

MITCHELL COMMUNITY COLLEGE



PART II
GENERAL CATALOG
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Mitchell Community College



Accredited By

SOUTHERN ASSOCIATION OF COLLEGES AND SCHOOLS

**STATESVILLE, N. C.
28677**



- 1852 — Chartered by Concord Presbytery
- 1856 — Began operations as Concord Female Seminary
- 1932 — Became coeducational
- 1959 — Became private independent junior college
- 1973 — Became public community college

SERVING IREDELL COUNTY & NORTH CAROLINA
FOR OVER ONE HUNDRED & TWENTY-SEVEN YEARS

Mitchell Community College issues this catalog for the purpose of furnishing prospective students and other interested persons with information about the institution and its programs. Announcements contained herein are subject to change without notice and may not be regarded in the nature of binding obligations on the college or the state. Efforts will be made to keep changes to a minimum but changes in policy by the State Board of Community Colleges, or by local conditions may make some alterations in curriculums, fees, etc., necessary. The college disclaims any liability of any kind by virtue of changes in any of the information contained in this catalog.

Wherever the terms "man," "men," or related pronouns appear in this catalog, they have been used in their generic sense to include all humankind — both female and male sexes.

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GENERAL ADULT EDUCATION

CONTINUING EDUCATION

Mitchell Community College strives to provide academic and occupational programs consistent with the educational needs of Iredell and surrounding counties. The college provides opportunities for people to further meet their educational goals by offering programs which enable people to pursue occupational, vocational, cultural, and civic interests.

The college strives to serve the needs of the adult community by providing numerous programs of continuing education. Adult programs are held on a continuing basis and are developed according to the community's needs and interests. Courses include formal academic learning, cultural advancement, vocational and technical improvement, and personal enrichment. Any individual who is eighteen years of age or older or is a high school graduate may be admitted to these classes.

CLASS LOCATIONS

Classes are held on campus and at various other locations throughout Iredell County and surrounding counties. Some of the locations are South Iredell High School, Iredell Department of Correction, Mooresville, and various industries throughout the county. An extension center is located at the Mooresville Center and at the Brock Center in Mocksville.

ATTENDANCE

Most classes are scheduled on a quarterly basis. Special workshops and industrial courses are scheduled whenever necessary. Brochures are available each quarter to provide class schedules. Announcements will be made through local news media, including radio stations and the local newspaper. Classes usually meet one to three hours each night. Regular attendance should be maintained. For courses offering certificates, eighty per cent attendance is required.

FEEES AND SUPPLIES

A registration fee of \$8.00 or \$15.00 is charged for adult classes and is due at the beginning of the course. Students enrolled in courses for Adult Basic Education, Adult High School, Volunteer Fire Departments, local law enforcement, the Department of Correction, and persons 65 years of age or older are exempt from the registration fee. Books are available at the college bookstore or from the instructor when the class meets. The cost of supplies varies according to individual courses.

CONTINUING EDUCATION UNIT

Continuing Education Units are awarded to all classes with the exception of Adult Basic Education, Adult High School, and craft classes. A Continuing Education Unit is defined as "ten contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction, and qualified instruction." These units provide a means of recording and accounting for non-credit courses, programs, and activities.

ADULT BASIC EDUCATION

The Adult Basic Education Program is designed to assist adults in the fundamentals of English, math, reading, science, and social studies. Classes are set up at various times and locations for the convenience of students, and all materials except paper and pencils are provided. In addition to small group instruction, the opportunity for assistance on a one-to-one basis exists through the Learning Labs in Statesville, Mocksville, and Mooresville. There is no charge for the classes or the lab. Upon completion of the ABE program students may enroll in the Adult High School Diploma program. It is recommended, but not required, that students complete the ABE program before entering the GED High School Equivalency Program.

ADULT HIGH SCHOOL DIPLOMA PROGRAM

This program is recommended for persons who want or need a more academic program of high school completion, for example, those planning to attend college or to enlist in the Armed Forces. The courses of study required of for all students are English, reading, science, social studies, and math. Instruction is offered in regular groups of classroom work if there is a sufficient number of students or through supervised individual work in the Learning Labs in Statesville, Mocksville, and Mooresville. Upon completion of course work, the student takes a standardized test on each subject. When the student passes the five subject tests and the North Carolina Competency Test, he/she is awarded a diploma by the Mooresville or Statesville City School system.

The following requirements must be met before entering the Adult High School Diploma program:

1. Residence: A legal resident of the Mitchell Community College service area.
2. Minimum age: 18. Persons between the ages of 16 and 18 may enroll with the written permission of the Superintendent of Schools and a notarized permission letter from a parent or guardian.
3. No charge for students attending the Learning Lab.

G.E.D. HIGH SCHOOL EQUIVALENCY PROGRAM

Under this program, individuals may take a series of tests called the General Educational Development Tests. A person's knowledge and skills are tested in five areas: reading, mathematics, natural science, English and social studies. The Equivalency Certificate is issued by the North Carolina State Board of Education and is mailed to the recipient. The certificate is recognized as the equivalent of a high school diploma by industry, agencies of government, employers, colleges, and other organizations.

The following requirements must be met before taking the GED tests:

1. Residence: A legal resident of North Carolina.
2. Minimum age: 18. If one is between the ages of 16 and 18 and displays a special need, he/she may be allowed to take the GED tests by filing a special form which is available from the GED Examiner of the Continuing Education Office. This form requires a notarized parental permission to take the tests, as well as the permission of the Superintendent of Schools.
3. Cost: \$5.00 initial testing fee.

If a person fails one or more tests, he/she may retest after a six-month waiting period. Those who wish to retest before that time must complete a program of study in a class or Learning Lab. Persons who wish to review before testing may also do so in a class or Learning Lab.

The tests are given one week every month. Interested persons should pre-register for the tests with the GED Examiner at the Continuing Education Office.

THE LEARNING LABS

The Learning Labs, housed on campus in Statesville, at the Mooresville Center in Mooresville, and in the Brock Center in Mocksville, provide adults with individually scheduled, planned, and paced instruction in three major areas of concentration: high school completion, curriculum support, and special interest. The high school completion component consists of proper placement and referral, instruction in the Adult High School Diploma courses, and preparation for the GED tests. The curriculum support component provides supplementary assistance to students enrolled in campus curriculum courses. The special interest component included courses for self-improvement, enrichment, and credit, with actual credit awarded by outside institutions. Materials are provided for use in the Lab and guidance is given by lab coordinators. Lab hours are 8:00 a.m. until 9:00 p.m. Monday through Thursday and 8:00 a.m. until 5:00 p.m. on Friday in Statesville and 8:00 a.m. until 5:00 p.m. Monday through Friday in Mooresville. There is no charge for courses taken through the Labs.

VETERANS

The Adult High School Programs offered through Mitchell Community College are fully recognized by the Veterans Administration for G.I. Bill benefits. Further information about hours requirements and benefits can be obtained from the Continuing Education Office or Veterans Service Office of Mitchell Community College.

CONTINUING EDUCATION COURSE DESCRIPTIONS

Courses listed here are offered throughout the year. Additional courses are scheduled according to need and interest. The suggestions from students and from the community are used in planning and expanding the schedule of courses to be offered. The abbreviation CEU means Continuing Education Units. One unit is equivalent to ten hours of instruction.

HUMANITIES

This classification of continuing education encompasses the area of learning which includes literature, philosophy, history, and the fine arts in the form and style that is favored by the local population.

ART A-301

- ART-2001 ACRYLICS I — 33 hrs. 3.3 CEU's
This is a course for those who have not painted in acrylics before. It is to teach simply how to handle the media, how to mix colors, and how to begin to paint.
- ART-2001 ACRYLICS II — 33 hrs. 3.3 CEU's
Acrylics II is a course designed for advanced students who have done acrylic painting, but would like to experiment in learning to use different techniques.
- ART-2003 BEAD CRAFT — 22 hrs. 2.2 CEU's
This course is designed to introduce students to the art of making jewelry from pearls and beads. Several methods are used to make jewelry, including crocheting, cross needle and single needle.

- ART-2003 CANDLE CRAFT — 22 hrs. 2.2 CEU's
The art of making candles, which includes the melting and pouring of candles as well as the decoration of many different types is covered by this class.
- ART-2003 COPPER ENAMELING — 22 hrs. 2.2 CEU's
Enameling is a process of sifting a coat of enamel on metal and firing it in a kiln for two to three minutes. Students learn to make trays, bowls, and earrings with a variety of finishes.
- ART-2003 NEEDLECRAFT — 33 hrs. 3.3 CEU's
Needlecraft is a course which teaches the basic aspects of knitting, crocheting, and crewel embroidery. Introduction will cover basic stitches and gradual progression in all phases.
- ART-2003 NEEDLEPOINT — 33 hrs. 3.3 CEU's
Instructions are given for sixteen needlepoint stitches. There will be a study of the material to be used. At the end of the course, the students will make something of their choice.
- ART-2003 FURNITURE REFINISHING — 44 hrs. 4.4 CEU's
Instruction in this course will train adults in the best procedures of refinishing furniture. Students will learn to strip furniture, prepare the wood, and apply the finishes.
- ART-2005 DECOUPAGE — 44 hrs. 4.4 CEU's
Students of these classes develop skills in applying decorative paper cutouts to bottles, boxes, boards, etc., to produce unique and interesting items for decorative display.
- ART-2006 DRAWING — 33 hrs. 3.3 CEU's
The fundamentals of design, composition and perspective will be the central theme of this course. The beginning or advanced study may work with pencil, ink or charcoal as the media to develop a skill in sketching or drawing.
- ART-208 GUITAR — 33 hrs. 3.3 CEU's
This course is designed to help students gain a basic understanding of and skill in playing the guitar. Students will learn notes and chords on the guitar and will be able to play a number of songs.
- ART-2011 BASIC & ADVANCED PHOTOGRAPHY — 33 hrs. 3.3 CEU's
These courses will include basic introductions to photography and nomenclature of equipment, types of cameras and their uses, basic film types and their uses, what to photograph and why, how to show what you need in a court of law, and an introduction to photography in court and review.
- ART-2015 SKETCHING — 22 hrs. 2.2 CEU's
This course is designed to introduce students to various creative techniques of sketching. Class work involves both lecture and sketching exercises.
- ART-2019 CERAMICS I — 33 hrs. 3.3 CEU's
Ceramics I is designed as an introduction to the art of ceramics. Students will be involved in pouring molds, using glazes, painting, and firing.
- ART-2019 CERAMICS II — 33 hrs. 3.3 CEU's
Ceramics II is a follow-up course designed to meet the needs of the experienced students. These students will be involved with the use of more advanced procedures, stains, and molds.

RELIGION A-302

- REL-2001 BIBLE STUDY — 33 hrs. 3.3 CEU's
This is a general Bible study in which topics such as how the English Bible came into being will be covered. Biblical themes such as grace, love, salvation and judgement will also be studied.

MATH A-501

- MAT-2007 MODERN MATH — 33 hrs. 3.3 CEU's
This course is designed as an introductory or refresher course in modern math. Some topics that will be covered are introduction to numbers, place values, number bases other than 10, sets, and word problems.

ANTHROPOLOGY A-701

- ANT-2003 ARCHAEOLOGY — 33 hrs. 3.3 CEU's
This course was designed for people interested in collecting Indian artifacts, and in knowing what they have found. Some topics to be covered are history of N.C. Indians, artifacts and classification, site surveys, recording and procedures of excavation.

ECONOMICS A-702

- ECO-2006 MONEY AND BANKING — 45 hrs. 4.5 CEU's
Money and Banking is a basic course in banking principles. Topics to be covered range from functions of banking services to operations.

HISTORY A-704

HIS-2004 LOCAL HISTORY — 33 hrs. 3.3 CEU's

This course is designed to teach students how to research local historical documents.

TECHNICAL EXTENSION

Extension courses in this classification are designed to equip students with the practical, industrial knowledge of a specific nature which will increase the student's technical skill.

PHYSICS: ELECTRICAL & ELECTRONICS OPTIONS S-501

ELN-3004 RADIO AND T.V. REPAIR — 66 hrs. 6.6 CEU's

This course will consist of 50 hours of study in basic electricity, 10 hours on safety methods, 22 hours on the use of test equipment, 15 hours on understanding and using schematics and diagrams, 20 hours for discussion of components, 15 hours on understanding radio and T.V. signals, and 30 hours on the use and operation of Solid State.

VOCATIONAL EXTENSION

This classification of extension courses is provided to aid students in the development of new skills, or the upgrading of existing skills, which are in demand among employees. Students are expected to develop a special degree of fitness in these classes when they apply themselves in the prescribed manner through the complete schedule of learning experiences prepared by the instructor.

ORNAMENTAL HORTICULTURE W-117

AGR-3301 BASIC HORTICULTURE — 33 hrs. 3.3 CEU's

This course deals with horticulture principles and the application of plant science fundamentals to horticulture practices.

AGR-3304 BONSAI — 33 hrs. 3.3 CEU's

Bonsai is a course designed to teach the art of dwarfing and shaping trees and shrub for arrangements.

ADVERTISING W-220

DMK-3105 FCC LICENSE COURSE — 66 hrs. 6.6 CEU's

This class will prepare a student to take the written examination for the Commercial Radio-Telephone 1st Class Operator Licenses. The class will cover such topics as Basic Law, Basic Operating Practice, Basic Radio-Telephone and Advanced Radio-Telephone.

HOSPITALITY W-210

HOS-3001 BASIC QUANTITY COOKING — 60 hrs. 6.0 CEU's

This course deals with principles of interpreting menus, menu terms, recipes, measurements and other data relative to the cooking profession.

HOS-3010 FOOD SERVICE SELLING — 120 hrs. 12.0 CEU's

This course is designed to teach the basics of good food service selling. Some topics to be covered are the waiter and waitress, types of table service and settings, sidework, initiating the service, serving the meal, wine, and bar service.

HOS-3024 OVERVIEW OF SCHOOL FOOD SERVICE — 60 hrs. 6.0 CEU's

A basic orientation course presenting the history of school feeding, characteristics of a good program, personnel and human relations, nutrition, sanitation and safety.

HOS-3032 PROCUREMENT IN SCHOOL FOOD SERVICE — 60 hrs. 6.0 CEU's

This course is designed for directors of school food service. It covers such items as organization, menu planning, marketing expertise, nutrition and evaluation.

REAL ESTATE W-227

DMK-3502 REAL ESTATE — 66 hrs. 6.6 CEU's

This course will cover the many facts of the real estate business. Topics to be covered are sales, promotions, contracts, legal aspects, as well as other relevant subjects.

HEALTH AND SAFETY

AMBULANCE ATTENDANT W-330

EMT-3028 EMERGENCY MEDICAL TECHNICIAN — 120 hrs. 12.0 CEU's

This class is designed for ambulance attendants and any others who are interested. Classes of this nature are necessary for people who deal with emergency situations. Seventy-one hours are spent in class and ten hours are spent working in an emergency room.

NURSES AIDE W-337

- NUR-3018 LAMAZE — 24 hrs. 2.4 CEU's
Lamaze is a course designed for prospective parents who are interested in natural childbirth.
- NUR-3023 NURSES ASSISTANT — 110 hrs. 11.0 CEU's
This course is designed in such a manner that after its completion students will be able to qualify for hospital positions as nurses aides.

