source through final distribution. Prerequisite: None

**PLU-1112 Install of Plumb Fixtures**

3 0 9 6

This course enables students to become familiar with major manufacturers of plumbing fixtures and accessories, as well as ways of installation and servicing. Emphasis is placed on the many types of fixtures and the materials and tools needed for installation and service. Upon completion, students will be able to install and service the major fixtures available to the trade. Prerequisite: None

**PLU-1113X Plu. Maint.: Residential**

2 0 0 2

This course covers the maintenance and repair of plumbing lines and fixtures in residential applications. Emphasis is placed on identifying and diagnosing problems relating to water, drain, and vent lines, and plumbing fixtures. Upon completion, the student will be able to identify and diagnose needed repairs to residential plumbing systems. Prerequisites: None; Corequisite: PLU 1113Y

**PLU-1113Y PLU-1113 Lab**

0 0 6 2

This course provides hands-on application of the procedures and techniques introduced in PLU 1113X. Emphasis is placed on proper repair procedures. Upon completion, the student will be able to identify, diagnose, and repair residential plumbing lines and fixtures. Prerequisites: None ; Corequisite: PLU 1113X

**PLU-1114X Plu. Maint.: Commercial**

2 0 0 2

This course covers the maintenance and repair of plumbing lines and fixtures in commercial applications. Emphasis is placed on identifying and diagnosing problems relating to water, drain, and vent lines, and plumbing fixtures. Upon completion, the student will be able to identify and diagnose needed repairs to commercial plumbing systems. Prerequisites: None; Corequisite: PLU 1114Y

**PLU-1114Y PLU-1114 Lab**

0 0 6 2

This course provides hands-on application of the procedures and techniques introduced in PLU 1114X. Emphasis is placed on proper repair procedures. Upon completion, the student will be able to identify, diagnose, and repair commercial plumbing lines and fixtures. Prerequisites: None ; Corequisite: PLU 1114X

**PLU-1115 Steam & Water Boilers**

3 0 9 6

This course introduces the student to the basic fundamentals of installing, operating, and servicing steam and water boilers. Topics include boiler room safety, boiler applications, proper installation, and maintenance. Upon completion, the student will be able to select, install, operate and maintain steam and water boilers. Prerequisites: None

**PLU-1116 Plu Regs: Residential**

4 0 0 4

This course covers plumbing codes and regulations relating to residential structures. Emphasis is placed on North Carolina state regulations and the minimum requirements for plumbing materials and design. Upon completion, the student will be able to design plumbing systems for residential structures in accordance with state requirements. Prerequisites: None

**PLU-1117 Plu Regs: Small Commercial**

4 0 0 4

This course covers plumbing codes and regulations relating to small commercial structures. Emphasis is placed on North Carolina state regulations and the minimum requirements for plumbing materials and design. Upon completion, the student will be able to design plumbing systems for small commercial structures in accordance with state requirements. Prerequisites: None

**PLU-1118 Plu Regs: Large Commercial**

4 0 0 4

This course covers plumbing codes and regulations relating to large commercial structures. Emphasis is placed on North Carolina state regulations and the minimum requirements for plumbing materials and design. Upon completion, the student will be able to design plumbing systems for large commercial structures in accordance with state requirements. Prerequisites: None

**PLU-1120 Low Pressure Steam Sys**

2 0 6 4

This course introduces the student to hydronic heating systems; different types of boilers and fuels are also studied. Emphasis is placed on oil and gas fired boilers and their operation. Upon completion, students will be able to operate a small boiler. Prerequisite: PLU 1110

**PLU-1121 High Pressure Steam Sys**

3 0 9 6

This course is a continuation of PLU 1120 and covers principles of low and high pressure steam. Emphasis is placed on piping of different systems and radiation. Upon completion, students will be able to discuss how most steam systems operate. Prerequisite: PLU 1120

**PLU-1123 Hot Water & Panel Heating**

3 0 6 5

This course introduces students to a different phase of hydronic heat as it applies to residential heating; practical applications will be made in the shop. Emphasis is placed on the theory of circulation and the different types of systems. Upon completion, students will be able to make minor repairs on hydronic residential heating systems. Prerequisites: PLU 1111 and 1120

**PLU-1125 Industrial Piping**

3 0 6 5

This course covers piping in commercial and industrial buildings, as well as steam systems, area drains, valves, and hangers. Topics include design of plumbing systems in multi-story buildings and fixtures and other materials used in public buildings. Upon completion, students will be able to design the plumbing system for a small multi-story building. Prerequisites: None

**PLU-1127 Plumbing Estimates**

2 0 3 3

This course is designed to help the student make estimates of quantities of materials and cost of installation of various types of plumbing systems. Topics include design of systems, codes, material take-offs, pricing, and public relations. Upon completion, students will be able to design a plumbing system and order materials needed for installation. Prerequisites: None

**PME-1101 Automotive Engines**

3 0 12 7

This course develops a thorough knowledge of the construction and operation of automobile engines. Topics include how to make necessary repairs to engines. Upon completion, students will be able to recondition automobile engines. Prerequisites: None

**PME-1101A Automotive Engines**

1 0 6 3

This course develops a knowledge of the operation and repair of automotive engines. Topics include hand and measuring tools, construction, and the operation and repair of automotive engines. Upon completion, students will be able to use hand and measuring tools, valve equipment, and engine tools. Prerequisites: None

**PME-1101B Automotive Engines**

2 0 6 4

This course covers engine overhaul. Topics include piston, valve, crankshaft, block, and camshaft service. Upon completion, students will be able to diagnose and repair major engine problems. Prerequisite: PME 1101A

**PME-1102 Engine Electrical Systems**

6 0 9 9

This course teaches concepts of basic electricity and engine related electrical devices. Topics include basic electricity, charging, cranking, and ignition systems. Upon completion, students will be able to diagnose and repair engine electrical system problems. Prerequisite: PME 1101

**PME-1102A Engine Electrical Systems**

4 0 3 5

This course teaches concepts of basic electricity and engine related electrical devices. Emphasis is placed on classroom work and teacher demonstrations. Upon completion, students will be able to demonstrate proper use of test equipment on components. Prerequisite: PME 1101

**PME-1102B Engine Electrical Systems**

2 0 6 4

This course covers repair procedures for electrical engine systems. Topics include alternators, batteries, cranking motors, and ignition systems. Upon completion, students will be able to test and repair engine electrical components. Prerequisite: PME 1102A

- PME-1110 Automotive Repair** 3 0 6 5  
 This course teaches students to remove and replace automobile components. Topics include front end, chassis wiring, and drive line component replacement. Upon completion, students will be able to replace damaged parts from a collision. Prerequisites: None
- PME-1123A Auto Chassis & Suspension** 4 0 3 5  
 This course covers the principles of front end alignment. Topics include manual steering, power steering, and suspension systems. Upon completion, students will be able to align front ends and repair suspensions. Prerequisites: None
- PME-1123B Auto Chassis & Suspension** 1 0 6 3  
 This course covers the principles of drum and disc braking systems. Topics include drum and disc brakes and how to turn rotors. Upon completion, students will be able to repair or replace drum or disc braking systems. Prerequisite: PME 1123A
- PME-1123X Auto Chassis & Suspension** 5 0 0 5  
 This course covers principles and functions of steering and braking systems. Topics include shock absorbers, springs, and drum and disc brakes. Upon completion, students will be able to repair brakes and align front ends. Prerequisites: None; Corequisite: PME 1123Y
- PME-1123Y PME-1123 Lab** 0 0 9 3  
 This course allows the students to apply the classroom principles acquired in PME 1123X. Topics include master cylinders, wheel cylinders, power steering, and springs. Upon completion, students will be able to repair brakes and suspension systems. Prerequisites: None; Corequisite: PME 1123X
- PME-1124 Power Train Systems** 3 0 9 6  
 This course teaches concepts concerning the flow of power from engine to drive wheels. Topics include clutches, manual transmissions, drive shafts, rear axles, and transaxles. Upon completion, students will be able to diagnose and repair drive line problems. Prerequisites: None
- PME-1124A Power Train Systems** 2 0 3 3  
 This course teaches concepts concerning the flow of power from engine to drive wheels. Topics include clutches, manual transmissions, drive shafts, rear axles, and transaxles. Upon completion, students will be able to identify drive line components and disassemble and assemble components. Prerequisites: None
- PME-1124B Power Train Systems** 1 0 6 3  
 This course, a continuation of PME 1124A, covers repair procedures on power train systems. Topics include removal and replacement of clutch, transmission, rear axle, and transaxle. Upon completion, students will be able to disassemble and repair manual transmissions, rear axles, transaxles, and clutches. Prerequisite: PME 1124A

**PME-1125X Auto Servicing II**

3 0 0 3

This course is designed to train the student in proper shop procedures required in trouble-shooting the various vehicle systems. Emphasis is placed on the effective use of engine analyzers, electrical test meters, and computer test equipment. Upon completion, students will be able to trouble-shoot effectively problems in the vehicle systems and use available test equipment in the process. Prerequisites: PME 1123, 1133, and 1183; Corequisite: PME 1125Y

**PME-1125Y PME-1125 Lab**

0 0 9 3

This course is designed to provide the student with as much hands-on work as is practical during the final quarter. Emphasis is placed on completing the job correctly and keeping the vehicle and work space clean and orderly. Upon completion, students will be able to utilize valuable hands-on work experience in being more competitive in the work force. Prerequisites: PME 1123, 1133, and 1183; Corequisite: PME 1125X

**PME-1132 Auto Fuel Systems**

3 0 3 4

This course is designed to teach the fundamentals of gasoline fuel systems. Topics include fuel characteristics, types of systems, pumps, and equipment. Upon completion, students will be able to diagnose and repair fuel system problems. Prerequisite: PME 1102

**PME-1133X Computers & Emissions**

3 0 0 3

This course will provide the student with an in-depth look at the introduction, description, operation, and servicing of emission control and computer systems. Emphasis is placed on how to apply the fundamentals of these systems as he goes about his job as a mechanic. Upon completion, students will be able to diagnose and repair problems within the emissions and computer systems. Prerequisites: None

**PME-1133Y PME-1133 Lab**

0 0 3 1

This course is the hands-on part of emission controls, designed to give the student actual on-vehicle experience. Emphasis is placed on the proper use of engine analyzers, exhaust analyzers, and computer testers necessary for effective testing of this system. Upon completion, students will be able to identify service, trouble-shoot, and repair emission control systems. Prerequisite: PME 1181; Corequisite: PME 1133X

**PME-1134 Electronic Fuel Injection**

3 0 0 3

This course is designed to familiarize the student with electronic fuel injection systems used on domestic vehicles. Topics include "Port Fuel Injection Systems" as well as "Throttle Body Fuel Injection Systems." Upon completion, students will be able to diagnose and repair fuel injection systems using repair manuals, diagnostic charts and test equipment related to fuel injection. Prerequisites: PME 1181 and 1133

**PME-1135X Auto Air Conditioning**

3 0 0 3

This course is a study of the principles of refrigeration. Topics include compressors, receiver-dryers, and expansion valves. Upon completion, students will be able to service air conditioners. Prerequisites: None; Corequisite: PME 1135Y

**PME-1135Y PME-1135 Lab**

0 0 3 1

This course is designed to provide the students with hands-on experience with refrigeration systems in automobiles. Emphasis is placed on service procedures for automotive air conditioning systems. Upon completion, students will be able to diagnose and service air conditioning systems. Prerequisites: None; Corequisite: PME 1135X

**PME-1158 Hydraulics & Pneumatics**

3 0 3 4

This course covers basic theories of hydraulic and pneumatic systems used in industry. Topics include use of standard hydraulic symbols, pumps, control valves, control assemblies, and actuators used in hydraulic circuits. Upon completion, students will be able to explain sizing of piping, controls, fluids, and reservoirs required for successful operation of hydraulic and pneumatic circuits. Prerequisites: None

**PME-1170A Power Plant Trouble Shoot**

2 0 3 3

This course is designed to offer the fundamentals of proper trouble-shooting. Emphasis is placed on the proper use of test equipment. Upon completion, students will be able to operate test equipment in diagnosing auto trouble. Prerequisites: PME 1123, 1133, 1182, and 1183

**PME-1170B Power Plant Trouble Shoot**

1 0 3 2

This course is designed to offer the student opportunities to practice trouble-shooting. Emphasis is placed on using test equipment in trouble-shooting. Upon completion, students will be able to diagnose auto difficulties efficiently. Prerequisite: PME 1170A

**PME-1170X Power Plant Trouble Shoot**

3 0 0 3

This course is designed to train the students in proper trouble-shooting. Emphasis is placed on the use of test equipment. Upon completion, students will be able to efficiently trouble-shoot. Prerequisites: PME 1123, 1133, 1182, and 1183; Corequisite: PME 1170Y

**PME-1170Y PME-1170 Lab**

0 0 6 2

This course is designed to train the student in proper procedures of trouble-shooting. Emphasis is placed on proper procedures for trouble-shooting. Upon completion, students will be able to gain experience in trouble-shooting. Prerequisites: PME 1123, 1133, 1182, and 1183; Corequisite: PME 1170X

**PME-1181X Auto Tune Up**

3 0 0 3

This course is designed to give the student advanced training in the area of preventive maintenance on the vehicle and engine systems. Topics include a review of the engine's mechanical, starting, ignition, charging, and fuel systems and proper use of test equipment and analyzers. Upon completion, students will be able to use test equipment for analyzing the engine and make repairs or adjustments to correct any defects. Prerequisite: PME 1102; Corequisite: PME 1181Y

**PME-1181Y PME-1181 Lab**

0 0 3 1

This course is a practical application in the shop to apply classroom instruction on live projects. Emphasis is placed on the correct use of test equipment and analyzers to detect any problems in engine systems. Upon completion, students will be able to use test equipment correctly to analyze the engine and make proper repairs or adjustments needed. Prerequisites: PME 1102; Corequisite: PME 1181X



**SUR-1102 Seminar III**

2 0 0 2

This course provides comprehensive testing to locate didactic weaknesses in preparation for the national certification exam. Topics include a review in anatomy, microbiology, pharmacology, nursing procedures, principles of operating room technique, and theory of surgical procedures. Upon completion, students will be able to determine areas of didactic weakness, prepare and take the exam with confidence, and will have a foundation for gainful employment. Prerequisites: All third quarter courses Corequisites: All fourth quarter courses