HOME ECONOMICS

CLOTHING AND TEXTILES W-541

- HEC-3103 SEWING I — 33 hrs. 3.3 CEU's
This course offers the basic techniques in clothing construction such as taking measurements, finding the correct figure type, choosing the pattern, buying materials on the market today, altering patterns, preparing and constructing garments.
- HEC-3104 SEWING II — 33 hrs. 3.3 CEU's
This sewing class is the second in a series of courses to train women in correct sewing techniques.
- HEC-3101 SEWING III — 33 hrs. 3.3 CEU's
Sewing III is designed as a general sewing class which deals with the basic techniques of tailoring, which includes establishing firmness of shape and precision in fit in a tailored garment.
- HEC-3106 TAILORING — 33 hrs. 3.3 CEU's
Tailoring is the construction of detailed clothes such as suits, coats, dresses and formals.
- HEC-3114 SEWING WITH KNITS — 33 hrs. 3.3 CEU's
Instruction for sewing knit fabrics includes measuring a pattern, cutting out garments, construction of garments and matching stripes. Suggestions will be given on construction of women's slacks, and construction of men's slacks.
- HEC-3105 CROCHETING — 22 hrs. 2.2 CEU's
In this course the student learns the different stitches and their abbreviations, how to read a pattern and how to regulate stitches. They also learn to increase and decrease stitches where needed.
- HEC-3109 KNITTING — 22 hrs. 2.2 CEU's
This course is designed to increase one's knowledge of stitches and procedures used in hand knitting. Abbreviations, symbols, terms, and types of yarn used in knitting are also discussed.

FOOD PREPARATION W-542

- HEC-3203 CAKE DECORATING I — 22 hrs. 2.2 CEU's
This class deals with the basic techniques of beginning cake decorating. Emphasis is placed on learning a variety of flowers, a few simple borders, and proper assembly of a cake. The last night of class groups of 4-6 students assemble a two-tier wedding cake.
- HEC-3203 CAKE DECORATING II — 22 hrs. 2.2 CEU's
Cake Decorating II is a continuation of basic cake decorating. Skills covered include more elaborate borders, the use of meringue icing, more flowers, and the construction of a three-tier wedding cake by each student.

INTERIOR DESIGN AND DECORATING W-545

- HEC-3304 FLOWER ARRANGING — 33 hrs. 3.3 CEU's
Flower arranging is the study and practice of art forms and principles of flower arranging. It includes the use of flowers, containers, accessories and arrangements for special occasions.
- HEC-3305 INTERIOR DESIGN — 33 hrs. 3.3 CEU's
The aim of this class is to inform persons in the art of decorating houses or apartments. A study is made of house plans, carpeting, draperies and accessories. Suggestions are given for the selection of items to give a room or house a new look.

OFFICE

ACCOUNTING/BOOKKEEPING W-750

- BUS-3002 BOOKKEEPING — 44 hrs. 4.4 CEU's
This course is for the person who has had no previous experience in bookkeeping. Instruction will cover the proper method of keeping records, including journalizing, posting, trial balance, and statements.

GENERAL CLERICAL W-753

- BUS-3204 MEDICAL OFFICE ASSISTANT — 114 hrs. 11.4 CEU's
This class teaches medical terms and correct procedures of doing the paper work that a medical office assistant comes in contact with. After the completion of this course one can qualify for work as a medical secretary.

SECRETARIAL AND RELATED W-754

- BUS-3403 BASIC SHORTHAND — 44 hrs. 4.4 CEU's
This is a course in fundamental procedures and basic instruction for shorthand outlines. Instruction will be given on all outlines used in shorthand.
- BUS-3404 SHORTHAND II — 44 hrs. 4.4 CEU's
This class is designed for students who have mastered the fundamentals of shorthand and who are interested in gaining speed in writing and transcribing.

TYPING AND RELATED W-758

- BUS-3502 TYPING I — 44 hrs. 4.4 CEU's
Typing I is an introduction to the touch typewriting system. Instruction will emphasize correct typing techniques, mastery of the keyboard, simple business correspondence, tabulation, and manuscripts.
- BUS-3503 TYPING II — 44 hrs. 4.4 CEU's
This class will place emphasis on speed and accuracy with further mastery of correct typewriting techniques.

PERSONAL IMPROVEMENT W-762

- BUS-3603 PARENT EFFECTIVENESS TRAINING — 24 hrs. 2.4 CEU's
Parents are given training in forms of verbal communication that are designed in helping their children overcome their personal problems. They are also given skill training in specific methods of preventing conflicts between themselves and their children. Parents are taught the hazards and harmful effects of using the "win-lose" method of conflict resolution.

TRADES AND INDUSTRY

AIR CONDITIONING W-970

- AHR-3001 REFRIGERATION AND AIR CONDITIONING — 66 hrs. 6.6 CEU's
This course is a study of the operation of refrigerators and air conditioners, which will enable an individual to make repairs. Basic electrical principles and mechanical difficulties are emphasized.

BLUEPRINT READING W-972

- BPR-3001 BLUEPRINT READING — 33 hrs. 3.3 CEU's
Students in this course will be introduced to the principles of interpreting blueprints and trade specifications that are common to the building trades.

ELECTRICAL CONSTRUCTION W-984

- ELC-3002 RESIDENTIAL WIRING — 33 hrs. 3.3 CEU's
This course is designed to teach the fundamental practices of residential, commercial, and industrial wiring.

MASONRY W-975

- MAS-3001 BRICKLAYING — 66 hrs. 6.6 CEU's
This will be an introductory course to the art and skill of bricklaying. Topics to be covered include laying straight walls, fireplaces, lattice work, and corners.

METALWORKING W-980

- WLD-3003 BASIC WELDING — 33 hrs. 3.3 CEU's
This course is designed as an introduction to the art of welding. Students take a brief look at all methods of welding without too much emphasis on any one type.
- WLD-3004 ARC WELDING — 33 hrs. 3.3 CEU's
This course is the study of the arc welding process, welding machines and accessories, types of metals and identification, and additional information related to the welding process.

SMALL ENGINE REPAIR AND SERVICES W-986

- AUT-3501 SMALL ENGINE REPAIR — 33 hrs. 3.3 CEU's
A practical course in the repair of small air-cooled gasoline engines such as those found on lawn mowers, tillers, or minibikes.

WOODWORKING OCCUPATIONS W-988

- WWK-3005 WOODWORKING I — 33 hrs. 3.3 CEU's
This course is designed to help the woodworking enthusiast in the use, care, and safe practice of basic hand and power tools.
- WWK-3004 WOODCARVING — 33 hrs. 3.3 CEU's
This course is designed to teach the techniques of woodcarving. Students learn the correct tools to use, and the types of wood to use for whittling and for good carving.

MANAGEMENT DEVELOPMENT PROGRAMS

Courses offered in this program are designed to exert personal qualities of leadership and supervisory competencies. The purpose of each course is to offer practical applications to present needs of the company.

Certificates are awarded when a person satisfactorily completes the course and attends 80% of the class meetings. Upon completion of 160 hours a diploma is awarded. Some of the courses which are available are listed below.

MANAGEMENT DEVELOPMENT PROGRAM W-979

- MDP-28 hrs. PRE-SUPERVISORY TRAINING (PST) 2.8 CEU's
Pre-Supervisory Training is designed to prepare employees who are being considered for supervisory positions for the level of work which they will be expected to perform. Some topics covered are personnel relations, organizations, and job responsibility.
- MDP-44-46 hrs. PRINCIPLES OF SUPERVISION 4.4-4.6 CEU's
This course is designed to deal with the basic and general principles of effective supervision techniques. The course is broken down into seven distinct parts. Some of these include fundamentals of supervision, communications, how to train employees and job evaluation.
- MDP-10 hrs. JOB RELATIONS 1.0 CEU's
The Job Relations course is concerned with the fundamentals of human relations, bases for decision making and taking preventive action.
- MDP-18-20 hrs. HUMAN RELATIONS 1.8-2.0 CEU's
This course emphasizes the development of the science of Humanics. Topics to be covered will include machines and the human element, the personal needs that stimulate behavior, leadership, supervision, and techniques for handling people.
- MDP-22 hrs. ART OF MOTIVATING PEOPLE 2.2 CEU's
This course is designed to motivate employees in relation to production. Emphasis will be placed on specific problems in the area of motivation.
- MDP-22 hrs. ECONOMICS IN BUSINESS AND INDUSTRY 2.2 CEU's
This course is designed to give supervisors a better understanding of the American Free Enterprise System and how it operates. Included in this course are the five basic principles of capitalism, the function of government and its responsibility to the people.
- MDP-22 hrs. EFFECTIVE COMMUNICATIONS 2.2 CEU's
This course places emphasis on clear and forceful oral, written, and implied communication. It gives supervisors an opportunity to improve their effectiveness in day-to-day communications with employees.
- MDP-22 hrs. EFFECTIVE WRITING 2.2 CEU's
Effective writing is designed to help foremen and supervisors improve their writing skills in reports, letters and memoranda which are necessary in daily operations.
- MDP-15 hrs. EFFECTIVE SPEAKING 1.5 CEU's
Emphasis in this course is placed on the theory and practice of the art of self expression. A guide is provided for the supervisor to follow in helping him overcome fear and self-consciousness when addressing a group.
- MDP-20 hrs. SPEED READING 2.0 CEU's
This course is designed to broaden the span of perception and recognition, and to increase the speed and comprehension in reading for those in business and industry.
- MDP-10 hrs. JOB METHODS 1.0 CEU's
This course is set up in five two hour sessions. Emphasis is placed on the importance of finding more efficient ways of completing tasks. Each participant is given a chance to study and submit a proposed method improvement project.
- MDP-15 hrs. INSTRUCTOR TRAINING 1.5 CEU's
This course is designed to provide the future supervisor-instructor with an approved method of instruction based on the basic principles of learning, which will enable him to teach others the related technology or manipulative skills of his trade.

- MDP-22 hrs. **INDUSTRIAL SAFETY AND ACCIDENT PREVENTION** 2.2 CEU's
 This course provides the supervisor with a systematic approach to a better understanding of safety and accident prevention problems. Special emphasis is given to preventive safety measures and understanding the causes of accidents and injuries.
- MDP-10 hrs. **INDUSTRIAL FIRST AID** 1.0 CEU's
 The aim of this course is to give the basics of first aid techniques to supervisors who will be confronted with injuries from accidents likely to occur in the work area. Also covered is factual information for the temporary treatment of sudden illnesses, attacks, and seizures on the job.
- MDP-40 hrs. **SUPERVISION IN HOSPITALS** 4.0 CEU's
 This is a training course similar to MDP-1, which has been developed specifically for hospital supervisors. This course covers supervisory areas of human relations, leadership, job methods, housekeeping, and training subordinates.
- MDP-10-12 hrs. **LABOR LAWS** 1.0-1.2 CEU'S
 This is an introductory course for supervisors to introduce them to the important labor laws so that they may know the legal responsibilities of supervisors and what legal protection is available to business and its employees.
- MDP-12 hrs. **EMPLOYEE EVALUATION AND INTERVIEWING** 1.2 CEU's
 This course provides fundamental information and basic guides for setting up and using a sound employee evaluation program in relation to what is expected of the supervisor.
- MDP-12 hrs. **JOB INSTRUCTION TRAINING** 1.2 CEU's
 This course covers such points as how to get thorough analysis of the job to be taught, how to develop skills in the art of teaching, an understanding of the individual as a learner, and an appreciation of the employee's part in the organization.

NEW AND EXPANDING INDUSTRIES

New and Expanding Industry Training is primarily concerned with the development and administration of programs designed for the purpose of training new employees. This institution, in cooperation with the Industrial Service Division of the State Department of Community Colleges, will design and administer a special program for training the production manpower required by any new or expanding industry creating new job opportunities.

FIRE SERVICE TRAINING

Area fire schools are held to train personnel about techniques and use of new equipment. Classes are held at the municipal and volunteer departments. Other courses are planned upon request. Fire service classes include the following:

FIREMANSHIP W-982

- FIP-42 hrs. **INTRODUCTION TO FIREFIGHTING** 4.2 CEU's
 This course is designed for use where firemen must be trained for service as quickly as possible and for departments that have been active not more than two years, and have had no formal training. Topics can be arranged according to the needs established by the fire chief and instructor.
- FIP-9 hrs. **FORCIBLE ENTRY** .9 CEU's
 Forcible entry means the opening of or the breaking through an enclosure that cannot be opened by conventional means. This course includes breaking a lock, prying open a door or window, and opening floors and roofs.
- FIP-6 hrs. **ROPE PRACTICES** .6 CEU's
 Rope work involves the teaching of all the knots and hitches necessary for hoisting tools, ladders, hoses, extinguishers, and for the splicing, care and storage of lifelines and handlines.
- FIP-9 hrs. **PORTABLE FIRE EXTINGUISHERS** .9 CEU's
 This course is designed to discuss techniques in the proper selection, use and operation of extinguishers to safeguard life and property. It also trains one to be able to select, use and recommend fire extinguishers that are properly suited for the condition that may exist.
- FIP-9 hrs. **LADDER PRACTICES** .9 CEU's
 Emphasis in this course is placed on team work and smooth continuous movements which are essential to develop speed and avoid injury. The course incorporates ladder information and practices in type, design and construction, methods and techniques of handling ladders and inspection and care of ladders.
- FIP-9 hrs. **SALVAGE AND OVERHAUL PRACTICES** .9 CEU's
 This course is designed to present approved techniques in the use and care of salvage equipment used to reduce property damage during any emergency. Overhaul practices cover approved techniques of operation and procedures by which these conditions can be handled.

CURRICULUM COURSE DESCRIPTIONS

Following the course name and number appears a numerical code which should be interpreted as follows: first number indicates the number of credit hours; the second number indicates the number of lecture hours; the third number indicates the number of laboratory hours; and the fourth number indicates the number of shop practice hours.

AIR CONDITIONING AND REFRIGERATION

- AHR 1001 PRINCIPLES OF REFRIGERATION 6 (3-0-9)
This is an introduction to the principles of refrigeration. Fundamental to the course will be terminology, the use and care of tools and equipment, and the identification and function of component parts of a system. Other topics to be included will be the basic laws of refrigeration, characteristics and comparison of the various refrigerants, with the use and construction of valves, fittings, and basic controls. Practical work includes tube bending, flaring and soldering. Standard procedures and safety measures are stressed in the use of special refrigeration service equipment and the handling of refrigerants. Prerequisite: none.
- AHR 1002 DOMESTIC AND COMMERCIAL REFRIGERATION 6 (3-0-9)
The course will involve domestic refrigeration servicing of conventional, hermetic, and absorption systems. Cabinet care, controls, and system maintenance in domestic refrigerators, freezers, and window air conditioning units are stressed. Commercial refrigeration servicing of display cabinets, walk-in cooler and freezer units, and mobile refrigeration systems are studied. The use of manufacturing catalogs in sizing and matching system components and a study of controls, refrigerants, and servicing methods are made. The course also involves the use and care of test instruments and equipment used in servicing electrical apparatus for air conditioning, refrigeration and heating installations. Electrical principles, trouble-shooting, transformers, motors, starting devices, switches, electrical heating devices and wiring are also presented. Prerequisite: AHR 1001 or permission of instructor.
- AHR 1003 ESSENTIALS OF AIR CONDITIONING 6 (3-0-9)
The course includes the selection of various heating, cooling and ventilating systems, investigation and control of factors affecting air cleaning, movement temperature, and humidity. Use is made of psychrometric charts in determining needs to produce optimum temperature and humidity control. Commercial air conditioning equipment will be assembled, welded and tested. Prerequisite: AHR 1002 or permission of instructor.
- AHR 1004 AIR CONDITIONING AND REFRIGERATION SERVICING 6 (3-0-9)
The course includes installation, maintenance, and servicing of equipment used in the cleaning, changing, humidification and temperature control in air conditioned spaces. Installation of various ducts and lines, burner operation, controls, testing, adjusting, and trouble shooting are also emphasized. Prerequisite: AHR 1003 or permission of instructor.
- AHR 1005 BASIC AIR CONDITIONING AND REFRIGERATION SERVICE AND MAINTENANCE 6 (3-0-9)
This course will be a basic introduction to the principles of refrigeration and air conditioning which will include but not be limited to terminology, care and use of tools and equipment and the identification and function of component parts. Heavy emphasis will be placed on practical work experience in the labs.
- AHR 1101 AUTOMOTIVE AIR CONDITIONING 3 (2-0-3)
General introduction to the principles of refrigeration; study of the assembly of the components and connections necessary in the mechanisms, the methods of operation, and control; proper handling of refrigerants in charging the system. Use of testing equipment in diagnosing trouble, conducting efficiency tests and general maintenance work. Prerequisite: PHY 1101.
- AHR 1102 STEAM AND HOT WATER HEATING AND COOLING SYSTEMS I 3 (2-0-3)
This is a study of the science of heating and/or cooling through the use of chilled and/or hot water or steam. The course gives a basic coverage of the selection of heat distribution units, water chillers, compression tanks, zone valves, zone controls, relief valves, flow control and pressure reducing valves. Prerequisites: AHR 1121, AHR 1115, AHR 1111, AHR 1112.
- AHR 1103 STEAM AND HOT WATER HEATING AND COOLING SYSTEMS II 2 (1-0-3)
A continuation of AHR 1102. The course covers boiler fittings, feed water accessories, steam accessories, combustion accessories, draft control, water treatment, boiler operation and boiler room safety. Prerequisite: AHR 1102.
- AHR 1110 INDUSTRIAL HEATING 5 (4-0-3)
This is a basic study of the science of heating through the use of circulating hot water and steam. There will be an introduction to both gas- and oil-fired boilers. The course also covers boiler fittings, feed water accessories, steam accessories, combustion accessories, draft control, water treatment, boiler operation and boiler room safety. Prerequisites: ELC 1112, ELC 1113, ELN 1118, DFT 1113.

ART

- ART 150 BASIC DESIGN 3 (0-6-0)
Upon completion of this course, the student will be able to identify and use the principles and elements of design as they relate to the two-dimensional surface. Flat pattern development, pictorial composition, depiction of special illusion, and value analysis will have been studied.
- ART 151 DRAWING I 3 (0-6-0)
Upon completion of this course, the student should be able to identify problems and possible graphic solutions of representing visual experience on the two-dimensional surface. The student will have explored a variety of material including pencil, pen and ink, conte, and charcoal and will have employed various techniques with an emphasis upon utilizing these materials and techniques as a means of personal expression.
- ART 152 DRAWING II 3 (0-6-0)
Upon completion of this course, the student will have been introduced to the study of perspective and other systemized methods of rendering the illusion of form and space. The student will be able to apply elements of good pictorial composition and will have continued to develop technical competence in the use of a variety of material and techniques. Prerequisite: Art 151 or permission of instructor.
- ART 155 SERIGRAPHY 3(0-6-0)
Students will demonstrate an understanding of silk screening as a fine art by designing and producing editions of prints which use various techniques such as paper, knife-cut, and photo-positive stencils with emphasis on layout and color separation.
- ART 156 CRAFTS 3 (0-6-0)
Upon completion of this course, the student should be able to design, construct, and exhibit fiber, wood, and glass craft projects.
- ART 157 CERAMICS I 3 (0-6-0)
Upon completion of this course, the student should be able to (1) design and produce projects by the pinch pot, coil, slab, and potter's wheel methods; (2) utilize various glaze techniques.
- ART 158 CERAMICS II 3 (0-6-0)
Upon completion of this course, the student should be able to (1) design and produce ceramic projects building on the foundation of skills acquired in Ceramics I, (2) construct one major sculpture project which will combine at least one additional material with the clay, (3) keep an individual test tile record of glaze experiments. Prerequisite: Art 157 or permission of instructor.
- ART 159 CERAMICS III 3 (0-6-0)
Upon completion of this course, the student should be able to (1) design and produce projects building on the foundation of skills acquired in Ceramics I and II; (2) weigh, mix, and apply glaze formulas to ceramics projects; (3) describe how to load, fire, and unload electric kiln. Prerequisite: Art 158 or permission of instructor.
- ART 160 WATERCOLOR I 3 (0-6-0)
Through exercises in technical methods and various approaches to idea generation, the student will be able to produce watercolor paintings which demonstrate a mastery of this medium.
- ART 161 WATERCOLOR II 3 (0-6-0)
This course is designed to allow further experience and research in the medium of watercolor. Exercises in composition, expression, and color theory will be explored as well as intensive practice in directional interests in content and subject matter. Prerequisite ART 160 or permission of instructor.
- ART 162 WATERCOLOR III 3 (0-6-0)
An advanced studio course to further refine the student's skill with the particular medium. Nature studies and paintings from imagination will be considered as the main areas of concentration. Ideas concerning product, presentation and exhibition will be explored. Prerequisite: Art 161 or permission of instructor.
- ART 163 BASIC PHOTOGRAPHY 3 (0-6-0)
The student will be introduced to the Basics of Photography, including use of the camera, composition, and subject matter. Students must provide 35 mm camera.
- ART 180 ART APPRECIATION 5 (5-0-0)
A survey of ideas and stylistic trends from cave painting to modern times. Painting, sculpture and architecture of each major period will be discussed. The course is designed to meet state requirements for public school teachers and is open to the general college student.
- ART 256 PAINTING I 3 (0-6-0)
Upon completion of this course, the student will be able to select tools and materials for painting and will be able to demonstrate a knowledge of the elements of art and the principles of design as they apply to the production of painting.

- ART 257 PAINTING II 3 (0-6-0)
The student will continue the analysis and production of good pictorial composition and will continue experimentation in a variety of painting media. Prerequisite: Art 256 or permission of instructor.
- ART 258 PAINTING III 3 (0-6-0)
The student will give special attention to painting as a means of personal expression and will continue to identify and solve the problems of pictorial production such as color, form, and special illusion. The student will continue technical experimentation. Prerequisite: Art 257 or permission of instructor.
- ART 259 SCULPTURE I 3 (0-6-0)
In this course the student will experiment with a variety of materials by utilizing the constructive, the additive, and the subtractive processes of sculpture.
- ART 260 SCULPTURE II 3 (0-6-0)
The student will continue to experiment with a variety of materials and methods of sculpture. There will be an emphasis on carving in wood and stone. Prerequisite: Art 259 or permission of instructor.
- ART 261 SCULPTURE III 3 (0-6-0)
Upon completion of this course, the student will have (1) expanded knowledge of basic sculpture, (2) performed individual investigation and work in modeling, casting, carving, and construction, (3) experimented with recently developed media in sculpture. Prerequisite: Art 260 or permission of instructor.
- ART 280 ANCIENT ART HISTORY 5 (5-0-0)
An in-depth study of the evolution of art with specific emphasis on the art of Ancient Egypt and Ancient Greece. Painting, sculpture and architecture are discussed. Open to general college student.
- ART 281 RENAISSANCE ART HISTORY 5 (5-0-0)
An in-depth study of the evolution of 15th and 16th Century art with emphasis on the art from Giette to Michaelangelo. Painting, sculpture, and architecture are discussed.
- ART 282 MODERN ART HISTORY 5 (5-0-0)
An in-depth study of the evolution of Modern Art with emphasis on the period from J. L. David to Andy Warhol. Painting, sculpture and architecture are discussed.
- ART 283 COLOR THEORY 3 (0-6-0)
The student will continue the analysis and implementation of the principles and elements of design with an emphasis upon color theory.
- ART 285 INDEPENDENT STUDIO 3 (0-6-0)
A course designed to permit the student to work beyond the limits of the regular sequence of courses in particular area of art. As the course title indicates, the student will be working independently on self-determined objectives utilizing the resources of the Art Department. One independent studio may be taken per area. Prerequisite: Completed sequence of art courses in the area of proposed independent study.
- ART 286 INDEPENDENT STUDIO 3 (0-6-0)
A course designed to permit the student to work beyond the limits of the regular sequence of courses in a particular area of art. As the course title indicates, the student will be working independently on self-determined objectives utilizing the resources of the Art Department. One independent studio may be taken per area. Prerequisite: Completed sequence of art courses in the area of proposed independent study.
- ART 287 INDEPENDENT STUDIO 3 (0-6-0)
A course designed to permit the student to work beyond the limits of the regular sequence of courses in a particular area of art. As the course title indicates, the student will be working independently on self-determined objectives utilizing the resources of the Art Department. One independent studio may be taken per area. Prerequisite: Completed sequence of art courses in the area of proposed independent study.

AUTO BODY REPAIR

- AUT 1120 AUTOMOTIVE ELECTRICAL SYSTEMS 4 (3-0-3)
The course will cover diagrams, sketches, charts, wiring codes, and symbols for automobiles. Analysis charts will be studied to troubleshoot electrical problems with wiring, and electronic devices on new model automobiles.

- PME 1123 BRAKES, CHASSIS, AND SUSPENSION SYSTEMS** 7 (3-0-12)
 A complete study of various braking systems employed on automobiles and light weight trucks. Emphasis is placed on how they operate, proper adjustment and repair. Also, the servicing of parking brakes is emphasized. Principles and functions of the components of automotive chassis is covered. Practical job instruction in adjusting and repairing of suspension systems. Interpretation of prints, schematics and diagrams pertaining to automotive chassis and braking systems. Prerequisite: None.
- PME 1124 AUTOMOTIVE POWER TRAIN SYSTEMS** 7 (3-0-12)
 Principles and functions of automotive power train systems: clutches, transmission gears, torque converters, drive shaft assemblies, rear axles and differentials. Identification of troubles, servicing and repair.
- PME 1125 AUTOMOTIVE SERVICING** 4 (2-0-6)
 Emphasis is on the shop procedures necessary in "troubleshooting" of automotive systems, provides a full range of experiences in testing, adjusting, repairing and replacing components. A close simulation to an actual automotive shop situation will be maintained. Prerequisite: PME 1102, PME 1123, AHR 1101.
- PME 1203 DIESEL ENGINE SERVICING** 7 (3-0-12)
 A thorough indepth knowledge of the diesel automobile engine is developed. Emphasis is on design, operation, disassembly, diagnosis and repair. Prerequisite: PME 1101 or permission of instructor.
- PME 1205 DIESEL ENGINE FUEL SYSTEMS** 6 (3-0-9)
 Principles and operation of diesel fuel systems, diagnosis of problems, service and repair pertaining to cars and light duty trucks. GM, Bosh, VW diesel, Isuzu type of systems will be major systems covered. Prerequisite: PME 1101, PME 1102, or permission of instructor.
- PME 1206 ADVANCED DIESEL ENGINE SERVICE** 7 (3-0-12)
 Study in diesel engine rebuilding, tune-up and problem diagnosis with hands-on experience with live models. Prerequisites PME 1101, PME 1201, PME 1205.
- PME 1221 ADVANCED ELECTRICAL SYSTEMS** 7 (3-0-12)
 Detailed study in theory and construction of electronic controlled charging and ignition systems. Prerequisite: PME 1102.
- PME 1224 ADVANCED AUTOMATIC TRANSMISSIONS** 5 (3-0-6)
 This course is designed to provide a measure of depth in the understanding of automatic transmissions. Instruction includes classroom study, demonstrations, and student participation in disassembly, reassembly, and testing of selected transmissions. Special emphasis is placed on principles, function, construction, operation, servicing and "troubleshooting" procedures and repair of various types.
- PME 1227 POWER ACCESSORIES** 5 (3-0-6)
 Power accessories course will include power equipment added to cars and light trucks. All electrical components including power windows, roofs, trunk and safety devices, power seats, and electronic equipment for diesel-powered autos will be covered. Prerequisite: PME 1102, PME 1201, PME 1205, AHR 1101.
- PME 1232 FRONT-END DRIVE TRAINS, STEERING AND ALIGNMENT** 4 (3-0-3)
 Study of the new front-wheel drive trains. Operation and repair of steering and alignment of rack and pinion system will be emphasized. Prerequisite: PME 1124, PME 1116, PME 1121, PME 1123.

BIOLOGY

- BIO 151 GENERAL BIOLOGY** 4 (3-3-0)
 A study of the basic biological principles included in both animal and plant kingdoms. Emphasis is placed upon live, taxonomy, the cell, cell divisions, cellular metabolism, photosynthesis, nucleic acids, and genetics.
- BIO 152 GENERAL BIOLOGY** 4 (3-3-0)
 A continuation of BIO 151. Included are a survey of the plant kingdom and ecological studies, including both plants and animals. Prerequisite: BIO 151.
- BIO 153 GENERAL BIOLOGY** 4 (3-3-0)
 A continuation of general biology. Included are a survey of the animal kingdom and the structure and function of man as one of the animals. Prerequisite: BIO 151.
- BIO 155 MAN AND HIS ENVIRONMENT** 3 (3-0-0)
 This course is an introduction to human ecology. Discussed are causes and possible solutions of problems such as over-population, air-water-food-noise pollution, pesticides, vanishing resources-wilderness-wildlife, atomic radiation, and urbanization. Films, guest speakers, five field trips, panel discussions and lectures are used.

- BIO 252 ANATOMY AND PHYSIOLOGY 4 (3-2-0)
 A study of the anatomy and physiology of the human body with integration and homeostasis as leading factors. Emphasis is on the cell, tissues of the body, integumentary system, skeletal system, muscular system, and digestive system.
- BIO 253 ANATOMY AND PHYSIOLOGY 4 (3-2-0)
 A continuation of BIO 252. The systems covered are the nervous, special senses, circulatory and immunological. Prerequisite: BIO 252.
- BIO 254 ANATOMY AND PHYSIOLOGY 4 (3-2-0)
 A continuation of BIO 253. The systems covered are the respiratory, excretory, endocrine, and reproductive. Prerequisite: BIO 253.
- BIO 255 — MICROBIOLOGY 5 (3-4-0)
 Morphology, physiology, and methods of culture and control of bacteria, viruses, and related micro-organisms. The course includes pathogens and epidemiology of microbial diseases. Prerequisites: None.

BUSINESS

- BUS 120 MACHINE CALCULATIONS 4 (3-2-0)
 A course to develop proficiency in the operation of the electronic calculator and in its use to solve business related problems.
- BUS 121 MACHINES TRANSCRIPTION 4 (3-2-0)
 A course designed to develop proficiency in office work which requires the use of transcribing units. Prerequisite: Ability to type 50 words per minute.
- BUS 122 FILING 3 (3-0-0)
 A study of the fundamentals and theory of filing with special emphasis on alphabetic, geographic, subject, numeric, and other filing systems.
- BUS 123 BUSINESS MATHEMATICS 4 (3-2-0)
 Meaningful explanations, illustrations, and problems designed to give students an understanding of and the ability to apply mathematical concepts to business activities.
- BUS 124 RECORD KEEPING 3 (3-0-0)
 The student will recognize and be able to apply the basic concepts of the single proprietorship. The student will develop skills which enable him to record and analyze business transactions in appropriate books of original entry, as well as classify and summarize such transactions in an income statement and balance sheet.
- BUS 130 PRINCIPLES OF INDUSTRIAL MANAGEMENT 5 (5-0-0)
 The basic managerial decisions; organizational structure including plant location, building requirements, and internal factory organization and problems of factory operation and control, planning, scheduling, routing factory production, stores control, labor control, purchasing, and cost control. Plant problems are utilized as lab experiments.
- BUS 133 INDUSTRIAL SAFETY 5 (5-0-0)
 Problems of accidents and fire in industry. Management and supervisory responsibility for fire and accident prevention. Additional topics cover accident reports and the supervisor; good housekeeping and fire prevention; machine guarding and personnel protective equipment; state industrial accident code and fire regulations; the first aid department and the line of supervisory responsibility; job instruction and safety instruction; company rules and enforcement; use of safety committees; insurance carrier and the Insurance Rating Bureau; and advertising and promoting a good safety and fire prevention program.
- BUS 134 PRINCIPLES OF SUPERVISION 3 (3-0-0)
 Introduces the basic responsibilities and duties of the supervisor and his relationship to superiors, subordinates and associates. Emphasis on securing an effective work force and the role of the supervisor. Methods of supervision are stressed.
- BUS 135 WORK MEASUREMENT 5 (5-0-0)
 A study of the principles of work simplification including administration of job methods, improvement, motion study fundamentals, and time study techniques. Use of flow and process charts, multiple activity charts, operation charts, flow diagrams, and methods of evaluation are included topics.
- BUS 136 PERSONAL DEVELOPMENT 3 (3-0-0)
 A study of the principles that will be of assistance in the understanding of inter-personal relations on the job. Motivation, feelings, and emotions are considered with particular reference to on-the-job problems.
- BUS 150 BUSINESS LAW 3 (3-0-0)
 A general course designed to acquaint the student with the subject of Business Law and to examine fully the subject of contracts.