**WLD-106 Techniques of Welding**

1 0 6 3

This course covers the arc and gas welding processes with practical exercises in welding materials together in all positions. Emphasis is placed on a discussion of arc welding machines, gas components, and safety procedures. Upon completion, students will be able to use arc and gas welding equipment to join metal plates in the flat, horizontal, vertical, and overhead position. Prerequisites: None

**WLD-1105 Auto Body Welding**

2 0 6 4

This course provides an introduction to the practical operations of the MIG welding system and includes welding practices in all positions. Emphasis is placed on the study of the machines and equipment for MIG welding with practical welding exercises in all welding positions. Upon completion, students will be able to properly set up and operate MIG welding systems and to weld metals efficiently in all the welding positions. Prerequisite: WLD 1180 or 106

**WLD-1112 Mech Testing & Inspection**

1 2 3 3

This course covers the mechanical testing and inspection of welds relating to the various tests and procedures used in industrial applications. Emphasis is placed on the physical testing of weld beads in destructive and non-destructive testing through ultrasonic sound and x-ray techniques. Upon completion, students will be able to evaluate weld beads for quality through destructive and non-destructive testing processes. Prerequisite: WLD 1120, WLD 1121, WLD 1123, WLD 1124

**WLD-1120 Oxy-Acetylene Welding**

3 0 12 7

This course covers the oxyacetylene welding processes, principles of welding and cutting equipment, care and safe use. Emphasis is placed on familiarization with oxy-acetylene equipment for welding and cutting materials and brazing and soldering processes. Upon completion, students will be able to use essential gas welding equipment safely and weld and braze materials in all welding positions. Prerequisites: None

**WLD-1120A Oxy-Acetylene Welding**

2 0 6 4

This course covers the processes of gas welding, cutting, brazing, and soldering and describes the safe use of the essential equipment. Emphasis is placed on familiarization with essential equipment for gas welding processes; welding is practiced in the flat and horizontal position. Upon completion, students will be able to use essential gas welding equipment safely and weld and braze materials in flat and horizontal welding positions. Prerequisites: None

**SUR-1095 Clinic Practice II**

0 0 15 5

This course is a continuation of SUR 1094, with emphasis on basic skills perfection and planned experiences in the operating, labor, and delivery rooms. Emphasis is placed on applying skills to thoracic, plastic, reconstructive, orthopedic, and neurological procedures, as well as on labor and delivery procedures. Upon completion, students will be able to coach during labor, assist in the delivery room, and perform as team members in the operating room. Prerequisites: All second quarter courses Corequisites: All third quarter courses

**SUR-1097 Surgical Procedures II**

6 0 0 6

This course is a continuation of SUR 1093 and covers the more complicated surgical procedures that require greater knowledge and skills. Emphasis is placed on anatomy review, special considerations, and instrumentation in thoracic, plastic, reconstructive, ophthalmic, orthopedic, and neurological surgery. Upon completion, students will be able to define terminology, identify instruments, discuss the general scheme of surgical procedures, and practice patient safety measures. Prerequisites: All second quarter courses; Corequisites: All third quarter courses

**SUR-1098 Seminar I**

2 0 0 2

This course provides the student with opportunities to verbally relate surgical procedures observed with SUR 1093 and SUR 1094. Topics include preoperative diagnosis, postoperative diagnosis, operation, types of anesthesia, and points of particular interest during the operative procedure. Upon completion, students will be able to discuss the operative procedures assigned, relate their contributions, and give an overall account of room activities. Prerequisites: All first quarter courses Corequisites: All second quarter courses

**SUR-1099 Seminar II**

2 0 0 2

This course is a continuation of SUR 1098 with opportunities for the student to verbally relate surgery observed with SUR 1095 and SUR 1097. Topics include preoperative diagnosis, postoperative diagnosis, operation, types of anesthesia, and points of interest during the operative procedure. Upon completion, students will be able to discuss the operative procedures assigned, relate their contributions, and give an overall account of room activities. Prerequisites: All second quarter courses Corequisites: All third quarter courses

**SUR-1100 Surgical Procedures III**

4 0 0 4

This course is a continuation of SUR 1097 with emphasis on specialty operative procedures that require greater knowledge and skills. Topics include anatomy review, special considerations, and instrumentation in ear, nose, throat, neck, cardiovascular, and pediatric surgery. Upon completion, students will be able to define terminology, identify instruments, practice patient safety measures, and discuss the general scheme of surgical procedures. Prerequisites: All third quarter courses Corequisites: All fourth quarter courses

**SUR-1101 Clinic Practice III**

0 0 24 8

This course is a continuation of SUR 1095 with emphasis on perfecting skills in the operating room, short stay unit, and central service. Emphasis is placed on specialty procedures that require more technical skills, short procedures that require speed and efficiency, and advanced central service responsibilities. Upon completion, students will be able to function at entry level in the work force as a surgical technologist. Prerequisites: All third quarter courses Corequisites: All fourth quarter courses

**SPA-222 Elementary Spanish II**

6 0 0 6

Emphasis is placed on the development of the basic skills of reading, writing, speaking, and oral comprehension. The basic elements of grammar, phonetics, common idioms, and vocabulary are stressed. Prerequisite: SPA 221

**SUR-1080 Nursing Procedures**

5 0 3 6

This course is designed to acquaint the student with the physical and psychological needs of the patient encountering surgery. Emphasis is placed on the principles involved in caring for the surgical patient during the preoperative, intraoperative, and postoperative periods. Upon completion, students will be able to transport patients, perform skin preparation, assist with positioning, and perform basic postoperative nursing care in the recovery room. Prerequisites: None

**SUR-1085 Pharmacology**

3 0 0 3

This course covers basic information on pharmacology needed to give effective assistance to the team in the operating room. Topics include drug terminology, laws regarding the use of drugs, weights and measures, pharmacologic agents, toxic reactions, anesthesia, and methods for administering drugs. Upon completion, students will be able to prepare drugs and solutions for use at the operative field and assist the anesthesiologists during induction and emergencies. Prerequisites: All first quarter courses

**SUR-1090 Operating Room Techniques**

2 0 3 3

This course is designed to assist the student in acquiring basic knowledge and skills in surgical aseptic technique for application in the operating room. Topics include ethical, moral, and legal responsibilities, prevention and control of infection, and duties of the scrub and circulating technician. Upon completion, students will be able to assist in the performance of scrub and circulating technician duties as a team member in the operating room. Prerequisites: None

**SUR-1093 Surgical Procedures I**

6 0 0 6

This course includes a study in obstetrics, the more common operative procedures related to the body systems, terminology, special considerations, and instrumentation. Topics include anatomy review, wound closure, and total intraoperative care of the surgical patient during general, gynecologic, and genitourinary surgery. Upon completion, students will be able to define surgical terminology, identify abdominal incisions and the layers of tissue penetrated, and instruments and supplies used. Prerequisites: All first quarter courses Corequisites: All second quarter courses

**SUR-1094 Clinic Practice I**

0 0 15 5

This course provides practical experiences in the actual clinical setting with a variety of planned activities to perfect skills learned in the classroom. Emphasis is placed on acquiring skills in scrubbing, gowning, gloving, acquiring dexterity handling instruments, sutures, supplies, and anticipating team members' needs. Upon completion, students will be able to perform as members of the operating team in the scrub and circulating position by applying skills acquired. Prerequisites: All first quarter courses Corequisites: All second quarter courses

**SOC-102 Marriage & Family**

3 0 0 3

This course covers a study of the family as a social institution, its origin and development, along with other social institutions in contemporary society. Emphasis is placed on the family form and function in society, gender and sex role differences, and social relationships between the sexes. Upon completion, students will be able to discuss social relationships between the sexes and factors contributing to or mitigation against successful, stable marriages. Prerequisites: None

**SOC-121 General Sociology**

5 0 0 5

This course provides the student with the capability to analyze and relate fundamental concepts of sociology to major elements of social life. Emphasis is placed on the use of the scientific method to study social patterns and institutions: family, religion, education, politics, and economics. Upon completion, students will be able to discuss patterns of socialization, intergroup relations, minority group relations, population growth, and ecosystems. Prerequisites: None

**SOC-221 Marriage & Family**

5 0 0 5

This course covers a study of the family as a social institution, its origin and development, along with other social institutions in contemporary society. Emphasis is placed on the family form and function in society, gender and sex role differences, and social relationships between the sexes. Upon completion, students will be able to discuss social relationships between the sexes and factors contributing to or mitigation against successful, stable marriages. Prerequisites: None

**SOC-231 Social Problems**

5 0 0 5

The course explores most of the facets of current social problems and involves the student in the analysis of social problems using sociological theory. Emphasis is placed on social disorganization, pathology, conflict, violence, and labeling deviants in contemporary society, including insight into values, goals, and norms. Upon completion, students will be able to recognize social problems related to physical and mental health, chemical dependency, crime, deviance, inequality, and environmental crisis. Prerequisites: None

**SOC-241 Death & Dying**

5 0 0 5

This course is designed to present sociological backgrounds and frustrations that are incorporated into the consequences of death and dying. Emphasis is placed on analyzing the different death rates among various groups, races, and societies, as well as various types of death. Upon completion, students will be able to discuss the social rituals of death, both cultural and religious, including current death and dying issues. Prerequisites: None

**SOC-251 Social Culture**

5 0 0 5

This culture introduces the students to social culture using a multidisciplinary approach with attention to basic similarities to other cultures. Emphasis is placed on understanding cultural survival of nation, states, and communities in the most pragmatic manner or method available. Upon completion, students will be able to explain cultural evolution from primitive to modern societies, incorporating configuration, functionalism, and structuralism. Prerequisites: None

**SPA-221 Elementary Spanish I**

6 0 0 6

Emphasis is placed on the development of the basic skills of reading, writing, speaking, and oral comprehension. The basic elements of grammar, phonetics, common idioms, and vocabulary are stressed. Prerequisites: None

**RTH-233 Clinical Application III**

1 0 3 2

This course covers advanced modes of ventilatory support and innovative techniques of patient evaluation. Topics include pharmacology for ventilatory maintenance, ventilatory monitors, high frequency ventilation, and application and complications of airway pressure therapy. Upon completion, students will be able to initiate mechanical ventilation, choosing appropriate parameters and manipulate settings as indicated by changes in patient status. Prerequisite: RTH 132

**RTH-234 Clinical Application IV**

2 0 3 3

This course covers techniques of advanced patient assessment. Emphasis is placed on understanding the rationale for continuous assessment, developing a systematic physiologic approach to treatment, evaluating respiratory modalities based on therapeutic objectives, and documenting the information attained. Upon completion, students will be able to update physiologic assessments, initiate and maintain prescribed therapy, evaluate patients response and suggest modifications in respiratory management. Prerequisite: RTH 233

**RTH-235 Clinical Application V**

2 0 3 3

This course provides the student with a comprehensive review of didactic information required for cardiopulmonary credentialing and licensing. Emphasis is placed on medical gas therapy, continuous ventilatory support pharmacology, microbiology, hemodynamics, and equipment. Upon completion, students will be able to complete a mock licensure examination with at least 70% proficiency. Prerequisite: RTH 234

**RTH-261 Neonatal/Peds Resp Care**

2 2 0 3

This course provides an in-depth study of the disease process and treatment of the fetal, neonate, and pediatric age group. Topics include development of the respiratory system, evaluation of the newborn, diseases and treatment, and mechanical ventilation. Upon completion, students will be able to describe and perform techniques for the care of the pediatric patient. Prerequisites: All fourth quarter courses

**RTH-262 Cardiopulmonary Evaluat**

2 2 0 3

This course teaches methods and techniques of evaluating respiratory and cardiac functions in the normal and diseased states. Topics include physiology, electrolyte balance, blood gas relationships, and hemodynamic evaluation. Upon completion, students will be able to collect and combine appropriate information to accurately assess and evaluate patients' cardiopulmonary status. Prerequisite: RTH 112

**RTH-263 Department Organiz/Admin**

2 0 0 2

This course includes a study of planning, controlling, organizing, and directing a respiratory therapy department and its employees. Emphasis is placed on organization, management, evaluations, fiscal affairs, personnel structure, job descriptions, interviews, and applications. Upon completion, students will be able to utilize skills to plan, organize, direct, and control a cardiopulmonary department and its employees. Prerequisites: All fifth quarter courses

**SOC-101 Intro to Sociology**

3 0 0 3

This course provides the student with the capability to analyze and relate fundamental concepts of sociology to major elements of social life. Emphasis is placed on the use of the scientific method to study social patterns and institutions: family, religion, education, politics, and economics. Upon completion, students will be able to discuss patterns of socialization, intergroup relations, minority group relations, population growth, and ecosystems. Prerequisites: None

**RTH-132 Clinical Applications II** 1 0 3 2

This course covers advanced techniques of life support. Topics include acquiring knowledge and skills necessary to provide advanced cardiac life support in an emergency clinical setting. Upon completion, students will be able to demonstrate advanced life support techniques including intubation, CPR, ECG interpretation, defibrillation, and appropriate drug therapy. Prerequisite: RTH 131

**RTH-151 Pharmacology** 3 0 0 3

This course includes effects, mechanics of action, routes and methods of administration, distribution, metabolism, and excretion of drugs pertinent to respiratory care. Topics include general pharmacology, microbiology, mucokinetics, sympathomimetics, phosphodiesterase inhibitors, corticosteroids, antibiotics, respiratory stimulants and depressants, and diagnostic agents. Upon completion, students will be able to use references, compute dosages, interpret and evaluate prescriptions, describe or prepare the administration of respiratory drugs. Prerequisite: RTH 105

**RTH-152 Pulmonary Pathophysiology** 3 0 0 3

This course discusses common respiratory abnormalities and disorders. Emphasis is placed on anatomic alterations of the lungs, etiology of the disease process, an overview of clinical manifestations and treatment. Upon completion, students will be able to describe basic pathophysiologic concepts and mechanisms of respiratory disorders, including current treatment and therapeutic interventions. Prerequisite: RTH 151

**RTH-213 Clinical Practice III** 1 0 15 6

This course establishes continuity between didactic information and clinical experience through exposure in intensive care units. Topics include collation and interpretation of patient data and implementation of advanced modes of mechanical ventilation, including neonatal and pediatric application. Upon completion, students will be able to provide total advanced cardiopulmonary assessment and demonstrate proficiency in its application. Prerequisite: RTH 112

**RTH-214 Clinical Practice IV** 1 0 15 6

This course includes study and clinical practice of the principles underlying clinical evaluation of the cardiopulmonary system. Topics include positive pressure ventilation of the adult and pediatric, cardiopulmonary rehabilitation, pulmonary function testing, and home health care. Upon completion, students will be able to demonstrate proficiency in arterial sampling and analysis, interpretation of respiratory mechanics, and application and manipulation of mechanical ventilators. Prerequisite: RTH 213

**RTH-215 Clinical Practice V** 1 0 24 9

This course provides the student with a complete review of didactic materials and clinical involvement in the critical care areas. Topics include patient assessment, collection and interpretation of data and implementation of an organized problem solving process. Upon completion, students will be able to apply acquired skills in all realms of respiratory care therapeutics and modalities. Prerequisite: RTH 214

**RLS-296 Property Management**

4 0 0 4

This course includes physical, economic, and institutional factors of property management, and an analysis of the property manager and his/her responsibilities. Topics include tenant selection and supervision, office management, budget preparation, reports, and office management. Upon completion, students will be able to manage a property management office and/or selective rental properties. Prerequisite: RLS 285 or equiv. or real estate license

**RTH-105 Resp Ther Theory/Equip**

1 0 3 2

This course introduces the student to medical gas theory and physiology of ventilation. Topics include patient assessment, cardiopulmonary anatomy and physiology, introductory oxygen administration, and respiratory mechanics. Upon completion, students will be able to display mastery of concepts and procedures through demonstration and written evaluations. Prerequisite: Admission to the Respiratory Therapy program

**RTH-106 Resp Ther Theory/Equip II**

1 2 12 6

This course introduces basic therapeutic modalities and equipment for bronchial hygiene therapy, and provides clinical/hospital exposure. Topics include tracheobronchial procedures, humid and aerosol therapy and hyperinflation techniques. Upon completion, students will be able to demonstrate mastery of concepts and procedures through clinical evaluation and written examinations. Prerequisite: RTH 105

**RTH-107 Resp Ther Theory/EquipIII**

1 0 3 2

This course introduces mechanical ventilation concepts and provides an in-depth study of airway care and maintenance. Topics include life-saving techniques for airway maintenance and the use of emergency equipment, including implementation of continuous mechanical ventilation. Upon completion, students will be able to describe indications for and demonstrate appropriate use of advanced life support procedures, including intubation and ventilation. Prerequisite: RTH 106

**RTH-111 Clinical Practice I**

1 0 15 6

This course provides clinical experience for introductory oxygen therapy, implementation of aerosol and hyperinflation modalities, and chest physiotherapy. Topics include performance of procedures and acquiring clinical competency in basic modalities of respiratory care. Upon completion, students will be able to demonstrate proficiency in all areas of basic oxygen therapy, humid and aerosol administration, chest physiotherapy and hyperinflation techniques. Prerequisite: RTH 106

**RTH-112 Clinical Practice II**

1 0 30 11

This course provides clinical exposure to advanced life support techniques and modalities. Topics include modification of ventilatory support based on data acquired from blood gas analysis and respiratory mechanics. Upon completion, students will be able to demonstrate proficiency in basic airway care, blood gas sampling and analysis, implementation of mechanical ventilation, measurement of bedside spirometry and respiratory mechanics. Prerequisite: RTH 111

**RTH-131 Clinical Applications I**

1 0 3 2

This course provides an introduction to cardiopulmonary evaluation. Topics include acid base balance, blood gas sampling and analyses, limitations of oxygen therapy, and the physiology of external respiration. Upon completion, students will be able to interpret patients' acid base and oxygenation status and describe appropriate interventions or therapeutic modalities. Prerequisites: None

**RLS-228 Land Use Policy & Govt**

3 2 0 4

This course includes an overview of local and national trends in land use and governmental policies and their effects on real estate. Topics include developing skills in analyses, research, and correlation of the various trends and policies affecting real estate. Upon completion, students will be able to apply their understanding of the influence of governmental influence on real estate. Prerequisite: RLS 285 or equiv. or real estate license

**RLS-231 Real Estate Brokerage**

3 2 0 4

This course includes brokerage operations, establishing a brokerage firm, bookkeeping systems, management concepts and practices, personnel and training, marketing operations, and trust. Topics include management, personnel, operations, records and bookkeeping systems, and financial operations. Upon completion, students will be able to operate or manage a real estate brokerage practice effectively. Prerequisite: RLS 285 or equiv. or real estate license

**RLS-285 Real Estate Fundamentals**

4 2 0 5

This course studies the fundamentals and principles of real estate for the person who wishes to become a real estate salesperson or broker. Topics include real estate laws, rules and regulations, financing, ownership, brokerage, and property valuation and ownership. Upon completion, students will be able to sit for the North Carolina real estate salesman's examination. Prerequisites: None; Corequisite: RLS 202

**RLS-292 Intro to Income Prop Appr**

3 0 0 3

This course will provide a review of the income property appraisal method. Topics include basic income capitalization, valuation process, real estate market analysis, basic algebra, finance mathematics, mortgage loan calculations, future gross income and operating expenses, net operating income and before cash flow. Upon completion, students will be able to perform a basic income property appraisal. Prerequisites: RLS 192, 193, and 194 or certification by the NC Real Estate Commission as a Residential Appraiser or equivalent.

**RLS-293 Adv Income Capital Proc**

3 0 0 3

This course covers some of the advances income capitalization procedures. Topics include basic income capitalization, concepts of value components, basic investment methods, DCF analysis and Ellwood and Akerson mortgage equity analysis. Upon completion, students will be able to perform an advanced income capitalization appraisal. Prerequisites: RLS 192, 193 and 194 or certification by the NC Real Estate Commission as a Residential Appraiser or equivalent and RLS 292.

**RLS-294 App Income Prop Valuation**

2 2 0 3

This course covers the basics of applied income property valuation. Topics include federal regulations of appraiser, NC Real Estate Appraiser Act, uniform professional standards, report preparation and appraising lease and development interest. Upon completion, students will be able to perform an income property valuation using the proper techniques and generate an appraisal report using the standard appraisal forms. Prerequisites: RLS 192, 193, and 194 or certification by the NC Real Estate Commission as a Residential Appraiser or equivalent and RLS 292 and 293.



**RLS-193 Valuation Princ & Proc**

3 0 0 3

This course covers the procedures used to develop an estimate of property value and their application. Emphasis is placed on appraisal of residential 1-4 unit properties and small farms. Upon completion, students will be able to understand the derivation of property value estimates. Prerequisite: RLS 192

**RLS-194 Appl Res Prop Valuation**

2 2 0 3

This course covers laws, rules, and standards which must be followed by appraisers and their application. Topics include N.C. Real Estate Appraisers Act and related Commission rules. Upon completion, students will be able to prepare an appraisal of a single-family home using the URAR form. Prerequisite: RLS 193

**RLS-202 Real Estate Mathematics**

3 0 0 3

This course reviews basic math concepts through the complicated mathematical computations and is an essential and necessary course for all advanced real estate courses. Topics include computations such as profit, loss, commissions, appraisal, area and volume, interest, discount points, prorations, and capitalization. Upon completion, students will be able to do all math problems pertaining to real estate functions and problems. Prerequisites: None; Corequisite: RLS 285

**RLS-209 Real Estate Finance**

3 2 0 4

This course includes an overview of the economics of finance, location of money, the influence of economic activities, and governmental influences on finance. Topics include sources of mortgage money, mathematics of mortgage financing, primary and secondary money markets, and governmental influences. Upon completion, students will be able to apply their understanding of finance to serve their customers more effectively. Prerequisite: RLS 285 or equiv. or real estate license

**RLS-216 Real Estate Selling Tech**

3 2 0 4

This course includes an overview of the most efficient selling techniques; salesmanship and a complete analysis of the selling process is studied. Topics include methods to increase sales and listing productivity, efficient time management, advertising techniques, and maximizing sales efforts. Upon completion, students will be able to apply selling techniques covered to increase sales and overall productivity. Prerequisite: RLS 285 or equiv. or real estate license

**RLS-221 Real Estate Invest & Tax**

3 0 0 3

This course includes an overview of local and national tax effects on real estate and an analysis of real estate as a total investment. Topics include the research, analysis, and correlation affecting real estate as an investment and the tax ramifications of real estate investing. Upon completion, students will be able to apply their basic understanding of real estate investments to selected properties. Prerequisite: RLS 285 or equiv. or real estate license

**RLS-226 Land Development**

3 2 0 4

This course includes an overview of land development, population make-up, and socio-economic factors. Topics include land and population economics of land utilization, site selection, and topographical utilization. Upon completion, students will be able to analyze and select a site for development and make ecological considerations. Prerequisite: RLS 285 or equiv. or real estate license

**REC-250 Community Health Resource** 3 0 0 3

This course is designed to study the on-going process of staying mentally, physically, and socially healthy. Emphasis is placed on the well-being of individuals and communities. Upon completion, students will be able to discuss how heredity, stress, fitness, nutrition, life-style, and environment affects individuals. Prerequisites: None

**REC-251 Gerontology** 3 0 0 3

This course is designed to acquaint students with all aspects of the aging process. Emphasis is placed on characteristics of aging, methods of recreational programming, and guidelines for various institutional settings. Upon completion, students will be able to work effectively with the elderly in planning programs and carrying these programs to completion. Prerequisites: None

**REC-299 Recreation Internship** 0 0 10 1

This course is designed to give students practical experience on location in a recreational setting. Emphasis is placed on developing leadership characteristics, planning and organizing programs, and working with others in the field. Upon completion, students will be able to lead a summer program of activities that has been designed by the student himself/herself. Prerequisites: None

**REL-221 Survey Old Testament** 5 0 0 5

A survey of the Old Testament writings, with emphasis on Hebrew history and faith. Consideration of theologies of covenant, presence, kingship, prophecy, priesthood, and wisdom. Historical and literary criticism which to bring deeper understanding of the Old Testament. Prerequisites: None

**REL-222 Survey New Testament** 5 0 0 5

A study of the New Testament writings, with emphasis on the faith of the early Christian community. Topics include the social, political, cultural, and religious milieu out of which Christianity arose... historical-critical viewpoints brought to bear on questions of provenance and meaning. Prerequisites: None

**RLS-164 Real Estate Law** 3 0 0 3

This course is an advanced level instructional course in real property ownership and interests and includes NCRE Licensing Law and Rules and Regulations. Topics include land use control, law of the agency, contracts, landlord and tenant law, and mortgages/deeds of trust. Upon completion, students will be able to apply their understanding of real estate law to real estate situations. Prerequisite: RLS 285 or equiv. or real estate license

**RLS-192 Intro to RE Appraisal** 3 0 0 3

This course introduces the student to real estate appraisal and provides an overview of the entire valuation process. Topics include basic real property law, concepts of value, real estate markets, and real estate finance. Upon completion, students will be able to understand property data collection and analysis. Prerequisite: RLS 202 or College Algebra

**REC-214 Recreational Music**

3 2 0 4

This course is designed to increase students' knowledge and awareness of recreational music activities. Emphasis is placed on leadership techniques, methods of programming and organization, and fundamental skills in music. Upon completion, students will be able to discuss various musical notations, rhythms, and singing leadership techniques and will have a working knowledge of band instruments. Prerequisites: None

**REC-220 Camp Counseling**

2 0 3 3

This course provides the student with the skills and knowledge needed to work effectively in various types of camping situations. Emphasis is placed on outdoor camping equipment, responsibilities of a camp counselor, and developing the ability to relate information to special populations. Upon completion, students will be able to erect various types of tents and other equipment and develop a competent camping program. Prerequisites: None

**REC-221 Indiv Lifetime Rec Activ**

1 0 3 2

This course is designed to demonstrate to students the varied recreational opportunities that can be done on an individual basis. Emphasis is placed on social activities, such as cards and board games, darts, checkers, and chess. Upon completion, students will be able to program individual activities by using a variety of games. Prerequisites: None

**REC-223 Folk/Square/Social Dance**

1 4 0 3

This course provides students an understanding of the cultural values of dance and provides practice in the basic skills and techniques of dance. Emphasis is placed on teaching methods and procedures and programming for dance instruction. Upon completion, students will be able to instruct in different types of dancing techniques and provide a history of the cultural background of learned dances. Prerequisites: None

**REC-225 Scheduling Activities**

3 0 0 3

This course is designed to instruct students in selecting, planning, and conducting tournaments in all sports. Emphasis is placed on selection of appropriate types of tournaments for industries, schools, and recreation agencies. Upon completion, students will be able to draw up a schedule, record results, and plan and conduct whole tournaments. Prerequisites: None

**REC-231 Social Recreation**

1 4 0 3

This course is designed to teach students how to plan, organize, and lead social recreational activities and programs. Emphasis is placed on understanding group dynamics and incorporating these techniques in social activities. Upon completion, students will be able to organize and carry out social events for all age groups in various social settings. Prerequisites: None

**REC-236 Low Organized Games**

1 0 3 2

This course presents materials and strategies necessary to conduct structured activities for youth, ages two through twelve. Emphasis is placed on characteristics, both mental and physical, of this age group so that activities will enhance social growth. Upon completion, students will be able to plan, schedule, and conduct actual activities for ages two through twelve. Prerequisites: None

**REC-204 Outdoor Recreation** 2 0 3 3

This course is designed to familiarize the student with the many conservation agencies and organizations and camping survival techniques. Emphasis is placed on the history of, objectives of, and federal and state involvement with outdoor recreation and on shelters, fires, and other survival necessities. Upon completion, students will be able to discuss agencies that control conservation in our country and apply the practice of basic survival procedures. Prerequisites: None

**REC-205 Recreation & Tourism** 3 0 0 3

This course is designed to familiarize the student with the tourism industry and the job opportunities that exist within various community settings. Emphasis is placed on tourism components such as destination areas, tourism industry characteristics, economics, inter-relationships with other agencies and marketing. Upon completion, students will be able to define the tourism industry, realize the economic potentials to all communities and to understand various marketing approaches. Prerequisites: None

**REC-206 Recreation - Drama** 2 2 0 3

This course is designed to teach different techniques in presenting various art forms of drama. Emphasis is placed on puppetry, storytelling, and improvisations and includes the history and scope of drama. Upon completion, students will be able to direct and teach creative drama, demonstrate role playing, and explain the uses of each. Prerequisites: None

**REC-207 Sports Officiating** 2 2 0 3

This course is designed to familiarize the student with the rules and regulations of football and softball. Emphasis is placed on officiating mechanics on official's responsibilities and recruiting and training officials. Upon completion, students will be able to officiate basketball, football, and softball games proficiently. Prerequisites: None