- BUS 151 BUSINESS LAW** 3 (3-0-0)
A continuation of Business 150. Topics include the sale of goods, commercial paper, insurance, estate planning, court procedures, agency, and employment. Prerequisite: BUS 150 or permission of instructor.
- BUS 152 INTRODUCTION TO BUSINESS** 5 (5-0-0)
An introduction to the various areas of business available for concentrated investigation. The business environment, ownership forms, organization, marketing, and the physical factors of the business are examined. Also, personnel, stocks, bonds, insurance, accounting, business statistics, budgets, forecasting, and the legal environment of business are surveyed.
- BUS 153 TYPEWRITING** 3 (1-4-0)
Development of basic typewriting skills and principles and their application with emphasis on speed and accuracy.
- BUS 154 TYPEWRITING** 3 (1-4-0)
A continuation of Business 153, with emphasis on outlines, letter styles, and typing from draft copy. Prerequisites: BUS 153 or permission of instructor.
- BUS 155 TYPEWRITING** 3 (1-4-0)
A continuation of Business 154 with emphasis on manuscripts, legal documents and duplicating processes. Prerequisite: BUS 154 or permission of instructor.
- BUS 156 SHORTHAND** 4 (3-2-0)
Mastery of the fundamentals of Gregg Shorthand theory and speed building. Prerequisite: Ability to type or permission of instructor.
- BUS 157 SHORTHAND** 4 (3-2-0)
A continuation of the study of Gregg Shorthand theory and development of dictation and transcription skills. Prerequisite: BUS 156 or permission of instructor.
- BUS 158 SHORTHAND** 4 (3-2-0)
Development and application of the principles of Gregg Shorthand theory, with emphasis on accuracy and speed. Prerequisite: BUS 157 or permission of instructor.
- BUS 161 ACCOUNTING PRINCIPLES** 4 (3-2-0)
This first quarter of accounting builds the basic foundation for further study. Topics included are the basic accounting structure, journals, ledgers, the completion of the cycle for a service and mercantile enterprise, receivables, payables, inventory methods, deferrals, accruals, practical problems and case studies.
- BUS 162 ACCOUNTING PRINCIPLES** 4 (3-2-0)
A continuation of BUS 161. Items covered are plant and intangible assets, internal control, payroll systems, concepts and principles, partnership, corporations, departments, branches, practical problems, and case studies. Prerequisite: BUS 161 or permission of instructor.
- BUS 163 ACCOUNTING PRINCIPLES** 4 (3-2-0)
A continuation of BUS 162. Topics are an introduction to cost accounting, budgetary control, income taxes, management concern for cost and revenue relationships, special analysis, special statements, practical problems and case studies. Prerequisite: BUS 162 or permission of the instructor.
- BUS 201 TYPEWRITING** 3 (1-4-0)
An expansion of the development of typewriting principles and skills and their application with emphasis on speed and accuracy. Prerequisite: One year of typewriting or permission of instructor.
- BUS 202 TYPEWRITING** 3 (1-4-0)
Business letter styles, legal papers, tabulation, business and accounting reports, manuscripts, and forms applicable to the business office are emphasized. Prerequisite: BUS 201 or permission of instructor.
- BUS 203 TYPEWRITING** 3 (1-4-0)
Development of sustained production of forms used in the business office. Prerequisite: BUS 202 or permission of instructor.
- BUS 211 SHORTHAND AND TRANSCRIPTION** 4 (3-2-0)
A review of Gregg Shorthand theory and the principles of English grammar with emphasis on the student's ability to take and transcribe correctly from familiar and unfamiliar dictation at varying rates of speed. Prerequisite: BUS 158 or permission of instructor.
- BUS 212 SHORTHAND DICTATION AND TRANSCRIPTION** 4 (3-2-0)
This course emphasizes speed, accuracy, vocabulary, and transcription abilities to enable the student to meet the requirements of the business office. Prerequisite: BUS 211 or permission of instructor.

BUS 213	SHORTHAND DICTATION AND TRANSCRIPTION	4 (3-2-0)
	A continuation of BUS 212. Prerequisite: BUS 212 or permission of instructor.	
BUS 220	BUSINESS COMMUNICATIONS	3 (3-0-0)
	The study and the composition of business letters and other forms of communication. Prerequisite: Ability to type or permission of instructor.	
BUS 221	OFFICE PROCEDURES	3 (3-0-0)
	Efforts will be made to observe and direct students in developing those characteristics and personality traits which are essential in the modern business office. Training in office duties and procedures will be emphasized. Prerequisite: Ability to type or permission of instructor.	
BUS 222	OFFICE PROCEDURES	3 (3-0-0)
	A continuation of BUS 221. This course presents a series of integrated office activities which emphasize the administrative aspects of secretarial work. Prerequisite: BUS 221 or permission of instructor.	
BUS 223	PRINCIPLES OF SELLING	3 (3-0-0)
	A study of the fundamentals of effective selling, qualifications and obligations of sales persons.	
BUS 224	BUSINESS MANAGEMENT	5 (5-0-0)
	Principles of business management including overview of major functions of management, such as planning, staffing, controlling, and financing. Clarification of the decision-making function versus the operating function. Role of management in business — qualifications and requirements.	
BUS 225	PRINCIPLES OF MARKETING	5 (5-0-0)
	A survey of the functions and problems involved with getting products moved from the producer to the consumer.	
BUS 226	OFFICE MANAGEMENT	5 (5-0-0)
	The study of the principles of management as it relates to the office.	
BUS 228	CONSUMER FINANCE	3 (3-0-0)
	This course is oriented toward personal financing as opposed to financing the business entity. Topics include budgets, insurance, credit procedures, personal investments, housing, real estate, retirement planning, and estate planning.	
BUS 229	BUSINESS FINANCE	3 (3-0-0)
	Financing of business units, as individuals, partnerships, corporations, and trusts. Topics include short-term financing, long-term financing, financing federal, state, and local government and the factors affecting supply of funds, monetary and credit policies.	
BUS 230	QUALITY CONTROL	4 (3-2-0)
	Principles and techniques of quality control and cost saving. Organization and procedure for efficient quality control. Functions, responsibilities, structure, costs reports, records, personnel and vendor-customer relationships in quality control. Sampling inspections, process control and tests of significance.	
BUS 232	LABOR ECONOMICS AND LABOR RELATIONS	5 (5-0-0)
	Emphasis is placed on the history of the labor movement in the United States; the development of methods and strategies by labor organizations and by management; the shift in the means of public control; and the factors of income and economic security.	
BUS 233	FOREMANSHIP SUPERVISION	3 (3-0-0)
	The foreman's responsibility for planning, organizing, directing, controlling, and coordinating supervisory activities. It teaches the supervisor the basic functions of an organization and his responsibilities, policies and procedures, and rules and regulations.	
BUS 234	PERSONNEL MANAGEMENT	3 (3-0-0)
	Principles of organization and management of personnel, procurement, placement, training, performance checking, supervision, remuneration, labor relations, fringe benefits, and security.	
BUS 235	PRODUCTION PLANNING	5 (5-0-0)
	Day-to-day plant direction; forecasting, product planning and control, scheduling, dispatching, routine and inventory control. Case histories are discussed in the classroom, and courses of corrective action are developed. Actual layouts are utilized for planning and control.	
BUS 238	BUSINESS INSURANCE	5 (5-0-0)
	This course is an approach to the study of the principles of risk, risk management, and insuring techniques in the context of the managerial decision-making process. Topics include risk and the nature of insuring devices, life, health, retirement, property, and liability insuring devices; planning and integrating risk treatment programs, and insuring organizations and their functions.	
BUS 241	INTERMEDIATE ACCOUNTING	4 (3-2-0)
	A review and expansion of accounting principles which includes, among other aspects, the balance sheet, income statement, earnings statement, fundamental processes of recording, cash and temporary investments, and analysis of working capital. Prerequisite: BUS 163 or permission of instructor.	

- BUS 242 INTERMEDIATE ACCOUNTING** 4 (3-2-0)
 Additional study of intermediate accounting with emphasis on current liabilities, investments, plant and equipment, intangibles, and long-term liabilities. Prerequisite: BUS 241.
- BUS 243 INTERMEDIATE ACCOUNTING** 4 (3-2-0)
 A continuation of BUS 242 which includes study of paid-in capital upon corporate formation and subsequent to corporate formation, all aspects of retained earnings and the retained earnings statement, statements from incomplete records, errors, and financial statement analysis. Prerequisite: BUS 242.
- BUS 244 COST ACCOUNTING** 4 (3-2-0)
 A study of the nature and purposes of cost accounting for direct labor, materials, and overhead; job cost, standard cost and principles and procedures; selling and distribution cost, budgets, and executive use of cost figures. Prerequisite: BUS 163 or permission of instructor.
- BUS 246 TAXES** 4 (3-2-0)
 A study of the application of federal and state taxes to various businesses and business conditions, income taxes, payroll taxes, intangible taxes, capital gain taxes, sales and use taxes, excise taxes, and inheritance taxes. Prerequisite: BUS 161 or permission of instructor.
- BUS 248 AUDITING** 4 (3-2-0)
 A study of conducting audits and investigations, setting up accounts based on audits, collecting data on working papers, arranging and systematizing the audit, and writing the audit report. Emphasis on detailed audits, internal auditing, and internal control. Prerequisite: BUS 163 or permission of instructor.
- BUS 1103 BUSINESS OPERATIONS** 3 (3-0-0)
 An introduction to the business world, problems of small business operation, basic business law, business forms and records, financial problems, ordering and inventorying, layout of equipment and offices, methods of improving business, and employer-employee relations.

CHEMISTRY

- CHM 161 GENERAL CHEMISTRY** 4 (3-3-0)
 A course designed to introduce a student to the fundamental concepts of chemistry. Topics of study include chemical symbols, formulas, atomic structure, periodic law, chemical bonding, the gaseous state, the kinetic molecular theory and chemical calculations.
- CHM 162 GENERAL CHEMISTRY** 4 (3-3-0)
 A continuation of CHM 161. Emphasis to be placed on the liquid and solid states, solutions, electrolytes, colloids, oxidation-reduction reactions, and chemical equilibrium. Prerequisite: CHM 161.
- CHM 163 GENERAL CHEMISTRY** 4 (3-3-0)
 A continuation of CHM 162. Emphasis to be placed on the study of thermodynamics, electrochemistry, solubility product principle, hydrolysis, with an introduction to nuclear chemistry, biochemistry, and organic chemistry. Laboratory will include semimicro qualitative analysis. Prerequisite: CHM 162.
- CHM 164 PHYSIOLOGICAL CHEMISTRY** 4 (3-3-0)
 A course structured to provide an understanding of the scope, aims, and fundamentals of modern chemistry by presenting facts, theories, and principles of the science. The course will serve as the basic chemistry course for student nurses.
- CHM 271 ORGANIC CHEMISTRY** 4 (3-3-0)
 A study of the compounds of carbon. Emphasis will be on the alkanes and alkenes, their reactions, and stereochemistry. Prerequisite: CHM 163.
- CHM 272 ORGANIC CHEMISTRY** 4(3-3-0)
 A continuation of CHM 271 including the study of aromatics, reaction mechanisms, theoretical syntheses, and IR spectroscopy. Prerequisite: CHM 271.
- CHM 273 ORGANIC CHEMISTRY** 4 (3-3-0)
 A continuation of the topics of CHM 272 including natural products and polymers. Prerequisite: CHM 272.

CIVIL ENGINEERING

- CIV 1101 SURVEYING** 3 (2-0-3)
 Basic instrumentation and topography, together with field trips and drafting room application of site surveying. Prerequisite: MAT 1103.

CRIMINAL JUSTICE — PROTECTIVE SERVICE TECHNOLOGY

- CJC 101 INTRODUCTION TO CRIMINAL JUSTICE 5 (5-0-0)
This course is designed to familiarize the student with a philosophy and history of law enforcement, its legal limitations in our society, the primary duties and responsibilities of the various agencies in the criminal justice field, the basic processes of justices, an evaluation of law enforcement's current position, and an orientation relative to the profession as a career.
- CJC 102 CRIMINOLOGY 5 (5-0-0)
A general course designed to introduce the student to the causation of crime and delinquency. The historical and contemporary aspects of crime, law enforcement, punishment, and correctional administration will be discussed.
- CJC 110 JUVENILE DELINQUENCY 5 (5-0-0)
General survey of juvenile delinquency as an individual and social problem, theories of delinquency, causation, and methods of correction and prevention. The course will present a general overview of the juvenile court.
- CJC 115 CRIMINAL LAW 3 (3-0-0)
A course designed to present a basic concept of criminal laws and to provide a legal groundwork for those who seek to enter the criminal justice field.
- CJC 125 CRIMINAL PROCEDURE 5 (5-0-0)
This course is designed to provide the student with a review of court systems; procedures from incident to final disposition; principles of constitutional, federal, state, and civil laws as they apply to and affect law enforcement.
- CJC 201 N.C. JUVENILE DETENTION AND CORRECTIONS 3 (3-0-0)
This course examines the juvenile court procedure, juvenile detention and juvenile correction in North Carolina.
- CJC 202 TRAFFIC ENFORCEMENT 5 (5-0-0)
A study which covers the history of the traffic enforcement problems and gives an overview of the problem as it exists today. Attention will be given to the three E's (enforcement, evaluation, effectiveness) and legislation, the organization of the traffic unit, the responsibilities to the traffic function of the various units within the law enforcement agency, enforcement tactics, evaluation of the traffic program effectiveness and the allocation of men and materials. Accident investigation is stressed.
- CJC 203 CORRECTIONS 3 (3-0-0)
An examination of the total correctional process from law enforcement through the administration of justice, probation, prisons and correctional institutions, and parole. This course will provide a history and philosophy in the field of correction.
- CJC 204 PAROLES, PROBATION, AND PARDONS 3 (3-0-0)
Probation as a judicial process and parole as an executive function are examined as community-based correctional programs and the use of pardons is reviewed.
- CJC 205 CRIMINAL EVIDENCE 5(5-0-0)
Instruction covers the kinds and degrees of evidence and the rules governing the admissibility of evidence in court.
- CJC 206 COMMUNITY RELATIONS 3 (3-0-0)
This course will provide the student with an understanding of community structures as they relate to minority groups, peer groups, socioeconomic groups, leader groups, and group relations. Emphasis will be placed on the organization and function of these groups as they relate to the profession of criminal justice-protective service.
- CJC 207 CONFINEMENT FACILITIES ADMINISTRATION 3 (3-0-0)
This course is designed to familiarize the student with the supervision and administration of confinement facilities involving techniques of inmate supervision, security, medical care of prisoners, food preparation, sanitation, and various legal aspects controlling detention facilities, correctional institutions, and jails.
- CJC 209 CORRECTION LAW 3 (3-0-0)
This course is designed to familiarize the student with the specific laws as they pertain to correction, care, custody, and control.
- CJC 210 CRIMINAL INVESTIGATION 5 (4-2-0)
This course introduces the student to fundamentals of investigation; crime scene search; recording, collection, and preservation of evidence; sources of information, interview and interrogation, case preparation, and court presentation.

- CJC 211 CRIMINALISTICS I 5 (4-2-0)
 A course designed to introduce the student to the forensic aspects of police science and the crime lab, its function and scope. The student is further introduced to lab equipment generally found in use in a police crime lab. In addition, the course studies physical and chemical properties of certain substances, chemical changes, weights and measurements, and organic analysis and inorganic analysis.
- CJC 212 CRIMINALISTICS II 5 (4-2-0)
 A continuation of the forensic aspects of police science. The subject matter concentrates on the procedures to be undertaken in the crime lab. Emphasis is placed on fulfilling all legal requirements regarding handling and evaluation of physical evidence. All students participate in a crime scene and the investigation of all evidence pertaining to the crime.
- CJC 216 ADVANCED CRIMINAL LAW 3 (3-0-0)
 A continuation of Criminal Law I which presents a basic concept of criminal law and creates an appreciation of the rules under which one lives in our system of government. Primary emphasis will be placed on North Carolina law. Prerequisite: CJC 115.
- CJC 217 PATROL ADMINISTRATION 3 (3-0-0)
 This course defines the purposes of patrols and describes the types of patrols. It explains the operation of police vehicles on patrol, answering calls — emergency and non-emergency and felony in progress. It provides the student the opportunity to develop powers of perception, and observation concerning persons, places, and things. Safe driving techniques and use of equipment are presented.
- CJC 220 POLICE ORGANIZATION AND ADMINISTRATION 5 (5-0-0)
 Introduction to principles of organization and administration, discussion of the service functions, e.g., personnel management, police management, training, communications, records, property maintenance, and miscellaneous services.
- CJC 221 CORRECTION ADMINISTRATION 3 (3-0-0)
 Emphasis is placed on the principles of administration in the correctional setting including budgeting and financial control, recruitment and development of staff, administrative decision making, public relations, and other correctional administrative functions.
- CJC 223 CORRECTION COUNSELING 4 (3-2-0)
 This course is designed to provide the student with information pertaining to counseling techniques as they apply to the needs of a correction officer. Time is provided for role playing and other practical techniques.
- CJC 224 REHABILITATION 3 (3-0-0)
 This course is designed to provide the student with the opportunity to explore the different avenues of rehabilitation. The new and innovative techniques of rehabilitation will be emphasized as they relate to successful methods.
- CJC 230 COUNSELING 3 (3-0-0)
 This course is designed to present the basic elements of counseling. The basic elements will be applied to the different socioeconomic groups in our society.
- CJC 234 COMMUNITY-BASED CORRECTION 3 (3-0-0)
 Community resources that can be utilized in the correctional process are examined such as vocational rehabilitation, alcohol detoxification and other units, welfare services, child guidance and mental health clinics, employment services, private volunteer, professional assistance, legal aid, and other pertinent services.
- CJC 240 SECURITY SYSTEMS 5 (5-0-0)
 This course is designed to introduce the student to an overview of the total security concept. The topic is broken down into industrial, commercial, and retail security.
- CJC 241 PROPERTY CONTROL 3 (3-0-0)
 This course is designed to provide the student with an understanding of the physical layouts and control procedures of industrial, commercial, and retail facilities. Methods of protection such as electrical gates, magnetic passes, perimeter lighting, alarm systems, fencing, and other means of protection are covered.
- CJC 242 COMMON CARRIER PROTECTION 3 (3-0-0)
 This course is designed to provide the student with an understanding of various common carrier functions. Effective control measures such as bills of lading, waybills, notices of shipment, and free astray forms are presented as they relate to the security officer's function. ICC regulations as they relate to company policies and state laws are covered.
- CJC 243 INDUSTRIAL ACCIDENT INVESTIGATION AND REPORTING 3 (3-0-0)
 This course is designed to present techniques and procedures that will enable the security officer to adequately investigate an industrial accident and report relevant facts important to the investigation. Familiarization with pertinent phraseology and terms is stressed.

- CJC 244 CIVIL AND CRIMINAL LEGAL RESPONSIBILITY 3 (3-0-0)
 This course emphasizes the civil and criminal legal responsibility of security personnel. It involves control and supervision of company property including entries and exits. It stresses the legal liability of the individual and of the company.
- CJC 245 ELECTRONIC DETECTION AND POLYGRAPH 5 (5-0-0)
 This course is designed to provide the student with an understanding of electronic detection devices and equipment. It stresses the legal aspects limiting their use. The use of the polygraph as an investigative aid is covered.
- CJC 246 SECURITY INVESTIGATION 3 (3-0-0)
 This course is designed to familiarize the student with utilization of personnel security questionnaires and other sources of background data to assure complete investigations. Familiarization with investigative techniques and procedures are emphasized.
- CJC 247 RETAIL SECURITY 3 (3-0-0)
 This course is designed to familiarize the student with information concerning all aspects of retail security protection. Internal safeguards including employee and customer activities are covered.
- CJC 248 FIRE PREVENTION AND SECURITY 3 (3-0-0)
 This course presents information on the different types of fires and their prevention. Types of fire extinguishers and fire alarm systems are presented. Methods of organizing and training fire brigades are stressed.
- CJC 249 SURVEILLANCE TECHNIQUES 3 (3-0-0)
 This course is designed to cover all types of surveillance techniques and the use of the surveillance equipment. Emphasis is placed on loss prevention in relation to employee and customer activities in industrial, commercial, and retail settings.

DRAFTING

- DFT 113 ELECTRONIC DRAFTING 4 (1-6-0)
 The fundamentals of drafting are presented with an emphasis on applications in the electronics field. Basic skills and techniques are included such as the use of drafting instruments, types of drawings, construction of drawings both with instruments and freehand, lettering and dimensioning, and how to read prints. In addition to basic skills, specialized experience will be included which directly relates to the electronics industry, such as types of drawings common to electronics, special symbols used, schematic diagrams and layout diagrams with an emphasis on printed circuit work.
- DFT 151 ARCHITECTURAL DRAFTING 3 (2-2-0)
 The purpose of this course is to provide basic instruction in preparing architectural working drawings and to serve as a future reference for design and construction principles and methods. It is intended to help the student develop the necessary technical skills which will enable him to communicate and express his architectural ideas in an understandable, efficient, and accurate manner.
- DFT 1001 DRAFTING I 6 (3-0-9)
 This course is an introduction to drafting and the study of drafting practices. Instruction is given in the selection, use and care of drawing instruments, lettering styles with special emphasis on Gothic single-stroke lettering, geometric construction, and sketching techniques consisting of orthographic projection and all types of pictorial. Instrument drawing of orthographic projection and dimensioning practices are fully developed. Methods of reproducing and control of drawings are explored.
- DFT 1002 DRAFTING II 6 (3-0-9)
 This course includes the application of orthographic projection principles for the more complex drafting problems, in-depth study of dimensioning and note practices as applied to the American Standards Association practices, primary and secondary auxiliary views, simple and successive revolutions and their applications to practical problems and an introduction to sections and conventions. Prerequisite: DFT 1001 or permission of instructor.
- DFT 1003 MECHANICAL DRAFTING I 6 (3-0-9)
 A thorough knowledge of manufacturing processes and methods will be gained through a unit on shop processes. Intersections and developments will be studied by relating drawings to the sheet metal trades. Models of the assigned drawings will be made from construction paper, cardboard, or similar materials as a proof of the solution to the problems drawn. Geometric tolerancing and methods of drawing axonometric, oblique, and perspective drawings will be studied. Principles of good design and working drawings will be developed. Prerequisite: DFT 1002.

- DFT 1004 ARCHITECTURAL DRAFTING 6 (3-0-9)
 This course is an introduction to architectural drafting. Construction details and design will be studied and working drawings will be prepared from preliminary sketches. FHA standards, building codes, and cost estimates will be studied. Prerequisite: DFT 1001 or permission of instructor.
- DFT 1104 BLUEPRINT READING 2 (1-0-3)
 Interpretation and reading of blueprints. Information on the basic principles of the blueprint: views, dimensioning procedures and notes.
- DFT 1105 BLUEPRINT READING: MECHANICAL 1 (0-0-3)
 Interpretation of blueprints as they are used in industry; study of prints supplied by industry; making plans of operations; introduction to drafting room procedures; sketching as a means of passing on ideas, information and processes.
- DFT 1110 BLUEPRINT READING: BUILDING TRADES 2 (1-0-3)
 Principles of interpreting blueprints and specifications common to the building trades. Development of proficiency in making three view and pictorial sketches. Prerequisite: None.
- DFT 1113 BLUEPRINT READING: ELECTRICAL 1 (0-0-3)
 Interpretation of schematics, diagrams and blueprints applicable to electrical installations with emphasis on electrical plans for domestic and commercial buildings. Sketching schematics, diagrams, and electrical plans for electrical installations using appropriate symbols and notes according to the applicable codes will be a part of this course. Prerequisite: DFT 1110 or DFT 1104.
- DFT 1116 BLUEPRINT READING: AIR CONDITIONING 1 (0-0-3)
 A specialized course in drafting for the heating, air conditioning and refrigeration student. Emphasis will be placed on reading of blueprints that are common to the trade; blueprints of mechanical components, assembly drawings, wiring diagrams and schematics, floor plans, and shop sketches. The student will make tracings of floor plans and lay out air conditioning systems. Prerequisite: DFT 1110.
- DFT 1117 BLUEPRINT READING: WELDING 3 (3-0-0)
 A thorough study of trade drawings in which welding procedures are indicated. Interpretation, use and application of welding symbols, abbreviations, and specifications. Prerequisite: DFT 1104.
- DFT 1118 PATTERN DEVELOPMENT AND SKETCHING 1 (0-0-3)
 Continued study of welding symbols; methods used in layout of sheet steel; sketching of projects, jigs and holding devices involved in welding. Special emphasis is placed on developing pipe and angle layouts by the use of patterns and templates. Prerequisite: DFT 1117.
- DFT 1121 DRAFTING I 8 (4-0-12)
 This course is an introduction to the field of drafting and the study of drafting practices. Instruction is given in the selection, use and care of drawing instruments, lettering styles with special emphasis on Gothic single-stroke lettering, geometric construction, free-hand sketching techniques consisting of orthographic instrument drawing (principal views). Methods of reproducing and control of drawings are explored.
- DFT 1122 DRAFTING II 6 (4-0-6)
 This course includes the application of orthographic projection principles to the more complex drafting problems, an in-depth study of dimensioning and note practices, primary and secondary auxiliary views, simple and successive revolutions and their applications to practical problems and an introduction to sections and conventions. Prerequisite: DFT 1121 or permission of instructor.
- DFT 1125 DESCRIPTIVE GEOMETRY 3 (2-0-3)
 A graphic analysis of space problems. Involving points, lines, planes, connectors, and a combination of these. Practical design problems are stressed with analytical verification where applicable. Visualization is stressed on every problem. Prerequisite: DFT 1121, MAT 1101.
- DFT 1131 MECHANICAL DRAFTING I 7 (3-0-12)
 An introduction to mechanical drafting beginning with problems concerning precision and limit dimensioning, methods of fastening materials, and fasteners: keys, springs, rivets, and welding. Intersections and developments will be studied by relating drawings to the sheet metal trades. Models of the assigned drawings will be made from construction paper, cardboard, or similar materials as a proof of the solution of the problems drawn. Included will be an introduction to electrical diagrams and piping drawings. Symbols will be studied and drawings will be made involving these items. Prerequisite: DFT 1122.
- DFT 1132 MECHANICAL DRAFTING II 7 (3-0-12)
 Methods of drawing and projected axonometric, oblique, and perspective drawings will be studied with emphasis on the practical applications of pictorial drawings. Various methods of shading will be introduced. The study of precision dimensioning, preparation of set of working drawings, assembly drawings, detail drawings and parts lists. Included will be a brief introduction to computer graphics, topographical drawings and mapping, and graphs and charts. Prerequisite: DFT 1131.

DRAMA

- DRA 151 DRAMA APPRECIATION 3 (2-2-0)
An introductory course in drama, with overviews of the history of the theater, and various aspects of play production. Particular attention is given to the actor's understanding and exercise of basic skills and techniques. The course is designed to develop imagination, self-awareness, and the ability of improvisation. Work in individual and group projects.

ECONOMICS

- ECO 251 MACROECONOMICS 5 (5-0-0)
The economic analysis of the economy as a whole. It includes such areas of study as total employment, total production, the business cycle, the general price level, and measures used to stabilize the level of business activity.
- ECO 252 MICROECONOMICS 5 (5-0-0)
The economic analysis of the problems of individuals, firms, and industries. It includes such areas as price determination, forces of supply and demand, competition, monopoly, and profit maximization. Prerequisite: ECO 251 or permission of the instructor.

EDUCATION

- EDU 100 INSTRUCTIONAL MEDIA 3 (2-2-0)
A study of the school media center, the course will include basic library techniques, operation and care of audiovisual equipment, proper use of and production of audiovisual materials.
- EDU 101 TEACHER'S AIDE INTERNSHIP 1 (0-0-10)
Each student will work for three quarters in an Iredell County school as a teacher's aide, assisting teachers in actual classroom work. Interns may work either at the kindergarten, elementary, or junior high level, and will assist the teachers in clerical work and instruction, as well as spending some time in observing classroom instructional strategies.
- EDU 102 TEACHER'S AIDE INTERNSHIP 1 (0-0-10)
A continuation of EDU 101.
- EDU 103 TEACHER'S AIDE INTERNSHIP 1 (0-0-10)
A continuation of EDU 102.
- EDU 261 INTRODUCTION TO EDUCATION 3 (3-0-0)
A survey of various phases of education and teaching. The course provides an introduction to the fundamental principles, techniques and procedures, objectives, and historical views in education. It is designed primarily for students entering the teaching profession.

ELECTRICITY

- ELC 112 ELECTRICAL FUNDAMENTALS I 8 (5-6-0)
A qualitative study of units of measurement, electrical quantities, simple circuits, electromotive forces, current, power, laws, basic electrical instruments and measurements, resistance, impedance and basic circuit components. Concepts taught are generally limited to fundamentals with very little emphasis placed on quantitative aspects. Laboratory work will teach the proper use and care of basic hand tools and the basic manual skills used in working with electricity. Measurement techniques and safety practices will be stressed throughout.
- ELC 113 ELECTRICAL FUNDAMENTALS II 6 (3-6-0)
A continuation of ELC 112. Introduction to magnetism, alternating current theory, sine wave analysis, inductance, capacitance, reactance, phase relationships, power and transformers. Prerequisite: ELC 112.
- ELC 211 ELECTRICAL MACHINES I 4 (3-3-0)
Principles, construction, characteristics, applications and control of direct current motors and generators. A study of AC motors and generators and speed control. Introduction to single phase and three phase power distribution, transformers, wye and delta connections and power instrumentation. Prerequisites: ELC 112, ELC 113.
- ELC 222 SOLID STATE CONTROLS 4 (3-3-0)
Introduction to static switching circuits and controls. Boolean algebra, static switching applications involving logic components, and design of control circuits. Dynamic controls involving solid state devices such as the transistor, integrated circuit, and digital readout. Minicomputers and their relationship to the control of machines and manufacturing processes will be studied. Prerequisite: ELN 219.