**REC-210 Med Term & Kinesiology** 3 0 0 3

This course is designed to build a workable base medical vocabulary for students interested in the therapeutic recreation field. Emphasis is placed on terminology commonly used in medical settings and assessment and documentation techniques used in medical facilities. Upon completion, students will be able to converse with people in the health-related fields to communicate therapeutic needs and instructions. Prerequisites: None

**REC-212 Adaptive Phys Ed & Rec** 3 2 0 4

This course is designed to teach modifications and adaptations used in physical and recreational activities for handicapped persons. Emphasis is placed on techniques and equipment used to adapt various sports, games, and activities for handicapped participants. Upon completion, students will be able to demonstrate proper programming, adaptations, and goal setting for physical and recreational activities designed for handicapped individuals. Prerequisites: None

**REC-213 Rehabilitative Team** 3 0 0 3

This course is designed to give insight into the number and types of professionals working with handicapped individuals. Emphasis is placed on local and state agencies providing recreational services as part of their programs. Upon completion, students will be able to discuss various agencies and professionals and their responsibilities in working with the handicapped. Prerequisites: None

**REC-123 Commercial Recreation**

3 0 0 3

This course is designed to introduce the recreation student to the enterprise system in the field of leisure. Emphasis is placed on financial management, travel and tourism entertainment services, career development, creating a new business and marketing techniques. Upon completion, students will be able to assess the value of beginning a commercial enterprise in the field of recreation. Prerequisites: None

**REC-124 Fitness Management**

3 2 0 4

This course introduces students to basic fitness principles and evaluation techniques so that students will be knowledgeable in progressive maintenance programming. Emphasis is placed on testing for physical fitness, cardiovascular conditioning, evaluation of isometric and isotonic strength, and assessing exercise programs for lifetime value. Upon completion, students will be able to assess fitness programs for their personal use and plan programs for public's use in various recreational settings. Prerequisites: None

**REC-136 Archery/Golf/Tennis**

2 0 0 2

This course is designed to teach the student the basic skills and rules for playing archery, golf, and tennis. Emphasis is placed on safety, equipment, and technique in each of the three activities. Upon completion, students will be able to demonstrate proper techniques, be aware of proper rules, and proper safety precautions in all three activities. Prerequisites: None

**REC-146 Badminton/Racquetball**

2 0 0 2

This course is designed to teach the student the basic skills and techniques necessary for playing badminton and racquetball. Emphasis is placed on rules, safety, equipment, and strategy associated with racquetball and badminton. Upon completion, students will be able to execute proper methods and procedures necessary to complete a fundamentally sound game of racquetball and badminton. Prerequisites: None

**REC-201 Group Leadership**

3 0 0 3

This course is designed to provide a general orientation to recreational group leadership and basic leadership methods. Emphasis is placed on group dynamics, problem solving techniques, and activity leadership methods. Upon completion, students will be able to lead other students in a recreational activity and discuss leadership principles. Prerequisites: None

**REC-202 Intro to III/Handicapped**

5 0 0 5

This course is designed to introduce the student to the special recreational needs of exceptional and disabled persons. Emphasis is placed on different disabilities, their causes, limitations, and treatments. Upon completion, students will be able to describe general characteristics, precautions, and treatment concerns of various disabilities. Prerequisites: None

**REC-203 Sign Language in Rec**

2 2 0 3

This course provides students with insight into the problems of the hearing impaired and the various methods used in communicating in basic sign language. Emphasis is placed on communication skills through various pieces of equipment and the American Sign Language instruction. Upon completion, students will be able to discuss causes, degrees, and types of hearing impairments as well as use the American Sign Language. Prerequisites: None

**REC-112 Arts & Crafts I**

1 0 3 2

This course is designed to instruct the student in the various mediums of art. Emphasis is placed on practical experience in paints, crayon, and chalk projects, as well as ceramics, pottery, and cloth art. Upon completion, students will be able to program arts and crafts in a recreational setting and demonstrate familiarity with the different arts and crafts forms. Prerequisites: None

**REC-113 Arts & Crafts II**

1 0 3 2

This course is designed to allow the student to work on art projects in different art mediums and organize art programs. Emphasis is placed on practical application as well as teaching, organizing, and demonstrating various art projects. Upon completion, students will be able to teach an art skill and organize an art program for a recreational setting. Prerequisites: None

**REC-116 Horseshoe/SBoard/Croquet**

2 0 0 2

This course is designed to teach the fundamentals of horseshoes, croquet, and shuffleboard. Emphasis is placed on basic game concepts, rules, safety, and techniques. Upon completion, students will be able to perform skills necessary in playing the above mentioned activities as well as know all regulations of each activity. Prerequisites: None

**REC-119 Team Sports**

2 4 0 4

This course is designed to offer a survey of basic rules, skills, and terminology in selected team sports that are popular in recreation settings. Emphasis is placed on knowledge and understanding of organization, administration, and promotion of sports rather than on performance. Upon completion, students will be able to evaluate a good team sports program and know the basics of football, basketball, volleyball, and soccer. Prerequisites: None

**REC-120 Cultural Art**

2 0 3 3

This course is designed to provide a general knowledge of the fields of arts and crafts, music, dance, and drama. Emphasis is placed on activity planning and practical skills in all related fields of cultural arts. Upon completion, students will be able to discuss values, scope, and organizational patterns for all areas of cultural programming. Prerequisites: None

**REC-121 Program Plan & Organiz**

5 0 0 5

This course is designed to prepare students in planning recreational activities in sports, social, cultural, and special events. Emphasis is placed on acquiring skills in programming for park systems and private, commercial, and industrial recreational facilities. Upon completion, students will be able to recognize major factors that govern program planning and discuss processes involved in promotion and evaluation. Prerequisites: None

**REC-122 Public Relations in Rec**

2 4 0 4

This course is designed to teach the students the value of good marketing procedures and the use of visual aids to accomplish this. Promotional techniques to enhance participation levels and provide information will be utilized. Prerequisites: None

**RDT-218 Clinical Education VIII**

0 0 30 10

This course is performed in the clinical setting providing varied patient interaction, with the student choosing those examinations to perform for clinical competency. Emphasis is placed on C-T scan, ultrasound, quality assurance, and radiation therapy; rotations vary according to the students' needs in clinical competency. Upon completion, students will be able to perform competencies in deficient areas and improve clinical performance to provide a smooth transition to graduate technologist status. Prerequisite: RDT 217

**REC-101 First Aid & Safety**

3 2 0 4

This course is designed to provide knowledge, techniques, and procedures for administering basic first aid assistance, and includes CPR certification. Emphasis is placed on prevention of accidents, identification of emergencies, and procedures to follow in first aid crises. Upon completion, students will be able to perform artificial respiration and cardiopulmonary resuscitation, identify and bandage wounds, and treat for shock, choking, burns, and other emergencies. Prerequisites: None

**REC-108 Maintenance in Recreation**

2 0 3 3

This course is designed to provide practical application for taking care of and having knowledge of various equipment found in recreation settings. Emphasis is placed on indoor and outdoor use of equipment and repairs on facilities. Upon completion, students will be able to use various recreational equipment and perform practical tasks inside and outside recreational facilities. Prerequisites: None

**REC-109 Facility Management**

3 0 0 3

This course is designed to provide students with guidelines used in planning and managing recreational facilities. Emphasis is placed on facility planning and management techniques with practical experience in measuring and laying out athletic fields, courts, and floors. Upon completion, students will be able to work with an architect in planning recreational constructions to include landscaping and outdoor facilities. Prerequisites: None

**REC-110 Intro to Resources**

3 0 0 3

This course is designed to familiarize the student with the natural and economic resources in the immediate area. Emphasis is placed on recognizing local assets, ecological studies, environmental impacts, and on developing the ability to do an area survey. Upon completion, students will be able to conduct a safe and informative field trip and demonstrate proper courtesy and provide factual information to the community. Prerequisites: None

**REC-111 Intro to Recreation**

5 0 0 5

This course provides definitions of leisure, play, and recreation and enables the student to focus on the vast scope of recreation. Emphasis is placed on the terminology in and history of recreation and changes in society that have affected the philosophy of recreation. Upon completion, students will be able to recognize the difference between private, public, and commercial recreation and discuss the history pertaining to each. Prerequisites: None

**RDT-205 Radiologic Technology V**

7 0 0 7

This course provides the student with the principles of imaging modalities. Topics include image intensification, tomography, special radiographic procedures, interventional techniques, computerized tomography, digital imaging, ultrasound, and magnetic resonance imaging. Upon completion, students will be able to describe the utilization of various imaging modalities, identify components of those systems, and identify images from those modalities. Prerequisites: RDT 204 and 215

**RDT-206 Radiologic Technology VI**

5 0 0 5

This course is an overview of the preceding RDT courses with an introduction to radionuclides. Topics include principles of nuclear medicine, quality assurance, and review for the registry. Upon completion, students will be able to describe principles of nuclear medicine, test radiographic equipment for calibration, and sit for the registry exam. Prerequisites: RDT 205, 207, 216, 217

**RDT-207 Pathology for RDT**

3 0 0 3

This course introduces systemic pathology relating radiographic procedures to pathology when applicable. Topics include most frequent and serious problems, major manifestations, and specific diseases of the various systems. Upon completion, students will be able to identify various pathologic conditions by radiograph and describe systemic disease process, growth disturbances, and the inflammatory process. Prerequisites: RDT 205 and 216

**RDT-215 Clinical Education V**

0 0 24 8

This course is performed in the clinical setting providing varied patient interaction, with the student choosing those examinations to perform for clinical competency. Emphasis is placed on practical experience with pediatric patients, special positions, contrast media, cranial radiography, and radiation protection. Upon completion, students will be able to perform examinations chosen for clinical competency. Prerequisite: RDT 114

**RDT-216 Clinical Education VI**

0 0 24 8

This course is performed in the clinical setting providing varied patient interaction, with the student choosing those examinations to perform for clinical competency. Emphasis is placed on special radiographic procedures, operating room radiography, and general diagnostic procedures. Upon completion, students will be able to assist and explain special radiographic procedures, perform operating room radiography, and perform examinations chosen for clinical competency. Prerequisite: RDT 215

**RDT-217 Clinical Education VII**

1 0 33 12

This course is performed in the clinical setting providing varied patient interaction, with the student choosing those examinations to perform for clinical competency. Emphasis is placed on C-T scan, special procedures, lithotripsy, ultrasound, quality assurance, and general diagnostic radiography. Upon completion, students will be able to perform competencies in general diagnostic procedures and in identified special rotations. Prerequisite: RDT 216



**RDT-103 Radiologic Technology III**

3 6 0 6

This course provides the student with the complete basic principles of radiologic technology. Topics include the principles of positioning the vertebral column and the cranium, the principles of fluoroscopy, and a comprehensive review. Upon completion, students will be able to demonstrate positioning of the vertebral column and the cranium and utilize the principles of fluoroscopy and equipment. Prerequisite: RDT 102, RDT 112

**RDT-111 Clinical Education I**

0 0 12 4

This course is performed in the clinical setting providing the student with an orientation to the radiology department, radiographic equipment, and patient contact. Emphasis is placed on processing radiographs, transporting patients, practicing radiation safety principles, and positioning patients for chest, abdomen, and extremity radiographs. Upon completion, students will be able to process radiographs, transport patients, practice radiation safety techniques, and prepare radiographs of chest, abdomen, and extremities. Prerequisite: Curriculum admission

**RDT-112 Clinical Education II**

0 0 12 4

This course is provided in the clinical setting giving opportunities for varied patient interaction, with the student choosing examinations to perform for clinical competency. Emphasis is placed on practical experience of positioning of the upper and lower extremities, bony thorax, and the pelvic girdle. Upon completion, students will be able to perform examinations for clinical competency, especially of the upper and lower extremities and thorax. Prerequisite: RDT 111

**RDT-113 Clinical Education III**

0 0 15 5

This course is provided in the clinical setting giving opportunities for varied patient interaction, with the student choosing examinations to perform for clinical competency. Emphasis is placed on practical experience of positioning of the vertebral column, the thoracic and abdominal viscera, mammography, and fluoroscopic procedures. Upon completion, students will be able to perform examinations for clinical competency, especially of the vertebral column and thoracic-abdominal viscera. Prerequisite: RDT 112

**RDT-114 Clinical Education IV**

0 0 33 11

This course is provided in the clinical setting giving opportunities for varied patient interaction, with the student choosing examinations to perform for clinical competency. Emphasis is placed on practical experience of positioning of the cranium and fluoroscopic examinations of the gastro-intestinal tract including previous examinations. Upon completion, students will be able to perform examinations for clinical competency, especially fluoroscopic studies and cranial examinations. Prerequisite: RDT 113

**RDT-204 Radiologic Technology IV**

7 0 0 7

This course covers advanced radiography as employed in a clinical setting. Topics include contrast media examinations, advanced radiation protection, radiobiology, advanced positioning, and pediatric radiography. Upon completion, students will be able to describe and perform contrast media examinations, advanced positioning, and pediatric radiographs and discuss principles of protection and radiobiology. Prerequisites: RDT 103 and 114

**PTH-202 Functional Anatomy**

2 2 0 3

This course provides a study of applied anatomy and kinesiology and application to musculoskeletal dysfunction and injury. Topics include peripheral soft tissue and joint function and dysfunction, measurement of joint motion with a goniometer. Upon completion, students will know the different muscle strengths, be able to apply the goniometer to determine joint motion, and discuss soft tissue and joint pathologies and treatment programs. Prerequisite: PTH 103

**PTH-210 Psychology of Adjustment**

3 0 0 3

This course is designed to assist the student in developing interpersonal relationship skills for effective participation in the health field. Topics include reactions to disability, the grieving process, communication, motivation, health promotion, prevention, and aging. Upon completion, students will be able to discuss the basis of and methods for achieving effective interaction with the patients, families, and staff. Prerequisites: None; Corequisite: PSY 121

**PTH-215 Community Health/Welfare**

3 0 0 3

This course is designed to survey, identify, and describe various health and welfare resources within the community and includes field trips to selected agencies. Topics include public, private, and voluntary health organizations and their functions, future trends of health care, and basic health problems. Upon completion, students will be able to discuss the functions, resources, and proper utilization of community health agencies and the need for such agencies. Prerequisite: Consent of Department Chairperson

**PTH-298 Clinical Education**

1 0 39 14

This course is designed to place students in two different full-time affiliations for planned learning experiences and practice under supervision. Emphasis is placed on reinforcement of learned skills in direct patient care and presentation of case studies. Upon completion, the student will be able to demonstrate satisfactory performance as a physical therapist assistant and a member of the physical therapy team. Prerequisite: PTH 105