- ELN 122 ELECTRONICS II 7 (4-6-0)
 A continuation of Electronics I with special emphasis on the construction of amplifier circuits, circuit configurations, electrical characteristics and amplifier design procedure. Specific types of circuits will include: basic amplifiers, operational amplifiers, power supplies, oscillators, pulse circuits and modulation systems.
- ELN 202 ELECTRONIC COMMUNICATIONS SYSTEMS 7 (5-4-0)
 A study of electronic communications systems to include: AM, SSB, and FM transmitters and receivers. Specific areas of study will include: amplitude modulation techniques, frequency modulation, antennas, communications test equipment, and broadcast station requirements.
- ELN 203 MICROPROCESSORS 7 (4-6-0)
 A study of microprocessors and microcomputers. Topics covered include: microcomputer basics, number systems and codes, computer arithmetic, introduction to programming, operation of microprocessors, and interfacing techniques. Prerequisite: ELN 219.
- ELN 208 INDUSTRIAL ELECTRONICS 6 (5-2-0)
 A study of industrial electrical control systems to include starting, stopping, reversing, and speed control for electrical motors. Industrial electronic switching components to include SCR's, UJT's, diacs, relays, and gate controlled circuitry will be covered. Also, transducers to include photocells, temperature sensing devices, pressure gauges, etc. Open and closed loop systems will be considered as well as numerical control.
- ELN 219 DIGITAL FUNDAMENTALS 5 (3-4-0)
 Emphasizes the study of combinational and sequential logic circuits using discrete and integrated components. Topics include: binary arithmetic, numbering systems, Boolean algebra, storing, timing, gating, and counting. Typical applications in industry will be presented. Prerequisite: ELN 122.
- ELN 220 ELECTRONIC SYSTEMS 6 (4-4-0)
 The course consists of a functional block diagram analysis of a number of digital computer systems. Emphasis is placed on the mini-micro computer variety currently being used in industry. The lab will provide practice in manipulating the hardware and software associated with such computers. Prerequisite: ELN 203.
- ELN 246 ELECTRONICS DESIGN PROJECT 3 (1-4-0)
 A laboratory class emphasizing independent research and design work by the student. The student will select a project in consultation with the instructor; perform the required research; compile data, formulate a theoretical model; and construct, test, and evaluate a working model of the selected project. Prerequisite: ELN 203.
- ELN 1002 TROUBLESHOOTING TECHNIQUES 6 (3-0-9)
 An introduction to vacuum tubes and semiconductors with a study of their associated circuitry. Operating characteristics of RF and AF amplifiers. Principles of radio reception and troubleshooting techniques. Prerequisite: ELC 1001 or permission of the instructor.
- ELN 1003 TELEVISION SERVICING 6 (3-0-9)
 A study of black-and-white television receivers. Detailed study of all circuits of the TV receiver in classroom and laboratory sessions. Supervised servicing practice to develop skills in using test equipment to repair and maintain television and radio receivers. Prerequisite: ELN 1002 or permission of instructor.
- ELN 1004 INDUSTRIAL ELECTRONICS 6 (3-0-9)
 Theory of operation of the television circuits peculiar to color receivers. Practical test bench techniques including trouble shooting, alignment, and convergence. Continuation of Radio and Black & White Television Servicing. Prerequisite: ELN 1003 or permission of instructor.
- ELN 1118 INDUSTRIAL ELECTRONICS 5 (3-0-6)
 Basic theory, operating characteristics, and application of vacuum tubes such as diodes, triodes, tetrodes, pentodes, power supplied using diodes, and other basic applications.
- ELN 1119 INDUSTRIAL ELECTRONICS 5 (3-0-6)
 Basic industrial electronic systems such as motor controls, magnetic amplifier controls, welding control systems using thyatron tubes and other basic types of systems commonly found in most industries. Prerequisite: ELN 1118 or permission of instructor.

ENGINEERING

- EGR 151 INTRODUCTION TO GRAPHICS 3 (2-2-0)
 The purpose of this course is to provide beginning instruction in the fundamentals of mechanical drawing and will provide the necessary skills for the future study of mechanical, architectural, engineering or other technical drafting disciplines.

EGR 152 ENGINEERING GRAPHICS 3 (2-2-0)
 This course will be a continuation of EGR 151. Emphasis is placed on graphical analysis as a means for evaluating a design. Units of study include elements of descriptive geometry, advanced orthographic projection, sectional views, auxiliary views, revolutions, and developments and inter-sections.

ENGLISH

ENG 098 DEVELOPMENTAL ENGLISH 3 (1-4-0)
 Designed for students who need a review of basic grammar and composition skills before entering English 101 or 151. Institutional credit only.

ENG 101 GRAMMAR I 3 (3-0-0)
 A functional course designed to prepare technical students for day-to-day work experiences. Emphasis on grammar, vocabulary, and spelling.

ENG 101-5 GRAMMAR 3 (1-4-0)
 An in-depth study of grammar, vocabulary, and spelling. Designed as a functional course for the technical student.

ENG 102 COMPOSITION 3 (3-0-0)
 This course is designed to serve as a transition between ENG 101 and ENG 103. It deals with paragraph and essay development, and reinforces skills — spelling, vocabulary, and grammar. It serves to briefly introduce the rudiments of report writing.

ENG 102-5 COMPOSITION 3 (1-4-0)
 This course is designed to serve as a transition between ENG 101 and ENG 103. It deals with paragraph and essay development, and reinforces skills — spelling, vocabulary, and grammar. It serves to briefly introduce the rudiments of report writing.

ENG 103 TECHNICAL WRITING 3 (3-0-0)
 A continuation of functional English with an emphasis on the formats of various types of written reports, graphics, and the techniques of planning and organizing the long formal report. Prerequisite: ENG 102 or 102-5.

ENG 103-5 TECHNICAL WRITING 3 (1-4-0)
 An in-depth study of the format of various types of written reports, graphics, and the techniques of planning and organizing the formal report.

ENG 150 INTRODUCTION TO RESOURCE MATERIAL 1 (1-0-0)
 Introduction to the Learning Resources Center and instruction to effective usage of study materials available in the L.R.C. and other sources.

ENG 151 COMPOSITION I 3 (3-0-0)
 A course in expository writing designed to develop purpose and organization. Emphasis on topic sentence, paragraph patterns, formal outline, expository essay. Study of models. Review of grammar and spelling. Prerequisite: Satisfactory score on the English placement test.

ENG 151-5 COMPOSITION I 3 (1-4-0)
 A course for college transfer students who score low on English placement test. Includes, in addition to the above, concentrated review of grammar, punctuation, spelling, sentence structure.

ENG 152 COMPOSITION II 3 (3-0-0)
 Continuation of ENG 151. Essay patterns. Research techniques. Short literary papers. Study of short fiction. Prerequisite: ENG 151 or 151-5.

ENG 152-5 COMPOSITION II 3 (1-4-0)
 For students needing continued review of basic writing skills. Content same as ENG 152. Prerequisite: ENG 151 or 151-5.

ENG 153 COMPOSITION III 3 (3-0-0)
 Continuation of ENG 152. Literary essays using primary sources. Study of poetry and drama. Prerequisite: ENG 152 or 152-5.

ENG 153-5 COMPOSITION III 3 (1-4-0)
 For students needing continued review of basic writing skills. Study of grammar, spelling, punctuation, vocabulary, sentence structure. Literary essays using primary sources. Study of poetry and drama. Prerequisite: ENG 152 or ENG 152-5.

ENG 261 MAJOR BRITISH WRITERS 5 (5-0-0)
 A literary and historical study of Chaucer, Shakespeare, and Milton with related writing assignments. Prerequisite: ENG 153.

ENG 265 ENGLISH LITERATURE 5 (5-0-0)
 A survey of selected 19th and 20th century British authors with collateral readings from each period studied. Prerequisite: ENG 153.

- ENG 271 AMERICAN LITERATURE I** 3 (3-0-0)
A critical and historical survey of American literature from the Colonial period through the early Romantics. Prerequisite: ENG 153.
- ENG 272 AMERICAN LITERATURE II** 3 (3-0-0)
A continuation of the survey of American literature from the Romantics through the Realists. Prerequisite: ENG 153.
- ENG 273 AMERICAN LITERATURE III** 3 (3-0-0)
A continuation of the survey of American literature from the rise of Naturalism to the present time. Prerequisite: ENG 153.
- ENG 1102 COMMUNICATION SKILLS** 3 (3-0-0)
Designed to promote effective communication through correct language usage in speaking and writing.

FRENCH

- FRE 151 ELEMENTARY FRENCH I** 5 (5-0-0)
A beginning course for students who have never studied French. Much oral work, drill in grammatical principles, written composition, conversation, dictation, and pronunciation are stressed. French 151 and 152 are equivalent to two years of high school French. Senior colleges which require two years of a foreign language for admission normally accept these two courses for entrance credit or for six semester hours elective credit. Prerequisite: None.
- FRE 152 ELEMENTARY FRENCH II** 5 (5-0-0)
A continuation of FRE 151. Prerequisite: One year of high school school French or FRE 151.
- FRE 251 INTERMEDIATE FRENCH I** 5 (5-0-0)
A review of grammatical principles, composition, dictation, conversation, and reading. Knowledge of French culture is encouraged through projects and reports. Prerequisite: Two years of high school French or FRE 152.
- FRE 252 INTERMEDIATE FRENCH II** 5 (5-0-0)
A continuation of FRE 251. This is a study of selective readings from short stories and poetry. A major literary paper and oral report are required. Prerequisite: FRE 251.
- FRE 261 FRENCH LITERATURE I** 5 (5-0-0)
A survey of selective literature from the Middle Ages through the 18th Century with related writing assignments. Extensive reading, lectures, and reports in French are required. Prerequisite: FRE 252.
- FRE 262 FRENCH LITERATURE II** 5 (5-0-0)
A survey of selective literature from the 19th and 20th centuries, with related writing assignments. Prerequisite: FRE 252.

GEOGRAPHY

- GEO 261 PHYSICAL GEOGRAPHY** 5 (5-0-0)
The earth's astronomical relations, factors of weather and climate, and physical features.
- GEO 262 WORLD REGIONS AND ECONOMIC GEOGRAPHY** 5 (5-0-0)
Relations of human activities to the larger geographic regions of the world. Geographic factors involved in production, distribution, consumption, and conservation of the major crops, minerals and industries of the world.

HEALTH EDUCATION

- HEA 251 FIRST AID AND SAFETY** 3 (3-0-0)
Principles and practices as applied to emergency first aid, safety in the home, school and community.
- HEA 252 PERSONAL HEALTH** 3 (3-0-0)
The basic biologic and social concepts dealing with individual hygiene, disease, nutrition, mental health, heredity, and family hygiene.
- HEA 253 COMMUNITY HEALTH** 3 (3-0-0)
The basic principles and problems of contemporary community health and school hygiene are investigated. Topics include health education, recognition, evaluation and prevention of today's health problems, and trends in health.

HISTORY

- HIS 151 HISTORY OF WESTERN CIVILIZATION I 5 (5-0-0)
An eclectic approach to the history of Western Civilization from prehistoric times through the civilization of Egypt, Mesopotamia, Greece, Rome, and Medieval Europe to about 1650. The course is designed to prepare the student for life in the world community by providing him a knowledge of those events of the past which have shaped the present and will influence the future.
- HIS 152 HISTORY OF WESTERN CIVILIZATION II 5 (5-0-0)
A continuation of History of Western Civilization (151) covering the period from 1650 to the present. The course is designed to afford the student an opportunity to examine the major historical forces which have shaped the political, intellectual, material, and cultural setting of the present.
- HIS 161 NORTH CAROLINA HISTORY 5 (5-0-0)
A survey of the history of North Carolina from the Colonial Era to the present with emphasis on development since the Civil War.
- HIS 251 U. S. HISTORY I 5 (5-0-0)
The backgrounds of history, settlement, constitutional development, and union, along with manifest destiny and developing sectionalism. The course covers the period through 1865.
- HIS 252 U. S. HISTORY II 5 (5-0-0)
Course covers Reconstruction, the progressive movement, World War I, and American history to the present. The student will become more aware of his nation as a part of the world community through this course.
- HIS 261 NINETEENTH CENTURY EUROPE 3 (3-0-0)
An in-depth survey of European history from 1815 to 1914. A cause and effect approach is used to trace the growth of nationalism and liberalism, the development of socialism, and the imperialism which brought turbulence throughout much of the century and eventually triggered World War I.
- HIS 271 TWENTIETH CENTURY EUROPEAN HISTORY 3 (3-0-0)
A consideration of the history of twentieth century Europe, beginning with the background of World War I, the political innovations between wars, World War II and its aftermath, and the significant political, social and cultural events which shaped the present. In addition to a factual examination, the student will relate historical events with his own situation.
- HIS 272 CIVIL WAR AND RECONSTRUCTION 3 (3-0-0)
A study of the American people during the crisis of the war and post-war periods with emphasis on the causes of the war, the national and international impact, and the political, economic and social aspects of the Reconstruction.
- HIS 273 TWENTIETH CENTURY U. S. HISTORY 3 (3-0-0)
A history of the United States from 1932 to the present. Special emphasis is given to the changing political, economic and intellectual aspects of American democracy from the New Deal to the present.

INDUSTRIAL SAFETY

- ISC 1101 INDUSTRIAL SAFETY 3 (3-0-0)
A study of the overall picture of the accident toll for the nation's population. It is designed to establish safe work habits in performing the occupation. Principles of accident prevention, injury sources and causes, accident costs, job safety analysis, accident investigation, methods of promoting safe practice, safety education and training, first aid, lifting — manually and mechanically, and fire prevention and protection are some of the topics discussed.

MATHEMATICS

- MAT 096 DEVELOPMENTAL MATHEMATICS 3 (1-4-0)
Designed for students who need a review of the basics before taking MAT 151. Topics include expressing numbers, whole numbers, number theory, fractions, decimals, ratio and proportion, and percentages. Institutional credit only.
- MAT 121 TECHNICAL MATHEMATICS I 5 (5-0-0)
This course is a study of basic algebra and its application to electronics theory. The course is designed for students in the Electronics Engineering Technology program. Topics include operations on algebraic numbers, exponents and radicals, metric prefixes, equations, factoring and fractions quadratic equations, and applications to electrical circuits. Students are introduced to the usage of electronic calculators to solve for a variety of electrical math problems and formulas.
- MAT 122 TECHNICAL MATHEMATICS II 5 (5-0-0)
This course is designed for the Electronics Engineering Technology program. The course is a study of trigonometric functions and their applications to alternating currents. Topics include solutions of triangles and vector problems, periodic functions, phasor algebra, and alternating currents in series and parallel circuits. Prerequisite: MAT 121 or equivalent.