**RDT-101 Radiologic Technology I**

4 0 3 5

This course is an orientation to the field of radiologic technology. Topics include the principles of ethics, radiation protection, radiographic exposure, darkroom chemistry, medical terminology, and upper and lower extremity positioning. Upon completion, students will be able to utilize medical terminology, process films, demonstrate radiation safety, manipulate exposure factors, demonstrate extremity positioning, and discuss patient care. Prerequisite: Curriculum admission

**RDT-102 Radiologic Technology II**

3 6 0 6

This course provides the student with additional basic principles of radiologic technology. Topics include the principles of radiographic exposure techniques, nursing procedures, medical terminology, and positioning of the bony thorax and pelvis. Upon completion, students will be able to utilize medical terminology, calculate radiographic exposure techniques, and demonstrate positioning of the bony thorax and the pelvic girdle. Prerequisite: RDT 101, RDT 111

**PTH-103 Physical Therapy Proc II**

3 0 6 5

This course, a continuation of PTH 102, emphasizes theory and practice of electrotherapy, cryotherapy, thermotherapy, biofeedback, and actinotherapy. Topics include low and high frequency currents, deep heat, cold, ultraviolet, and edema reduction. Upon completion, students will be able to apply these modalities and treatment techniques effectively, efficiently, and safely and demonstrate knowledge of physiological principles involved. Prerequisite: PTH 102

**PTH-104 Physical Therapy Proc III**

3 0 9 6

This course, a continuation of PTH 103, includes selected topics and procedures and part-time clinical experiences. Topics include spinal orthopedics, gait, orthotics, amputee care, ADL, and problem-oriented record keeping. Upon completion, students will be able to safely and appropriately apply knowledge of spinal orthopedics, gait, orthotics, and prosthetics to patient problems, write a progress note, and satisfactorily complete the clinic rotation. Prerequisite: PTH 103

**PTH-105 Physical Therapy Proc IV**

3 0 12 7

This course, a continuation of PTH 104, emphasizes physical skill acquisition, physiological principles of selected physical therapy techniques and part-time clinical rotations. Topics include neurology review, treatment of adult and pediatric CNS patients, spinal cord, burns, and cardiopulmonary conditions. Upon completion, students will be able to demonstrate safe and correct application of selected therapeutic techniques in lab and in the clinic. Prerequisite: PTH 104

**PTH-106 Physical Therapy Seminar**

3 0 0 3

This course consists of reports and seminars in the latest physical therapy techniques and equipment and allied health specialties. Topics include reports on extra departmental experience (observing an operation, for example), case studies, and guest lecturers. Upon completion, students will be able to discuss specialized physical therapy techniques or equipment, related health fields, and display competence in writing skills. Prerequisite: PTH 105

**PTH-110 Therapeutic Exercises**

3 0 6 5

This course covers basic kinesiological principles and their application to exercises and ambulation. Emphasis is placed on skeletal and muscle review, innervations, kinesiology, therapeutic exercises, postural alignment, ambulation techniques, and relaxation techniques. Upon completion, students will be able to apply therapeutic exercises, teach and apply ambulation skills appropriately and safely, and describe the anatomy and kinesiology pertaining to patient problems. Prerequisite: BIO 107

**PTH-201 Path/Phys for PT Assist**

4 0 0 4

This course is designed to present a survey of basic pathology with emphasis on conditions most frequently observed and treated in physical therapy. Topics include etiology, pathology, manifestations, treatment, and prognosis. Upon completion, students will be able to explain repair processes, categorize diseases, define pathology, identify organ/body systems involved, and discuss treatment and prognosis. Prerequisites: BIO 106, 107, and ENG 115

**PSY-241 Grief Psychology** 5 0 0 5

This course presents the role of the funeral director in grief counseling. Emphasis is placed on making the funeral director more aware of the psychological needs the impact of death creates in the bereaved. Upon completion, students will be able to apply the concepts of death, dying, immortality, grief management, religion, and the funeral in a funeral services vocation. Prerequisite: PSY 101

**PSY-251 Stress Management** 5 0 0 5

This course is designed to provide understanding of and remediation for types of stress found in the home, at work, and within personality types. Emphasis is placed on helping all adults from whatever walk of life using different mental and physical exercises. Upon completion, students will be able to help themselves overcome debilitating stress by understanding its causes and then eliminating the causes. Prerequisites: None

**PSY-261 Human Relations** 5 0 0 5

This course is a study of the basic principles of human behavior, explaining the biological and cultural roots of behavior and social drive. Emphasis is placed on the elements of social behavior, perception during interaction, two-person interaction, small social groups, and social organizations. Upon completion, students will be able to utilize their understanding of behavior and individual relationships to improve social competence in work situations. Prerequisite: PSY 101

**PSY-271 Structured Psychology** 5 0 0 5

This course covers the principles of structured psychology that will be of assistance in understanding interpersonal relations on the job. Emphasis is placed on employer/employee relations, supervision, job satisfaction, and industrial conflicts; motivational problems and adjustments are also investigated. Upon completion, students will be able to apply the principles of mental hygiene to adjustment problems as a worker and community members. Prerequisites: None

**PTH-101 Intro to Physical Therapy** 2 0 6 4

This course includes an introduction to the health care system, physical therapy, the role of the physical therapist assistant, basic patient care and transfer skills, and a review of skeletal structures. Topics include surface anatomy, professional ethics, history, clinic visits, and basic patient care skills. Upon completion, students will be able to explain the role of the assistant, demonstrate competence in basic patient care skills, and identify skeletal anatomy. Prerequisite: Consent of Chairperson Corequisites: BIO 106X and BIO 106Y

**PTH-102 Physical Therapy Proc I** 2 0 9 5

This course, a continuation of PTH 101, includes heat procedures, massage, a review of the muscular system, and initial clinical experience. Emphasis is placed on physiological effects, indications and contra-indications, and clinical skill development of the above techniques. Upon completion, students will be able to apply superficial heat modalities, ultrasound, and massage safely and correctly in lab and clinic, and identify muscles. Prerequisite: PTH 101 Corequisites: BIO 107X and BIO 107Y

**PSY-121 General Psychology**

5 0 0 5

This course is an introductory survey of the field of psychology wherein the student becomes acquainted with the human being as a biological-social organism. Topics include history and development of psychology, scientific method, theory of statistical concepts, intelligence, motivation, emotions, and learning. Upon completion, students will be able to develop a better understanding of the total human being in a social setting as a biological social organism. Prerequisites: None

**PSY-201 Applied Stress Management**

3 0 0 3

This course is designed to provide understanding of and remediation for types of stress found in the home, at work, and within personality types. Emphasis is placed on helping all adults from whatever walk of life using different mental and physical exercises. Upon completion, students will be able to help themselves overcome debilitating stress by understanding its causes and then eliminating the causes. Prerequisites: None

**PSY-202 Human Growth & Develop**

3 0 0 3

This course is designed to incorporate all human physical and psychological growth and developmental stages from infancy through old age. Emphasis is placed on the psychological and integrated with the social, biological, and cultural influences upon human growth and development. Upon completion, students will be able to discuss the bio-psychological development of humans from infancy through old age. Prerequisite: PSY 101

**PSY-204 Abnormal Psychology**

3 0 0 3

This course is a study of principal abnormal phases of behavior and the ways by which individuals develop abnormal habits of thinking and acting. Emphasis is placed on the various deviations of abnormal psychology and familiarizing the student with proper abnormal terminology. Upon completion, students will be able to distinguish between normal and abnormal adjustment mechanisms and explain the prevention and treatment of behavior disorders. Prerequisite: PSY 101

**PSY-221 Abnormal Psychology**

5 0 0 5

This course is a study of principal abnormal phases of behavior and the ways by which individuals develop abnormal habits of thinking and acting. Emphasis is placed on various deviations of abnormal psychology and familiarizing the student with proper abnormal terminology. Upon completion, students will be able to distinguish between normal and abnormal adjustment mechanisms and explain the prevention and treatment of behavior disorders. Prerequisite: PSY 101

**PSY-231 Human Growth & Develop**

5 0 0 5

This course is designed to incorporate all human physical and psychological growth and developmental stages from infancy through old age. Emphasis is placed on the psychological and integrated with the social, biological, and cultural influences upon human growth and development. Upon completion, students will be able to discuss the bio-psychological development of humans from infancy through old age. Prerequisite: PSY 101 or equiv.

**POS-205 Postal Delivery & Collect** 3 0 0 3

This course introduces the student to the problems and solutions encountered in collecting mail, transporting mail, and delivering mail to customers in an economic and proficient way. Topics include carrier operation, delivery standards, and the Delivery and Collection Efficiency Analysis (DCEA) system used in the Postal Service. Upon completion, students will be able to explain a delivery operation and the DCEA system. Prerequisites: None

**POS-207 Postal Serv Empl Relation** 3 0 0 3

This course introduces students to the personnel organizational structure of the Postal Service and all the functions associated with a personnel operation. Topics include hiring procedures, training, affirmative action, safety, promotion, and the federal retirement system. Upon completion, students will be able to explain the complete personnel operation used in the Postal Service and how employee relations integrate in the total postal operation. Prerequisites: None

**POS-208 Postal Problem Analysis** 3 0 0 3

This course presents the students with different methods used in the Postal Service to analyze and solve problems in a systematic manner. Topics include the management by objective concept (MBO), problem assessment, and the use of action plans. Upon completion, students will be able to identify both postal and non-postal problems and use a systematic approach to come up with attainable solutions. Prerequisites: None (all other postal courses encouraged)

**PSY-101 Intro to Psychology** 3 0 0 3

This course is an introductory survey of the field of psychology wherein the student becomes acquainted with the human being as a biological-social organism. Topics include history and development of psychology, scientific method, theory of statistical concepts, intelligence, motivation, emotions, and learning. Upon completion, students will be able to develop a better understanding of the total human being in a social setting as a biological-social organism. Prerequisites: None

**PSY-110 Human Relations** 3 0 0 3

This course is a study of the principles of human behavioral relationships in a home or workplace setting. Emphasis is placed on how one's self-esteem affects and is affected by intergroup experiences at the workplace. Upon completion, students will be able to better understand, appreciate and accommodate people with different life styles and occupational backgrounds. Prerequisites: None

**PSY-1101 Human Relations** 3 0 0 3

This course examines the basic aspects of human relations, namely the practical, cognitive, and affective domain of interpersonal relationships as they apply to individuals. Emphasis is placed on the total world relationships of occupation, home, and society, examining the self-concept and intergroup experiences. Upon completion, students will be able to involve themselves academically in stress resolution and problem solving, including appreciating different life styles and occupational choices. Prerequisites: None

**POL-241 Comparative Government**

5 0 0 5

This course develops a political comparison of policy and action for the countries of England, France, West Germany, Russia, China, Brazil, and South Africa. Topics include each countries' historical past, key institutions, political attitudes, patterns of interaction, and what the countries quarrel about. Upon completion, students will be able to gage the importance of American foreign relations and better understand the international setting for political decision making. Prerequisite: POL 221

**POS-101 Postal History & Organiz**

3 0 0 3

This course is designed to trace the delivery of written communication through present day modes. Topics include private and governmental agencies which have been and are responsible for mail throughout the world, including the Postal Reorganization Act. Upon completion, students will be able to explain the ancient history affecting the present organization of the Postal Service. Prerequisites: None

**POS-103 Postal Serv Mail Proc I**

3 0 0 3

This course is designed to provide the participant with an awareness of the interrelated factors necessary to separate large amounts of mail. Topics include bulk mail center operations, ADC operation, and MSC operations. Upon completion, students will be able to explain the flow of mail from customer to customer while learning the importance of service standards. Prerequisites: None

**POS-105 Postal Serv Mail Proc II**

3 0 0 3

This course is designed to provide the student with an in-depth view of the flow of mail from area distribution centers to individual post offices. Topics include bulk mail center operations, ADC operation, and MSC operations with emphasis on meeting service standards between operations. Upon completion, students will be able to explain the flow of mail from customer to customer and discuss the importance of service standards. Prerequisites: None

**POS-201 Postal Serv Labor Relat**

3 0 0 3

This course introduces the student to labor activities in this country and gives an overview of labor relations in the Postal Service. Emphasis is placed on the national agreements between the Postal Service and the bargaining unions. Upon completion, students will be able to understand labor relations activities in the Postal Service and administer the grievance-arbitration procedures set forth in the national agreements. Prerequisites: None

**POS-202 Postal Service Finance**

3 0 0 3

This course covers the ancillary functions of the finance operation at the MSC level and teaches correct methods used to make daily financial transactions in the Postal Service. Topics include use of daily accounting procedures, postal auditing procedures, and an overview of the total financial operation in the Postal Service. Upon completion, students will be able to discuss correct financial procedures used to operate a post office and explain the administrative support provided by a finance section. Prerequisites: None

**POS-203 Postal Customer Service**

3 0 0 3

This course is designed to provide the student with an in-depth knowledge of all services provided to postal customers. Emphasis is placed on customer relations and retail sales and services. Upon completion, students will be able to discuss the customer services function and the role customer services plays in the overall operation of the Postal Service system. Prerequisites: None

**PNE-1108 Medical & Surg Nursing II**

7 2 12 12

This course is a continuation of Medical and Surgical Nursing I. Topics include care of the patient with respiratory, circulatory, gastro-intestinal, genito-urinary, endocrine, neurologic, sensory, and orthopedic problems. Upon completion, students will be able to provide nursing care for patients with problems affecting these systems. Corequisite: PNE 1109

**PNE-1109 Vocational Development**

4 0 0 4

This course is a continuation of Vocational Adjustments I and presents the ethical, moral, and legal aspects inherent in the role of the licensed practical nurse. Topics include the Nursing Practice Act, the practice of nursing by a licensed practical nurse, licensure by examination, and job applications. Upon completion, students will be able to obtain employment as a licensed practical nurse, working under the supervision of a registered nurse or licensed physician. Corequisite: PNE 1108

**POL-102 State & Local Government**

3 0 0 3

This course examines state and local politics and includes an overview of executive, legislative, and judicial procedures for most states in the U.S. Emphasis is placed on the procedural differences as they pertain to North Carolina politics; national and state government relationships are also discussed. Upon completion, students will be able to discuss political power and political relationships within the state and between states and national government. Prerequisites: None

**POL-103 National Government**

3 0 0 3

This course introduces the student to an examination of all major functions and branches of U.S. government including the executive, legislative, and judicial branches. Emphasis is placed on outlining the basic processes of the federal bureaucracy, political parties, national campaigning, and national elections. Upon completion, students will be able to explain the major aspects and functions of the federal government including most decision making processes. Prerequisites: None

**POL-221 American Government**

5 0 0 5

This course introduces the student to an examination of all major functions and branches of U.S. government including the executive, legislative, and judicial branches. Emphasis is placed on outlining the basic processes of the federal bureaucracy, political parties, national campaigning, and national elections. Upon completion, students will be able to explain the major aspects and functions of the federal government including most decision making processes. Prerequisites: None

**POL-231 State & Local Government**

5 0 0 5

This course examines state and local politics and includes an overview of executive, legislative, and judicial procedures for most states in the U.S. Emphasis is placed on the procedural differences as they pertain to North Carolina politics; national and state governmental relationships are also discussed. Upon completion, students will be able to discuss political power and political relationships within the state and between states and national government. Prerequisites: None



**PNE-1101 Nursing Skills I**

4 4 9 9

This course is designed to teach the student principles underlying nursing actions. Topics include hygienic care of the hospitalized patient, assessment of vital signs, and performance of basic nursing skills. Upon completion, students will be able to define and apply scientific principles that govern basic nursing actions.