- MAT 123 TECHNICAL MATHEMATICS III** 5 (5-0-0)
 An introduction to the basic concepts of differential and integral calculus with applications to electronic circuits. Topics include functions, rates, derivatives, maxima and minima, integrals, and integration techniques. Prerequisite: MAT 122 or equivalent.
- MAT 151 FUNDAMENTALS OF MATHEMATICS** 5 (5-0-0)
 Designed to give insight into the nature and structure of mathematics. Topics include a study of sets of numbers, properties of real numbers, polynomials, equations, inequalities, and graphs. Structured for liberal arts majors.
- MAT 161 COLLEGE ALGEBRA** 5 (5-0-0)
 A modern approach to college algebra with emphasis on the logical structure of this discipline. Topics include numbers, sets, functions, graphs, equations, inequalities, matrices and determinants, the binomial theorem, and theory of equations.
- MAT 162 TRIGONOMETRY** 5 (5-0-0)
 A continuation of MAT 161. Topics include those found in a traditional trigonometry course, with major emphasis on the analytical, rather than the numerical approach.
- MAT 171 INTRODUCTORY STATISTICS** 5 (5-0-0)
 The course will include distributions, computation of averages and measures of dispersion, probability distributions, elements of sampling, correlation, prediction, tests of hypothesis. Offered on demand. Prerequisite: MAT 161 or 151.
- MAT 191 CONCEPTS AND TECHNIQUES OF CALCULUS** 5 (5-0-0)
 A brief treatment of basic concepts of differential and integral calculus with applications to business, economics and the social and life sciences; polynomial, exponential and logarithmic functions. Prerequisite: MAT 161 or permission of instructor.
- MAT 251 CALCULUS I** 5 (5-0-0)
 This beginning course in calculus offers a review of analytical geometry and is a study of the derivative, its inverse, theorems, and applications. Special attention is placed on the ideas of limits and continuity. This course is designed for mathematics, science, or engineering majors. Prerequisite: MAT 161 or three years of high school mathematics.
- MAT 252 CALCULUS II** 5 (5-0-0)
 A continuation of MAT 251. Includes integration and its applications, conic sections, limits and continuity. Prerequisite: MAT 251.
- MAT 253 CALCULUS III** 5 (5-0-0)
 A continuation of MAT 252. The course includes exponential and logarithmic integration and differentiation, parametric equations, polar coordinates, methods of integration and further applications of the integral. Prerequisite: MAT 252.
- MAT 1101 ESSENTIALS OF MATHEMATICS** 5 (5-0-0)
 Practical number theory is the basis for this course. Analysis of basic operations; addition, subtraction, multiplication, and division are included. Other topics studied are fractions, decimals, powers and roots, percentages, ratio and proportion. Some work with solid and plane geometric figures is undertaken as well; specifically, determinations of volume and surface areas. Extensive practice is required. The student is also exposed to basic algebra.
- MAT 1102 ALGEBRA** 5 (5-0-0)
 A presentation of basic concepts and operations of algebra; algebraic operations; addition, subtraction, multiplication, and division; fractions, letter representation, grouping, factoring, ratio and proportion, graphical and algebraic solution of first degree equations; solution of simultaneous equations by addition and subtraction; substitution, graphing exponents, logarithms, tables and interpolation, and slide rule. Prerequisite: MAT 1101.
- MAT 1103 APPLIED TRIGONOMETRY** 3 (3-0-0)
 This course is designed to meet the needs of drafting students who will later apply trigonometric principles to surveying. Topics studied will include determining the area and volume of irregular figures, applying given formulas to calculate the radius of an inscribed or circumscribed circle, conversion between different units of area and volume, use of logarithms, solving triangles by trigonometric relationships, converting between rectangular and polar coordinates and graphing of the trigonometric functions. Prerequisite: MAT 1102.
- MAT 1115 ELECTRICAL MATHEMATICS** 5 (5-0-0)
 An introductory algebra course with vectors needed in alternating current. Algebraic operations of addition, subtraction, multiplication, and division; use of letters and signs, grouping, factoring, exponents, ratios, algebraic and graphic solutions of equations, introduction to graphs, right triangles and vectors.

MECHANICS

- MEC 1001 MACHINE SHOP THEORY AND PRACTICE I 6 (3-0-9)
Machine Practice I is designed to acquaint the student with machine shop safety rules, regulations, and practices; the use and care of basic machine shop tools and instruments; and the operation of common machines used in the machine shop trades.
- MEC 1002 MACHINE SHOP THEORY AND PRACTICE II 6 (3-0-9)
A continuation of Machine Practice I to further develop knowledge and skill in the use of lathes, drills, grinders, and milling machines. Prerequisite: MEC 1001 or permission of instructor.
- MEC 1003 MACHINE SHOP THEORY AND PRACTICE III 6 (3-0-9)
Basic Machine Practice II is a course designed to further develop knowledge of machines, shop practices, safety procedures, and the application of tools, instruments, and equipment. Prerequisite: MEC 1002 or permission of instructor.
- MEC 1004 MACHINE SHOP THEORY AND PRACTICE IV 6 (3-0-9)
In this course lecture and laboratory will be coordinated to provide extended knowledge and experience in operations as related to production and quality controls; specialized applications of various machines, and general machine shop support. Laboratory practice will enable the student to develop a high degree of operation skill on selected machines. Prerequisite: MEC 1003 or permission of instructor.
- MEC 1101 MACHINE SHOP THEORY AND PRACTICE I 7 (3-0-12)
An introduction to the machinist trade and the potential it holds for craftsmen. Deals primarily with the identification, care and use of basic hand tools and precision measuring instruments. Elementary layout procedures of lathe, drill press, grinding (off-hand) and milling machines will be introduced both in theory and practice.
- MEC 1102 MACHINE SHOP THEORY AND PRACTICE II 7 (3-0-12)
Advanced operations in layout tools and procedures, power sawing, drill press, surface grinder, milling machine shaper. The student will be introduced to the basic operations on the cylindrical grinder and will select projects encompassing all the operations, tools and procedures thus far used and those to be stressed throughout the course. Prerequisite: MEC 1101 or permission of instructor.
- MEC 1103 MACHINE SHOP THEORY AND PRACTICE III 7 (3-0-12)
Advanced work on the engine lathe, turning, boring and threading machines, grinders, milling machine and shaper. Introduction to lathing, cutting and measuring of spur, helical, and worn gears and wheels. The trainee will use precision tools and measuring instruments such as vernier height gages, protractors, comparators, etc. Basic exercises will be given on the turret lathe and on the tool and cutter grinder. Prerequisite: MEC 1102 or permission of instructor.
- MEC 1104 MACHINE SHOP THEORY AND PRACTICE IV 7 (3-0-12)
Development of class projects using previously learned procedures in planning, blueprint reading, machine operations, final assembly and inspection. Additional processes on the turret lathe, tool and cutter grinder, cylindrical and surface grinder, advanced milling machine operations, etc. Special procedures and operations, processes and equipment, observing safety procedures faithfully and establishment of good work habits and attitudes acceptable to the industry. Prerequisite: MEC 1103 or permission of instructor.
- MEC 1110 MACHINE PROCESSES I 3 (2-0-3)
An introduction to basic machine operations in relation to manufacturing processes and drafting. Deals primarily with the identification, care and use of basic hand tools and precision — measuring instruments. Elementary layout procedures and processes of lathe, drill press, grinding (off-hand) and milling machines will be introduced both in theory and practice. Safety in the shop is stressed.
- MEC 1111 MACHINE PROCESSES II 3 (2-0-3)
Advanced operations in layout tools and procedures, lathe, power saw, drill press, surface grinder, milling machine shaper. The student will complete selected projects encompassing all the operations, tools, and procedures thus far used and those to be stressed throughout the course. Prerequisite: MEC 1110 or permission of instructor.
- MEC 1115 PHYSICAL METALLURGY 4 (3-0-3)
Investigates the physical properties and characteristics of various ferrous metals and non-ferrous metals and their alloys and methods used to change those properties and characteristics to better serve industrial purposes. Instruction will include methods of changing physical characteristics and properties, methods of production, methods of shaping and forming, heat and surface treatments, and classification of ferrous and nonferrous metals. Prerequisite: PHY 1101 or permission of instructor.

- MEC 1120 DUCT CONSTRUCTION AND MAINTENANCE** 5 (3-0-6)
 Study of various duct materials including sheet steel, aluminum, and fiber glass. Safety, sheet metal hand tools, cutting and shaping machines, fasteners and fabrication practices, layout methods, and development of duct systems. The student will service various duct systems and perform on-the-site repairs including ducts made of fiber glass. A study is made of duct fittings, dampers and regulators, diffusers, heater and air washers, fans, insulation and ventilating hoods. Prerequisite: DFT 1110, AHR 1123.
- MEC 1126 HEAT TREATMENT** 4 (2-0-6)
 Working knowledge of the methods of treating ferrous and non-ferrous metals. The effects of hardening, tempering, and annealing upon the structure and physical properties of metals. Trainees will be given the opportunity to acquaint themselves with the equipment and processes of heat training.
- MEC 1133 MECHANICAL MAINTENANCE** 7 (4-0-9)
 To acquaint the student with the basic fundamentals of installation, maintenance and repair of machines. Miscellaneous electrical, mechanical, hydraulic, pneumatic, and lubrication devices are installed and maintained. Methods of rigging and machine installation, including location, leveling and fastening are covered. The use of precision measuring tools and checking for accuracy, squareness, and correct center line distances are stressed for pre-start inspection. Prerequisite: MEC 1101, DFT 1104, DFT 1113.
- MEC 1140 HYDRAULICS — FUNDAMENTALS** 3 (3-0-0)
 This course is arranged to give the student a general knowledge of the basic components of hydraulic systems, as well as a general understanding of the basic laws and formulas used in simple hydraulic calculations. Topics included are: the use of standard hydraulic symbols, pumps, control valves, control assemblies, actuators, and basic maintenance procedures.

MUSIC

- MUS 149 INTRODUCTION TO SIGHT SINGING** 2 (2-0-0)
 This course is designed for pre-music majors or other interested persons with little or no background in sight reading music. Solfege or moveable "do" is used to study the melodic and rhythmic elements of music using different keys, tempos and meters. Initially, emphasis is placed on scalewise passages and triads but gradually progresses to more difficult melodies.
- MUS 150 INTRODUCTION TO MUSIC THEORY** 3 (3-0-0)
 This course is designed for pre-music majors with little or no music theory background or non-music majors. Topics included are staff, notes, octave placement, clefs, scales (major and minor), rhythm, rhythmic notation, and meter signatures.
- MUS 151 MUSIC THEORY I** 3 (3-0-0)
 A coordinated course combining the study of notation, clefs, modes, scales, intervals, and triads. Elementary structure of music such as motive, phrases, cadences. Must be taken concurrently with Music 154.
- MUS 152 MUSIC THEORY II** 3 (3-0-0)
 A continuation of MUS 151 with the following additions: principles of part writing, elementary survey of music literature for form and analysis. Must be taken concurrently with MUS 155. Prerequisite: MUS 151.
- MUS 153 MUSIC THEORY III** 3 (3-0-0)
 A continuation of MUS 152 with the following additions: introduction of seventh chords and the study of non-harmonic tones. Must be taken concurrently with MUS 156. Prerequisite: MUS 152.
- MUS 154 SIGHT-SINGING AND DICTATION I** 2 (2-0-0)
 The study of melodic and rhythmic elements of music using the moveable "do." Rhythmic and melodic dictation involving scale, and major and minor intervals. Emphasis on hearing mentally what is seen. Must be taken concurrently with MUS 151.
- MUS 155 SIGHT-SINGING AND DICTATION II** 2 (2-0-0)
 A continuation of MUS 154. Must be taken concurrently with MUS 152. Prerequisite: MUS 154.
- MUS 156 SIGHT-SINGING AND DICTATION III** 2 (2-0-0)
 A continuation of MUS 155. Must be taken concurrently with MUS 153. Prerequisite: MUS 155.
- MUS 160 CHOIR I** 1 (0-5-0)
 The choir offers extensive training in choral technique, part singing, and interpretation. At various times during the year concerts and other programs are presented in the Statesville area: at Mitchell, in churches, and in high schools, according to ability and progress of the group, as determined by the director. Each prospective member must be auditioned and approved by the director.
- MUS 161 CHOIR II** 1 (0-5-0)
 A continuation of MUS 160.

MUS 162	CHOIR III	1 (0-5-0)
	A continuation fo MUS 161.	
*MUS 170	PIANO I LESSON	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	Major scales and arpeggios. Keyboard harmony with the principal triads. The music literature will include works from the Renaissance, Baroque, Classical, Romantic, and 20th Century eras. Music majors only.	
*MUS 170	PIANO CLASS I	1 (1-0-0)
	Learning to read and keep time with five degree pattern in major and minor. Three principal triads. Major scales. Ensemble pieces. Open to all students.	
*MUS 171	PIANO II LESSON	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A continuation of MUS 170 with the addition of the minor scales. The dominant seventh chord with its inversions. Prerequisite: MUS 170. Music majors only.	
*MUS 171	PIANO CLASS II	1 (1-0-0)
	Minor scales. Triads in inversions. Sight reading studies. Ensemble pieces. Playing in compound meter. Folk and popular music using chord symbols. Prerequisite: MUS 170 Piano Class. Open to all students.	
*MUS 172	PIANO III LESSON	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A continuation of MUS 171 with the addition of the diminished seventh chord and its inversions. Prerequisite: MUS 171. Music majors only.	
*MUS 172	PIANO CLASS III	1 (1-0-0)
	Arpeggios. Damper Pedal. Chromatic scale. Literature from Baroque, Classical, and Romantic. Prerequisite: MUS 171 Piano Class. Open to all students.	
*MUS 173	VOICE I LESSON	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	Emphasis upon voice production, studies in scales, arpeggios, phrasing, vowel, and consonant formations with coordinated breath support. Repertoire consisting of early Italian material, art songs, folk songs, sacred material and a study of vocal material from each period in Music History. Participation in choir and recitals is required of all voice students unless exempted because of hardship.	
*MUS 173	VOICE CLASS I	1 (1-0-0)
	Emphasis upon voice production, studies in scales, arpeggios, phrasing, vowel, and consonant formations with coordinated breath support. Songs will vary according to individual and group needs.	
*MUS 174	VOICE II LESSON	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A continuation of MUS 173 Lesson. Prerequisite: MUS 173.	
*MUS 174	VOICE CLASS II	1 (1-0-0)
	A continuation of Voice Class 173. Prerequisite: MUS 173.	
*MUS 175	VOICE III LESSON	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A continuation of MUS 174 Lesson. Prerequisite: MUS 174.	
*MUS 175	VOICE CLASS III	1 (1-0-0)
	A continuation of Voice Class 174. Prerequisite: MUS 174.	
*MUS 176	ORGAN I LESSON	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	Manual and pedal exercises; fundamentals of voice-leading; trios; chorale preludes; easier Romantic and contemporary pieces; hymn playing. Participation in choir and recitals is required of all organ students unless exempted because of hardship.	
*MUS 176	ORGAN CLASS I	1 (1-0-0)
	Manual and pedal exercises; fundamentals of voice-leading; hymn playing. Other music pieces will be used according to individual and class needs.	
*MUS 177	ORGAN II LESSON	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A continuation of MUS 176 Lesson. Prerequisite: MUS 176.	
*MUS 177	ORGAN CLASS II	1 (1-0-0)
	A continuation of Organ Class 176. Prerequisite: MUS 176.	
*MUS 178	ORGAN III LESSON	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A continuation of MUS 177 Lesson. Prerequisite: MUS 177.	
*MUS 178	ORGAN CLASS III	1 (1-0-0)
	A continuation of Organ Class 177. Prerequisite: MUS 177.	
*MUS 179	STRINGS I	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	Emphasis on tone production, bow control, scales, arpeggios, etudes (Waeftort). Easier violin music.	
*MUS 180	STRINGS II	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A continuation of MUS 179. Prerequisite: MUS 179.	