**PNE-1102 Nursing Skills II**

3 4 0 5

This course is a continuation of Nursing Skills I. Topics include principles governing performance of more complex nursing actions, such as sterile dressing changes, catheterization, and gastric gavage. Upon completion, students will be able to demonstrate understanding of these principles by providing skilled and safe nursing care to assigned patients. Prerequisites: PNE 1101

**PNE-1103 Medical & Surg Nursing I**

6 0 12 10

This course deals with the causes, prevention, treatment, and nursing interventions for diseases and disorders of various body systems. Topics include physiologic and psychologic aspects of patient care and nursing the patient with general manifestations of illness. Upon completion, students will be able to provide care for patients with a variety of medical and surgical conditions. Prerequisites: PNE 1101, BIO 106X, BIO 106Y

**PNE-1104 Nursing Care of Children**

4 0 6 6

This course provides an introduction to pediatric nursing and basic principles of growth and development and the prevention and treatment of common childhood health problems. Topics include changing concepts in child health care, health problems of the well child, and the nursing care of children. Upon completion, students will be able to apply understanding of growth and development and maturational and childhood health problems in helping children achieve optimal health status. Prerequisites: PNE 1103

**PNE-1105 Nursing Care of Mother**

4 0 6 6

This course deals with care of the child-bearing woman. Topics include conception, pregnancy, labor and delivery, the puerperium, the normal newborn, and the newborn with special needs. Upon completion, students will be able to provide family centered maternity care during pregnancy, parturition, and after the birth of the baby. Prerequisites: PNE 1103

**PNE-1106 Mental Health**

3 0 0 3

This course includes the basic mental health concepts applicable to understanding the reactions of self and others under stress during periods in the lifespan. Topics include personality development, hierarchy of needs, adjustment mechanisms, stress and continuum of behavioral reactions to stress, and therapeutic communications. Upon completion, students will be able to apply understanding of the basic concepts necessary to establish a therapeutic relationship with clients through problem-solving techniques. Prerequisites: PNE 1103

**PNE-1107 Nutrition**

3 0 0 3

This course introduces the nutrients according to body use, the four basic food groups, and dietary modifications prescribed to meet specific requirements of the individual. Topics include the utilization of essential nutrients by the body, therapeutic diet modifications, and nutrition in the life cycle. Upon completion, students will be able to apply understanding of nutrition principles to both health maintenance and the instruction of individuals according to nutritional status.

**PME-1182A Automatic Transmissions**

3 0 3 4

This course covers the fundamentals of servicing automatic transmissions. Topics include servos, band adjustments, and filter changes. Upon completion, students will be able to service automatic transmissions. Prerequisites: None

**PME-1182B Automatic Transmissions**

3 0 3 4

This course covers the fundamentals of repairing and replacing automatic transmissions. Topics include cleaning and servicing valve bodies and seal replacement. Upon completion, students will be able to rebuild and adjust automatic transmissions. Prerequisite: PME 1182A

**PME-1182X Automatic Transmissions**

6 0 0 6

This course covers fundamentals of servicing automatic transmissions. Topics include servos, valve bodies, and clutch packs. Upon completion, students will be able to service automatic transmissions. Prerequisite: PME 1124; Corequisite: PME 1182Y

**PME-1182Y PME-1182 Lab**

0 0 6 2

This course allows the students to assemble and disassemble transmissions. Emphasis is placed on procedures for rebuilding automatic transmissions. Upon completion, students will be able to rebuild automatic transmissions. Prerequisite: PME 1124; Corequisite: PME 1182X

**PME-1183A Chassis Electrical Circ**

2 0 3 3

This course will acquaint the student with the chassis electrical systems and their construction. Topics include the headlight, park light, stop light, turn signal, dash light, power window, power seat, and windshield wiper systems. Upon completion, students will be able to trouble-shoot and make repairs to these electrical systems using the proper test equipment. Prerequisite: PME 1102

**PME-1183B Chassis Electrical Circ**

2 0 3 3

This course is provided to give the student practical training on the vehicle chassis electrical systems. Emphasis is placed on the use of test equipment and proper sequence of steps to locate problems in the electrical circuits. Upon completion, students will be able to diagnose problems in the chassis electrical circuits and repair any defects causing problems. Prerequisites: PME 1102 and 1183A

**PME-1183X Chassis Electrical Circ**

4 0 0 4

This course will acquaint the student with the chassis electrical systems and their construction. Topics include the headlight, park light, stop light, turn signal, dash light, power window, power seat, and windshield wiper systems. Upon completion, students will be able to trouble-shoot and make repairs to these electrical systems using the proper test equipment. Prerequisite: PME 1102; Corequisite: PME 1183Y

**PME-1183Y PME-1183 Lab**

0 0 6 2

This course is provided to give the student practical training on the vehicle chassis electrical systems. Emphasis is placed on the use of test equipment and proper sequence of steps to locate problems in the electrical circuits. Upon completion, students will be able to diagnose problems effectively in the chassis electrical circuits and repair any defects causing problems. Prerequisite: PME 1102; Corequisite: PME 1183X

**WLD-1120B Oxy-Acetylene Welding** 1 0 6 3

This course is a continuation of WLD 1220A and covers the processes of gas welding, cutting, brazing, and soldering and describes the safe operation of equipment. Emphasis is placed on the equipment used for gas welding and cutting processes including practice welding in the vertical and overhead positions. Upon completion, students will be able to use gas welding equipment safely and produce weld or braze joints of materials in all welding positions. Prerequisite: WLD 1120A

**WLD-1121 Arc Welding** 3 0 15 8

This course covers the operation of arc welding machines, safety, selection of electrodes, and problems encountered in the welding process. Emphasis is placed on machines, their electrical systems, and electrode data evaluation. Upon completion, students will be able to use arc welding machines to weld plates in all positions. Prerequisite: WLD 1180 or 106 or 1120

**WLD-1121A Arc Welding** 2 0 6 4

This course covers the operation of arc welding machines, safety and selection of electrodes, and problems encountered in the welding process. Emphasis is placed on machines for welding, electrical systems, electrode data selection, and practice in flat and horizontal position welding. Upon completion, students will be able to use arc welding machines safely to weld steel plates in the flat and horizontal positions. Prerequisite: WLD 1180 or 106 or 1120

**WLD-1121B Arc Welding** 1 0 9 4

This course is a continuation of WLD 1121A and includes machines, safety and selection of electrodes, and welding process problems. Emphasis is placed on the operation and electrical systems of arc welders and practice welding in the vertical and overhead position. Upon completion, students will be able to use arc welding machines safely to weld plates in the overhead and vertical positions. Prerequisite: WLD 1121A

**WLD-1122 Comm & Industrial Pract** 2 0 9 5

This course covers the procedures and practices in field construction and industrial plants and transferring this knowledge to gainful projects. Emphasis is placed on teaching students how to lay out projects including welding procedures in pipe and structural steel units. Upon completion, students will be able to lay out detailed field and structural plans and weld pipe and plates in all positions. Prerequisites: WLD 1123 and 1124

**WLD-1123 Inert Gas Welding** 1 0 3 2

This course is designed to teach the operation and use of inert-gas-shielded arc welding methods (TIG/MIG). Emphasis is placed on the study of the equipment, its safety and operational demands, and practice in all welding positions. Upon completion, students will be able to set up and operate TIG and MIG welding machines and weld various size metals in all welding positions. Prerequisites: WLD 1120 and 1121; or WLD 106 or WLD 1180

**WLD-1124 Pipe Welding** 4 0 12 8

This course provides practice in the preparation and welding procedures essential to joining pipe systems. Emphasis is placed on pipe codes and measurements and specifications and techniques of welding pipe, including layout of pipe joints. Upon completion, students will be able to prepare pipe joints, then weld them together using pipe welding processes in the horizontal and vertical position. Prerequisites: WLD 1120 and 1121

**WLD-1124A Pipe Welding**

2 0 6 4

This course introduces students to pipe welding techniques and preparation of pipe for welding. Emphasis is placed on studies of pipe codes and specifications and techniques of horizontal pipe welding. Upon completion, students will be able to make templates, lay out pipe joints, and join pipes using proper welding techniques in the horizontal position. Prerequisites: WLD 1120 and 1121

**WLD-1124B Pipe Welding**

2 0 6 4

This course is a continuation of WLD 1124A and teaches students the procedures of pipe welding. Emphasis is placed on review of pipe codes, laying out of pipe joints, and techniques of vertical pipe welding. Upon completion, students will be able to make templates, lay out pipe joints, and join pipes using proper welding techniques in the vertical position. Prerequisite: WLD 1124A

**WLD-1125 Certification Practice**

3 0 6 5

This course provides practice in welding metals to meet certification standards as established by specific codes. Emphasis is placed on the various tests established by industry and the American Welding Society using specific principles and welding procedures. Upon completion, students will be able to weld metals in all welding positions and test the welds to determine if quality welds have been produced. Prerequisites: WLD 1123 and 1124

**WLD-1180 Basic Welding**

1 0 6 3

This course covers the basic arc and gas welding processes alluding to welding machines and equipment. Emphasis is placed on arc welding machines, gas welding components, and flat plate welding is practiced. Upon completion, students will be able to set up arc and gas welding equipment safely and successfully and join metal plates in the flat position. Prerequisites: None

**WLD-1181 MIG & TIG**

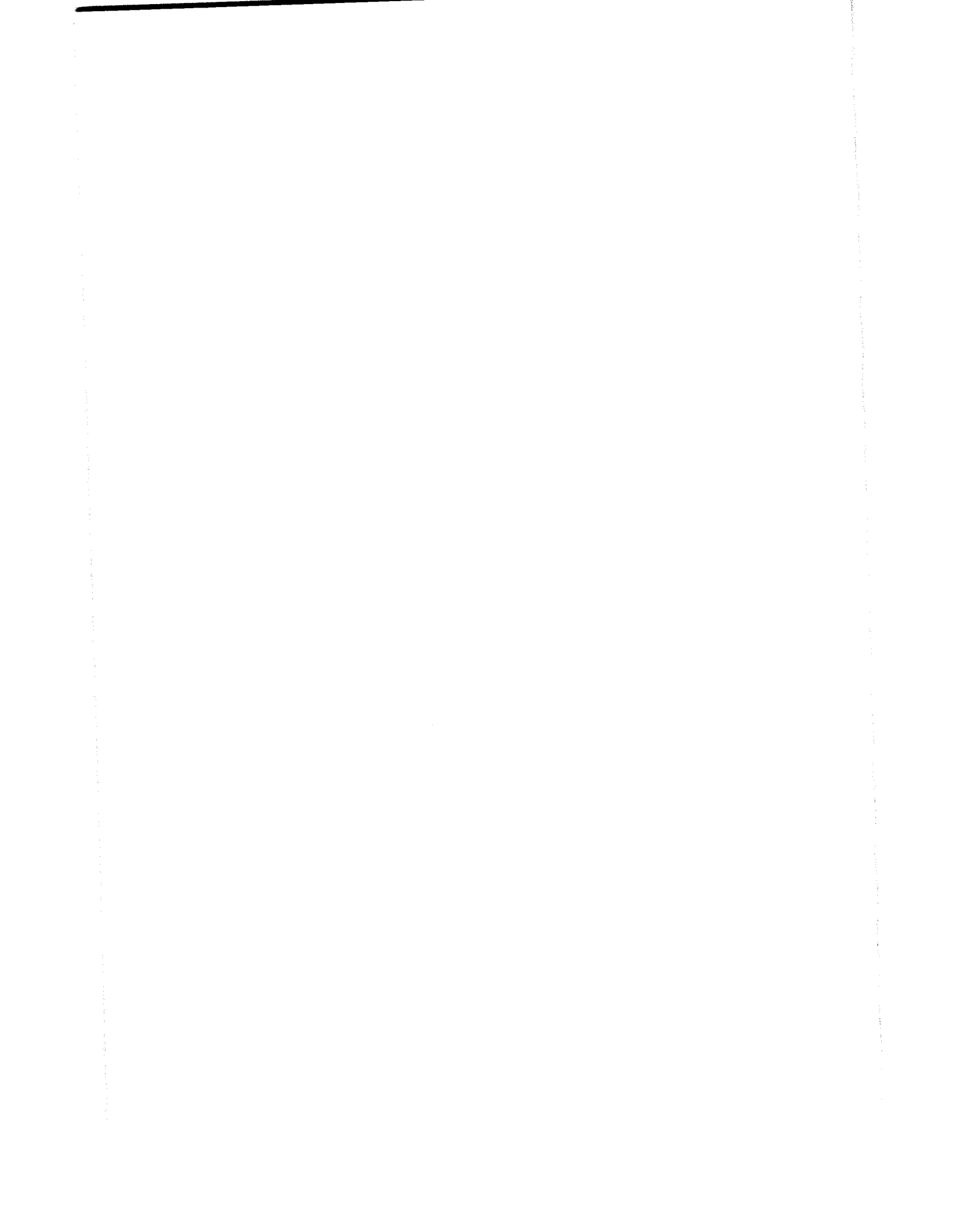
1 0 6 3

This course is a continuation of electric inert gas welding (TIG and MIG) and emphasizes fundamentals of machines and operations. Topics include the TIG and MIG welding details and practice in plate welding in all welding positions. Upon completion, students will be able to use TIG and MIG welding machines to join aluminum, steel, and stainless steel in all welding positions. Prerequisite: WLD 106 or 1180



**Fayetteville Technical  
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- Gladys Rosser ..... English  
 B.S., Fayetteville State University  
 M.S., North Carolina A & T State University
- Tina I. Royal ..... Recreation Associate  
 B.S., North Carolina State University  
 M.Ed., Fayetteville State University
- Dorothy J. Schoen ..... Associate Degree Nursing  
 A.A.S., Fayetteville Technical Community College  
 B.S.N., University of Tampa
- Eugene H. Shannon ..... Waste Water Treatment  
 B.S., Western California University  
 M.S., UNC - Chapel Hill

- David Sholter ..... Commercial Art  
 A.A.S., Fayetteville Technical Community College  
 B.A., Fayetteville State University
- Celine Shoup ..... English  
 B.S.Ed., Columbus College  
 M.Ed., Columbus College
- James A. Sinclair ..... Banking and Finance  
 A.B., UNC - Chapel Hill  
 M.B.A., UNC - Chapel Hill
- Keith F. Smith ..... Biology  
 B.S., Campbell University  
 M.A.Ed., East Carolina University
- Lonnie G. Smith ..... English  
 B.S., Appalachian State University  
 M.A., Appalachian State University
- Steven Smith ..... Banking and Finance  
 B.S., Marian College  
 M.P.S., Western Kentucky University
- Donald G. Steen ..... Masonry  
 A.A.S., Fayetteville Technical Community College
- Carol W. Stewart ..... Biology  
 B.S., N.C. State University  
 M.A., University of Georgia
- Charles Stone ..... Machinist Technology  
 A.A.S., Fayetteville Technical Community College
- Beverly Strickland ..... Basic Law Enforcement  
 B.S., Campbell University  
 M.A., Webster University
- Margene E. Sunderland ..... Business Administration  
 A.B., College of Notre Dame  
 M.A., Central Michigan University

- Robert J. Timbers ..... Dental Hygiene  
 B.S., Southern Illinois University  
 M.Ed., North Carolina State University
- Duffy Toler ..... Commercial Art & Advertising Design  
 B.S., East Carolina University  
 M.A., East Carolina University
- Donna M. Turner ..... Administrative Office Technology  
 B.S., East Carolina University  
 M.Ed, East Carolina University
- Daniel Underwood ..... Industrial Mechanics  
 A.A.S., Fayetteville Technical Community College
- Jimmie C. Vanderpool ..... Business Computer Programming  
 B.B.A., Campbell University  
 M.A., Webster University
- Sandra T. Vernon ..... Marketing & Retailing  
 B.S., East Carolina University  
 M.A., East Carolina University
- Lettie Vinson ..... Radiologic Technology  
 B.A.S., Methodist College
- Gloria B. Walker ..... Business Administration  
 B.S., Hampton University  
 M.B.A., Winthrop College
- John B. Warner ..... Insurance  
 B.S., UNC - Chapel Hill  
 M.A., Georgia State University
- Jesse B. Waters ..... Physics  
 A.B., East Carolina University  
 M.S., College of William & Mary
- Robert E. West ..... Mathematics  
 B.S., Pembroke State University  
 M.Ed., Campbell University



- Floyd D. Whitehead ..... Psychology  
 B.S., U.S. Military Academy  
 M.Ed., Tufts University  
 Ed.D., Duke University
- Donald Wilkinson ..... Carpentry & Cabinetmaking  
 Master Cabinetmaker
- Daphne M. Williams ..... English  
 B.A., East Carolina University  
 M.A., Appalachian State University
- Hosea Williams ..... Automotive Body Repair  
 A.A.S., Robeson Technical Institute
- Mary S. Willis ..... English  
 B.A., Baylor University  
 M.S., Radford University  
 Ph.D., UNC - Greensboro
- Ronald Wilson ..... Architectural Technology  
 B.Ed., N.C. State University  
 P.D.A., UNC - Charlotte
- Christine W. Womble ..... English  
 B.S., Fayetteville State University  
 M.Ed., East Carolina University
- Danny H. Wood ..... Tool & Die Making  
 A.A.S., Fayetteville Technical Community College
- Valerie Wynn-Hall ..... Dental Hygiene  
 B.S., UNC - Chapel Hill  
 M.A., UNC - Chapel Hill  
 D.D.S., UNC - Chapel Hill
- Jane Young ..... Business Administration  
 B.A., Marshall University
- Nancy Yost ..... Practical Nursing  
 B.S.N., UNC - Chapel Hill

## ADJUNCT FACULTY

- Emile Archambault ..... Criminal Justice  
A.A.S., Fayetteville Technical Community College  
B.S., Rutgers University  
M.A., Leigh University
- Steve Bayer ..... Business Administration  
B.S., Campbell University  
M.P.A., Troy State University
- Frederick Best ..... Real Estate  
B.S., Davidson College  
M.B.A., University of Hawaii
- James Blaine ..... Commercial Art & Advertising Design  
A.A.S., Lake Sumter Community College  
B.A., University of South Florida
- Thomas Blanton ..... Commercial Art & Advertising Design  
A.B., UNC - Chapel Hill  
M.A., Appalachian State University
- Ross Brown ..... Marketing & Retailing  
B.A., Campbell University  
M.B.A., Campbell University
- Harvey Cain ..... Criminal Justice  
B.A., Pembroke State University
- Roger Carroll ..... Accounting  
B.S., Los Angeles State College  
M.A., Webster College
- Linda Collins ..... Mathematics  
B.S., Pembroke State University  
M.A., Pembroke State University
- Winnie Cronrath ..... Mathematics  
B.S., North Carolina State University  
M.Ed., Campbell University

- Robert Culver ..... Mathematics  
 B.S., Pembroke State University  
 M.A., Pembroke State University
- Linda Curtin ..... Business Computer Programming  
 A.A.S., Fayetteville Technical Community College  
 B.A., Monmouth College
- John Dewese ..... Business Administration  
 B.S., University of Tennessee  
 M.Ed., North Carolina State University
- Flora Dunham ..... Accounting  
 B.S., Indiana State University
- Henry Eldridge ..... Mathematics  
 B.S., Alabama State University  
 M.A., Columbus University  
 Ed.D, University of Pittsburg
- Mary Ellenbogen ..... Associate Degree Nursing  
 B.S.N., Incarnate Word College  
 M.S.N., University of Texas
- Victoria Elmore ..... Associate Degree Nursing  
 B.S.N., Thomas Jefferson University  
 M.S.N., University of Pennsylvania
- Richard Glazier ..... Criminal Justice  
 B.A., Pennsylvania State University  
 J.D., Wake Forest University
- David Goodyear ..... Banking & Finance  
 B.S., Pembroke State University
- David Gray ..... Business Administration  
 B.S., W.V. Institute of Technology  
 M.B.A., W.V. College of Graduate Studies
- John Griffith ..... Religion  
 B.A., High Point College  
 Th.M., Duke University

- Richard Haley ..... Real Estate  
 B.S., West Virginia University  
 M.B.A., West Virginia University
- Rebecca Halford ..... Business Administration  
 B.S., Fayetteville State University  
 M.P.A., UNC - Chapel Hill
- Henry Hamilton ..... Banking & Finance  
 B.A., University of Tennessee  
 M.B.A., East Tennessee State University
- William Hancock ..... Drafting - Mechanical  
 B.S., Columbia Bible College  
 M.A.Ed., East Tennessee State University
- Ada Harris ..... Business Administration  
 B.S., Fayetteville State University  
 M.B.A., Webster University
- Augusta Haynes ..... General Office  
 B.A., Clafin University  
 M.A., Hampton Institute
- Kenneth Heaney ..... Business Administration  
 B.A., University of Delaware  
 M.A., Webster University
- Don Jackson ..... Automotive Body Repair  
 B.B.A., Campbell University
- Carl Ivarson ..... Paralegal Technology  
 B.A., Campbell University  
 J.D., Campbell University
- Ray Krenek ..... Mathematics  
 B.S., East Carolina University  
 M.A.Ed., Fayetteville State University
- Joseph Motte ..... Mathematics  
 B.A., Fayetteville State University  
 M.A., Fayetteville State University

- Lawrence Nicholson ..... Accounting  
 B.S., Florida State University  
 M.B.A., Stetson University
- Marty Parrish ..... Biology  
 B.S., East Carolina University  
 M.A., Appalachian State University
- Weldon Phillips ..... Mathematics  
 B.S., University of Mississippi  
 M.A., Central Michigan University
- Kathy Price ..... Criminal Justice  
 B.A., Campbell University  
 M.Ed., North Carolina State University
- Joaquin Rodriguez-Barbera ..... Spanish  
 B.S., University of Valencia  
 M.A., Middlebury College
- Joseph Russelburg ..... Business Administration  
 B.A., John Carroll University  
 J.D., Cleveland State University
- James Seagraves ..... Air Conditioning, Heating & Refrigeration  
 A.A.S., Fayetteville Technical Community College
- Wesley Seamon ..... Criminal Justice  
 B.A., Wake Forest University
- Danny Southard ..... Criminal Justice  
 B.A., UNC - Wilmington
- Danny Stamps ..... Biology  
 M.P.H., UNC - Chapel Hill  
 O.D., Southern College of Optometry
- Charles Steven ..... Mathematics  
 B.S., Fayetteville State University  
 M.A., N.C. Central University
- John Stoudenmire ..... Accounting  
 B.S., Campbell University  
 M.B.A., Furman University

- Edward Sullivan ..... Real Estate  
 B.S., Fayetteville State University
- Jean Marie Suman ..... Criminal Justice  
 B.A., East Carolina University  
 M.A., East Carolina University
- John Trogdon ..... Criminal Justice  
 B.A., Fayetteville State University  
 M.S., University of South Carolina
- Kathryn Troxell ..... Commercial Art & Advertising Design  
 B.A., Dominican College  
 M.A., Ohio State University
- Kathy Varney ..... Funeral Service Education  
 B.S., Florida State University
- Mario A. Viamontes ..... Automotive Body Repair  
 Diploma, Fayetteville Technical Community College
- Charla Weber ..... Mathematics  
 B.S., Pembroke State University  
 M.A.Ed., Pembroke State University
- Catherine White ..... Business Computer Programming  
 B.S., Michigan State University
- David Williams ..... Postal Service Technology  
 B.A., UNC - Chapel Hill  
 M.A., Northeastern University

*Notes*

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## Fayetteville Technical Community College Drug and Alcohol Prevention Program

The use and abuse of drugs and alcohol are subjects of immediate concern in our society. These problems are extremely complex and ones for which there are no easy solutions. From a safety perspective, the users and/or abusers of drugs or alcohol may impair the well-being of all employees, students, the public at large, and result in damage to college property. Therefore, in compliance with the Federal Drug-Free Workplace and Drug-Free Schools and Campuses Regulations, it is the policy of this college that the unlawful use, possession, manufacture, distribution, or dispensation of a controlled substance or alcohol, is prohibited while in the college workplace, on college premises, or as part of any college-sponsored activities. Any employee or student violating this policy will be subject to disciplinary action up to and including termination or expulsion and referral for prosecution. The specifics of this policy are as follows:

1. FTCC does not differentiate among unlawful users, pushers, or sellers of drugs or alcohol. Any employee or student who unlawfully possesses, uses, sells, gives or transfers a controlled substance or alcoholic beverage to another person while in the college workplace, on college premises, or as part of any college-sponsored activity, will be subject to disciplinary action up to and including termination or expulsion, and referral for prosecution.

2. The term "controlled substance" means any drug listed in 21 CFR part 1308 and other federal regulations, as well as those listed in Article V, Chapter 90 of North Carolina General Statutes. Generally, these are drugs which have a high potential for abuse. Such drugs include, but are not limited to: heroin, PCP, cocaine, "crack", and marijuana. They also include "legal drugs" which are not prescribed by a licensed physician.

The term alcoholic beverage includes beer, wine, whiskey and any other beverage listed in Chapter 18B of the General Statutes of North Carolina.

3. If any employee or student is convicted of violating any criminal drug or alcoholic beverage control statute while in the college workplace, on college premises, or as part of any college-sponsored activity, he or she will be subject to disciplinary action up to and including termination or expulsion. Specifically, any such person who is convicted of a felony, or of a misdemeanor which results in an active prison sentence will, if a student, be expelled, or if an employee, be terminated from employment (subject to existing disciplinary policies applicable to employees and State or Federal law which may apply). Other misdemeanor convictions will be evaluated on a case-by-case basis, and the penalties to be imposed may range from written warnings or mandatory counseling or rehabilitation to expulsion from enrollment or discharge from employment. Any such person charged with a violation of these policies concerning illegal drugs may be suspended from enrollment or employment before initiation or completion of disciplinary proceedings if the Office of Risk Management determines that the continued presence of such person within the college community would constitute a clear and immediate danger to the health or welfare of other members of the community after an appropriate pretermination inquiry. All employees and students of the college are currently eligible and are encouraged to participate without cost in an employee assistance program which offers among its many services, drug and alcohol abuse counseling.

4. Each employee or student is required to inform the Office of Risk Management at the College, in writing, within five (5) days after he or she is convicted of violation of any federal, state, or local criminal drug or alcoholic beverage control statute where such violation occurred while in the college workplace, on college premises, or as part of any college-sponsored activity. A conviction means a plea of or a finding of guilt (including a plea of *nolo contendere*) and the imposition of a judgment by a judge sitting with or without a jury in any federal or state court. As a condition of further employment on any federal government grant, the law requires all employees to abide by this policy.

5. The Office of Risk Management must notify the U.S. governmental agency from which a grant was made within ten (10) days after receiving notice from the grant employee or otherwise receiving actual notice of a drug conviction. Disciplinary action against the convicted employee must be undertaken by the college within 30 days.

6. A description of applicable state sanctions and the health risks associated with the use of both illicit drugs and alcohol is attached and included as part of this policy.

## Drugs, Alcohol and Their Risks

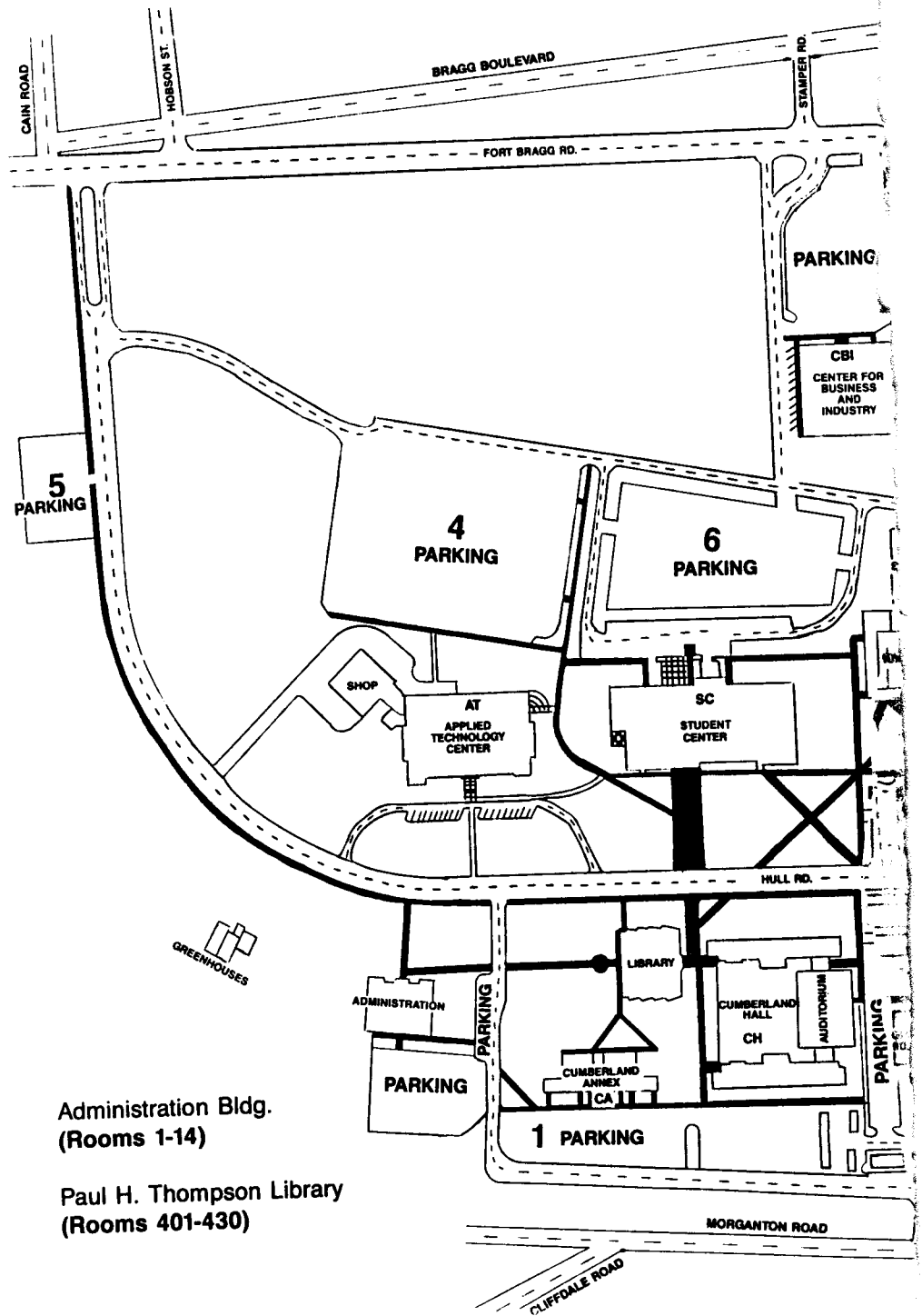
## North Carolina Laws

TYPES OF DRUGS	HEALTH RISKS:	TO POSSESS:	TO POSSESS WITH INTENT TO SELL OR DELIVER TO MANUFACTURE, OR TO SELL AND/OR DELIVER:
Schedule I: Heroin, LSD, Peyote, Mescaline, Psilocybin (Shrooms), Other Hallucinogens, Methaqualone (Quaaludes), Phencyclidine (PCP), and MDA	Psychologically and physically addictive; depression, withdrawal symptoms, convulsions, death, unpredictable behavior with hallucinogens; possible damage to unborn fetus	Maximum Penalty: Five (5) years in prison and/or fine (Felony)	Maximum Penalty: Ten (10) years in prison and/or fine (Felony)
Schedule II: Morphine, Demerol, Codeine, Percodan, Percocet, Fentanyl, Dilaudid, Seconal, Nembutal, Cocaine, Amphetamines, and other opium and opium extracts and narcotics	Psychologically and physically addictive; withdrawal symptoms, convulsions, respiratory failure, frequent accidents; possible damage to unborn fetus; death; cocaine and amphetamines increase blood pressure which can lead to irregular heartbeat and death; amphetamines can cause agitation, increase in body temperature, hallucinations, convulsions; possible death	Maximum Penalty: Two (2) years in prison and/or \$2,000 fine (Misdemeanor) — UNLESS — 1. Exceeds (4) tablets, capsules, other dosage units or equivalent quantity of Hydromorphone 2. Exceeds (100) tablets, capsules, other dosage units or equivalent quantity 3. Any amount of Codeine. Maximum Penalty: Five (5) years in prison and/or fine (Felony)	Maximum Penalty: Ten (10) years in prison and/or fine (Felony)
Schedule III: Certain barbiturates such as amobarbital and codeine containing medicine such as Fiorinal #3, Doriden, Tylenol #3, Empirin #3, and codeine-based cough suppressants such as Tylenol and Hycoamine; and all anabolic steroids	Psychologically and physically addictive; potential liver damage; nausea and vomiting; dizziness, disorientation, shallow breathing, cold and clammy skin, coma, possible death; withdrawal symptoms include anxiety, tremors, insomnia, convulsions; possible damage to unborn fetus	Maximum Penalty: Same as Schedule III	Maximum Penalty: Five (5) years in prison and/or fine (Felony)
Schedule IV: Barbiturates, narcotics and stimulants including Allium, Talwin, Librium, Equanil, Darvon, Dilocet, Placidyl, Tranexene, Serax, Isonamin (yellow jacks)	Psychologically and physically addictive; drowsiness, withdrawal symptoms, tremors, abdominal and muscle cramps, insomnia, anxiety, convulsions, possible death; possible damage to unborn fetus	Maximum Penalty: Six (6) months in prison and/or fine (Misdemeanor)	Maximum Penalty: Five (5) years in prison and/or fine (Felony)
Schedule V: Compounds that contain very limited amounts of codeine, dihydrocodeine, ethylmorphine, opium, and atropine, such as Terpine Hydrate with codeine, Robitussin AC	Psychologically and physically addictive; nausea, gastrointestinal symptoms, drowsiness, withdrawal symptoms including runny nose, watery eyes, panic, chills, cramps, irritability, nausea; possible damage to unborn fetus	Maximum Penalty: Same as Schedule III	Maximum Penalty: Five (5) years in prison and/or fine (Felony)
Schedule VI: Marijuana, THC, Hashish, Hash Oil, Tetrahydrocannabinol	Psychologically addictive; increased risk of lung cancer, bronchitis, and emphysema; contributes to heart disease, fatigue, paranoia, possible psychosis; withdrawal symptoms including insomnia, hyperactivity and decreased appetite; depression of the immune system; decreased sperm count in men and irregular ovulation in women	Maximum Penalty: To possess less than 1/2 ounce of Marijuana or 1/20 ounce Hashish: Thirty (30) days in prison and/or \$100 fine (Misdemeanor) To possess more than 1/2 ounce of Marijuana or 1/20 ounce Hashish: Two (2) years in prison and/or fine (Misdemeanor) To possess more than 1 1/2 ounce of Marijuana or 3/20 ounce of Hashish or consists of any quantity of synthetic Tetrahydrocannabinols or synthetic Tetrahydro-cannabinols or Tetrahydrocannabinols isolated from the resin of Marijuana: Five (5) years in prison and/or fine (Felony)	Maximum Penalty: Five (5) years in prison and/or fine (Felony)
<b>TYPES OF ALCOHOL:</b>	<b>HEALTH RISKS:</b>	<b>TO POSSESS, ATTEMPT TO PURCHASE OR PURCHASE, TO SELL OR GIVE:</b> Malt Beverages, Unfortified Wine, Fortified Wine, Spirituous Liquor or Mixed Beverages to Anyone Under Twenty-one (21) Years Old	<b>AIDER AND ABETTOR:</b>
Malt Beverage is beer; 1/2 of 1% to 6% alcohol Unfortified Wine is wine not more than 17% alcohol Fortified Wine is wine of not more than 24% alcohol Spirituous Liquor is distilled spirits or ethyl alcohol, including spirits of wine, whiskey, rum, brandy, gin, etc. Mixed Beverage is a drink composed in whole or part of spirituous liquor and served at restaurants, hotels and private clubs licensed by the State	Psychologically and physically addictive; respiratory depression; depression of the immune system; increased risk of heart disease; cancer, accidents, hypertension; brain damage; damage to unborn fetus; impotence at high dosage levels.	Maximum Penalty: Imprisonment for a term not exceeding two (2) years or a fine, or both, in the discretion of the court (Misdemeanor), however, to possess, attempt to purchase, or purchase by 19 or 20 Year Old is an infraction punishable by a fine not to exceed twenty-five dollars (\$25)	1. By any person who is under (21) years of age to purchase and who aids or abets another to attempt to purchase, purchase or to possess; sell or give shall be guilty of a misdemeanor punishable by imprisonment for not more than six (6) months and a fine up to five hundred dollars (\$500). 2. By any person over (21) years of age to purchase and who aids or abets another to attempt to purchase, purchase or to possess; sell or give shall be guilty of a misdemeanor punishable by imprisonment for not more than two (2) years and/or a fine up to two thousand dollars (\$2,000).

For Additional Information Contact Your Local Health Care Provider or Pharmacist.

For Additional Information Contact Your Local Law Enforcement Agency or District Attorney's Office.

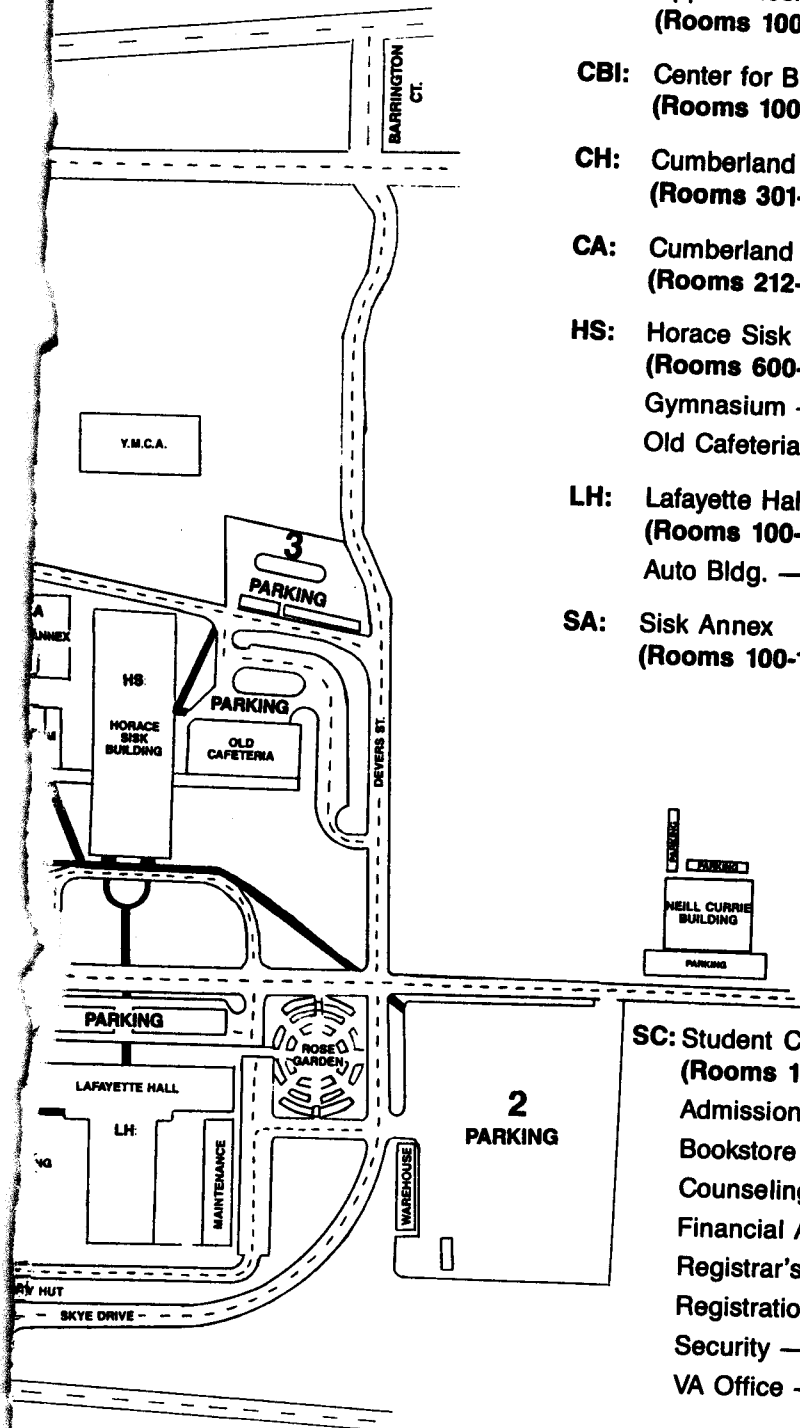
# FAYETTEVILLE COMMUNITY COLLEGE



Administration Bldg.  
(Rooms 1-14)

Paul H. Thompson Library  
(Rooms 401-430)

# E TECHNICAL Y COLLEGE



**AT:** Applied Technology Center  
(Rooms 100-251)

**CBI:** Center for Business and Industry  
(Rooms 100-135)

**CH:** Cumberland Hall  
(Rooms 301-399)

**CA:** Cumberland Annex  
(Rooms 212-216)

**HS:** Horace Sisk Bldg.  
(Rooms 600-645)  
Gymnasium — Rms. 800-815  
Old Cafeteria — Rms. 700-716

**LH:** Lafayette Hall  
(Rooms 100-149)  
Auto Bldg. — Rm. 150

**SA:** Sisk Annex  
(Rooms 100-149)

**SC:** Student Center  
(Rooms 1-147)  
Admissions — Rm. 118  
Bookstore  
Counseling Services  
Financial Aid — Rm. 145  
Registrar's Office — Rm. 114  
Registration — Rm. 9  
Security — Rm. 132  
VA Office — Rm. 119

### ***Cover Photos***

The photos on the front and back of the cover are of FTCC's Applied Technology Center, currently under construction (see page 113). The ATC is scheduled to be completed by fall quarter 1991. It will house seven high technology programs, the computer center, classrooms, labs, a curriculum resources center, and multi-purpose instructional areas. This 85,000 square-foot structure will become the technology hub of the FTCC campus and southeastern North Carolina.