*MUS 181	STRNGS III	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A continuation of MUS 180. Prerequisite: MUS 180.	
MUS 182	CONDUCTING	2 (1-2-0)
	The elements of choral conducting, designed primarily for prospective choir directors. Must be elected simultaneously with choir. Prerequisite: MUS 151.	
MUS 188	BAND ENSEMBLE	1 (0-3-0)
	Group experience offered in wind instruments, playing classical, pep, and jazz music. The Band plays for programs, home basketball games, and civic groups.	
MUS 189	BAND ENSEMBLE	1 (0-3-0)
	A continuation of MUS 188.	
MUS 190	BAND ENSEMBLE	1 (0-3-0)
	A continuation of MUS 189.	
MUS 191	BRASS CLASS I	1 (1-0-0)
	Emphasis placed on proper breath control, embouchure, and position, as well as good tone production and intonation. Materials and literature will be chosen on the basis of individual and class needs.	
MUS 192	BRASS CLASS II	1 (1-0-0)
	A continuation of Brass Class 191. Prerequisite: MUS 191.	
MUS 193	BRASS CLASS III	1 (1-0-0)
	A continuation of Brass Class 192. Prerequisite: MUS 192.	
MUS 251	MUSIC THEORY IV	3 (3-0-0)
	Modulation. Secondary dominant. Study of part-writing. Survey of music literature for the harmonic and form analysis. Keyboard harmony. Must be taken concurrently with MUS 254. Prerequisite: MUS 151, MUS 152, MUS 153.	
MUS 252	MUSIC THEORY V	3 (3-0-0)
	A continuation of MUS 251 with the addition of: the dominant chord, the diminished seventh chord, and the Neapolitan sixth chord. Must be taken concurrently with MUS 255. Prerequisite: MUS 251.	
MUS 253	MUSIC THEORY VI	3 (3-0-0)
	A continuation of MUS 252 with the addition of: the Italian, French, and German sixth chords, the ninth, eleventh and thirteenth chords, and principles of conducting. Prerequisite: MUS 252. Must be taken concurrently with MUS 256.	
MUS 254	SIGHT-SINGING AND DICTATION IV	2 (2-0-0)
	A continuation of the study of melodic and rhythmic elements in music along with harmonic dictation, using altered chords, modulation, and non-harmonic tones. Must be taken concurrently with MUS 251. Prerequisite: MUS 156.	
MUS 255	SIGHT-SINGING AND DICTATION V	2 (2-0-0)
	A continuation of MUS 254. Prerequisite: MUS 254. Must be taken concurrently with MUS 252.	
MUS 256	SIGHT-SINGING AND DICTATION VI	2 (2-0-0)
	A continuation of MUS 255. Prerequisite: MUS 255. Must be taken concurrently with MUS 253.	
MUS 260	CHOIR IV	1 (0-5-0)
	Same as MUS 160.	
MUS 261	CHOIR V	1 (0-5-0)
	A continuation of MUS 260.	
MUS 262	CHOIR VI	1 (0-5-0)
	A continuation of MUS 261.	
*MUS 270	PIANO IV	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	All technical exercises in rhythms. Preludes and Fugues by Bach, or French Suites, Mozart or Beethoven Sonatas or Concertos. Other literature will include works of Schumann, Chopin, and Brahms. Participation in choir and recitals is required unless exempted because of hardship. Each student at this level who is a piano major is required to participate in Sophomore recital. Prerequisite: MUS 172.	
*MUS 271	PIANO V	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A continuation of MUS 270. Prerequisite: MUS 270.	
*MUS 272	PIANO VI	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A continuation of MUS 271. Prerequisite: MUS 271.	
*MUS 273	VOICE IV	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A more detailed study of voice. A continued study of the scales, arpeggios, diction, and phrasing, but in more progressive studies. Repertoire consisting of English, Italian, French and German songs. Study in oratorio and opera. Each student at this level who is a voice major is required to participate in Sophomore recital. All voice students must participate in choir unless exempted because of hardship. Prerequisite: MUS 175.	

*MUS 274	VOICE V	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A continuation of MUS 273. Prerequisite: MUS 273.	
*MUS 275	VOICE VI	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A continuation of MUS 274. Prerequisite: MUS 274.	
*MUS 276	ORGAN IV	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	Easy to moderately difficult works of Bach, including the "Little Organ Book"; representative works of similar difficulty from Baroque, Romantic, and contemporary literature; further study of hymn and service playing. Participation in choir and recitals is required unless exempted because of hardship. Each student at this level who is an organ major is required to participate in Sophomore recital. Prerequisite: MUS 178.	
*MUS 277	ORGAN V	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A continuation of MUS 276. Prerequisite: MUS 276.	
*MUS 278	ORGAN VI	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A continuation of MUS 277. Prerequisite: MUS 277.	
*MUS 279	STRINGS IV	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A continuation of MUS 181. Prerequisite: MUS 181.	
*MUS 280	STRINGS V	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A continuation of MUS 279. Prerequisite: MUS 279.	
*MUS 281	STRINGS VI	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A continuation of MUS 280. Prerequisite: MUS 280.	
MUS 285	MUSIC APPRECIATION I	3 (3-0-0)
	Stressed is the listening of music, including its elements, styles, and a brief survey of music history of the Middle Ages, Renaissance, and Early Baroque. Open to all students.	
MUS 286	MUSIC APPRECIATION II	3 (3-0-0)
	A continuation of MUS 285 with the addition of a brief historical survey of the Late Baroque, Classical, and Early Romantic eras.	
MUS 287	MUSIC APPRECIATION III	3 (3-0-0)
	A continuation of MUS 286 with the addition of a brief historical survey of the Late Romantic, Post-Romantic, and Twentieth Century eras.	
MUS 288	BAND ENSEMBLE	1 (0-3-0)
	Same as MUS 188.	
MUS 289	BAND ENSEMBLE	1 (0-3-0)
	A continuation of MUS 288.	
MUS 290	BAND ENSEMBLE	1 (0-3-0)
	A continuation of MUS 289.	
MUS 291	BRASS AND WOODWIND INSTRUMENTS	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A more intensive study of proper instrument technique and appropriate materials and literature. Prerequisite: MUS 193.	
MUS 292	BRASS AND WOODWIND INSTRUMENTS	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A continuation of MUS 291. Prerequisite: MUS 291.	
MUS 293	BRASS AND WOODWIND INSTRUMENTS	1 (1-6-0), 2 (1-9-0), or 3 (1-12-0)
	A continuation of MUS 292. Prerequisite: MUS 292.	

*Private lessons are open to full-time students only, with first preference given to music majors. Classes are designed for students who are not music majors.

NURSING

- NUR 101 FUNDAMENTALS OF NURSING** 8 (5-2-6)
This course acquaints the student with basic nursing theory and skills with an overall emphasis in meeting patient needs through the life span. The student is introduced to each of the major concepts in the conceptual framework of the program. The nursing process, man's basic needs and body systems are the primary concepts. Developmental theories throughout the life span, communication skills, stress-adaptation theory, the health-illness continuum, and the nurse's role are all introduced as basic concepts utilized in nursing care. Provisions are made for the application of classroom knowledge and skills in an on-campus laboratory and in the hospital setting. The student is expected to develop a beginning confidence in the performance of skills utilizing appropriate techniques. Prerequisites: None.
- NUR 111 MEDICAL/SURGICAL NURSING I** 12 (7-2-12)
This course emphasizes the use of communication skills and the nursing process in helping patients meet their basic needs and cope with the stresses of surgery, integumentary, musculoskeletal, and gastrointestinal disorders throughout the life span with a concentration on disorders of the adult. Clinical experience is integrated with theory to give students the opportunity to achieve increased skills in the performance of selected nursing procedures. The use of the nursing process is stressed in the clinical area. Clinical activities are designed to reinforce classroom learning. Prerequisites: PSY 151, BIO 252, NUR 101.
- NUR 112 MEDICAL/SURGICAL NURSING II** 10 (6-0-12)
This course emphasizes the use of communication skills and the nursing process in helping patients meet their basic needs and cope with the stresses of cardiovascular, fluid/electrolyte balance, respiratory, endocrine and reproductive disorders throughout the life span with a concentration on disorders of the adult. Clinical experience is integrated with theory to give students the opportunity to achieve increased skills in the performance of selected nursing procedures. The use of the nursing process is stressed in the clinical area. Clinical activities are designed to reinforce classroom learning. Prerequisite: NUR 111, BIO 253.
- NUR 113 MEDICAL/SURGICAL NURSING III** 10 (6-0-12)
This course emphasizes the use of communication skills and the nursing process in helping patients meet their basic needs and cope with the stresses of neurological and renal disorders throughout the life span with a concentration on disorders of the adult. In addition, the course stresses the specialized needs of the oncological and critically ill patient. Clinical experience is integrated with theory to give students the opportunity to achieve increased skills in the performance of selected nursing procedures. The use of the nursing process is stressed in the clinical area. Clinical activities are designed to reinforce classroom learning. Prerequisites: NUR 112, BIO 254.
- NUR 212 PEDIATRIC NURSING** 10 (6-0-12)
This course is designed to present content relevant to the nursing care of children with major health problems. The various topics are organized to show how the nursing process is used to meet the needs of children from infancy through adolescence. Prerequisites: PSY 262, NUR 113 and BIO 255
- NUR 213 OBSTETRICAL NURSING** 10 (6-0-12)
This course is designed to present content relevant to the nursing needs and care of childbearing families. The various topics are organized to show how the nursing process can be used to meet the needs of patients from conception through the newborn period. Prerequisites: BIO 255, NUR 113 and PSY 262.
- NUR 214 PSYCHIATRIC NURSING** 7 (4-0-9)
The course deals with the role of the nurse in the care of the emotionally disturbed individual who may or may not be confined to a hospital at some point in his illness. The concept of stress as a factor in mental health is recognized and the difficulties that are experienced by various age groups are explored. A variety of treatment modalities and approaches are examined. The theories of personality development as taught by the social sciences are reviewed and utilized. The history of the management of care for individuals with emotional problems is covered as well as current trends in delivery of care and legal aspects of psychiatry. Prerequisites: NUR 113, 212 and 213; PSY 264.
- NUR 215 LEADERSHIP AND TRENDS IN NURSING** 6 (3-0-9)
The course emphasizes the leadership role of the registered nurse. Current trends, transitional concerns and the need for continuing education are emphasized. Ethics, accountability, and legal aspects of practice are discussed. Transition to the role of the graduate is stressed. Prerequisites: NUR 113, 212 and 213.

- NUR 1101 BASIC SCIENCE** 5 (4-2-0)
 A basic knowledge of physical and chemical principles and their application to medicine and/or nursing. Development of understanding of human anatomical structures, physiological processes and their relation to each other through lecture and laboratory practice. Brief study of microbiology, the identification, growth, environment, and control of microorganisms.
- NUR 1102 FUNDAMENTALS OF NURSING** 8 (6-2-4)
 An introduction to the basic principles underlying effective and safe nursing care utilizing the nursing process. The holistic concept of man and Maslow's hierarchy underlies the nursing care. Emphasis placed on preventive and restorative nursing care and the rationale underlying the actions taken.
- NUR 1104 MEDICAL/SURGICAL NURSING I** 12 (8-0-12)
 An introduction to concepts basic to the understanding of the health-illness continuum; the relationship of the body and mind to health; a discussion of commonly abused substances; and the management of common emergency situations. Development of an understanding of the aging process, the needs of the geriatric patient, and how these needs translate into nursing care problems. An understanding of the problems and nursing care needs of patients with dysfunction of the endocrine system, cardiovascular system, reproductive system, and various illnesses which may produce disfigurement. Clinical experience is integrated with classroom theory to give students the opportunity to achieve beginning skills in the performance of selected nursing procedures. Experience in planning, meeting and charting some simple needs of hospitalized patients. Prerequisites: NUR 1101, 1102, NUT 151.
- NUR 1106 PHARMACOLOGY** 3 (3-0-0)
 A study of safe techniques for oral and parenteral drug administration. Knowledge of drug sources, methods of preparation and storage. Also gain knowledge of equipment, skill in use of sterile technique used in preparation and giving injectable medication. Classification of drugs by use and content. Review of adding, subtracting, multiplying fractions and decimals. Systems and from system to system. Legal aspects of medication preparation. Prerequisites: NUR 1101, 1102, NUT 151.
- NUR 1107 MATERNAL/CHILD NURSING** 16 (10-0-18)
 Basic anatomy of the male and female reproductive systems. Presentation of modern aspects of maternity nursing. The nursing care of the normal obstetrical patient and newborn child; detailed nursing care of patients during antepartum, labor, and postpartum periods. Care of patients with complications associated with pregnancy, and care of the premature infant. Emphasis on provision of better and safer nursing care of the expectant mother and child. Following the maternity component, a comparison of normal growth and development patterns of the child from the newborn period through adolescence. Examination of the physical differences between the child and the adult; the effects of hospitalization for common pediatric disorders. Clinical experience is integrated with classroom theory to provide students with continued practice in psychomotor skills and problem solving. Experience in planning, meeting and charting simple needs of obstetric and pediatric patients. Prerequisites: NUR 1104, 1106, PSY 151.
- NUR 1109 MEDICAL/SURGICAL NURSING II** 16 (10-0-18)
 Continuation of NUR 1104 providing principles and concepts of simple and complex rehabilitative nursing. Providing the student with opportunity to develop additional knowledge and skill necessary to meet the needs of the more dependent patient. Clinical experience is integrated with classroom theory to give students continued opportunity to develop skill in utilizing the nursing process. Experience, planning, meeting and charting more complex needs of hospitalized patients and also concepts of rehabilitative nursing. Prerequisite: NUR 1107.
- NUR 1111 VOCATIONAL ADJUSTMENTS** 3 (3-0-0)
 A study of the legal and ethical responsibilities of the LPN. Discussions are centered around opportunities for employment and the obligations assumed upon employment. North Carolina nursing law and professional organizations are discussed. Prerequisite: NUR 1107.

NUTRITION

- NUT 151 NUTRITION** 3 (3-0-0)
 Development of understanding of the basic concepts of normal nutrition and how these interrelate to meet the needs of normal individuals throughout the life span. An appreciation of how illness affects the nutritional needs of the body and the basic principles related to dietary treatment of various common disorders.

ORIENTATION

- ORI 150 COLLEGE ORIENTATION 1 (0-2-0)
College Orientation will emphasize study skills: taking effective notes, reading and marking textbooks, and studying for and taking examinations. Supportive skills (concentration and retention) and specialized skills (studying science, mathematics, and foreign language) will also be covered. In addition, the student will be introduced to time management and use of the library.

PHILOSOPHY

- PHI 151 INTRODUCTION TO ETHICAL DECISION MAKING 3 (3-0-0)
This course will have two major parts to it. Approximately one-third of the course will be devoted to a quick survey of various philosophical approaches to ethical decision making. The remaining two-thirds of the quarter will be devoted to a study of contemporary philosophical issues. The purpose of the course is to enable the student to see and understand the dimensions of ethical discourse and thereby make rational ethical decisions.

PHOTOGRAPHY

- PHO 1135 PHOTOGRAPHY FOR PRINTERS 4 (2-0-6)
A beginning course in photography for printing students. Areas included are operation of a camera, developing film, printing pictures by contact and projection, and methods of lighting.

PHYSICAL EDUCATION

Each physical activity course may be repeated as often as the student desires, but the same physical activity course will be counted only twice for graduation.

The physical education program of activity courses has been designed to give the student knowledge of a program to carry with him when he leaves school and to aid in his physical conditioning while he is in school. For these reasons, credit by examination may not be given for activity courses.

The College does not provide transportation to any off-campus Physical Education activity.

- PED 150 ARCHERY 1 (0-2-0)
A course designed to teach the student the fundamental skills of the target bow and arrow.
- PED 151 BADMINTON 1 (0-2-0)
A course designed to teach the student the rules, regulations and fundamental skills of badminton.
- PED 152 BALLET AND MODERN DANCE 1 (0-2-0)
An introduction to the fundamentals and techniques of ballet and modern dance.
- PED 153 BASKETBALL 1 (0-2-0)
A course designed to teach the students basic basketball technique with emphasis placed on rules, regulations and fundamental skills.
- PED 154 BOWLING 1 (0-2-0)
A course designed to teach the students the fundamental skills of bowling.
- PED 155 CONDITIONING 1 (0-2-0)
A course designed to teach the student basic conditioning techniques with an overall objective of physical fitness.
- PED 156 FENCING 1 (0-2-0)
A course designed to teach the student the rules, regulations, and fundamental skills of fencing.
- PED 157 GOLF 1 (0-2-0)
A course designed to teach the student the rules, regulations, etiquette and fundamental skills of beginning golf.
- PED 158 SOCCER 1 (0-2-0)
A course designed to teach the fundamental skills of team soccer with an emphasis placed on team play, skills, rules, and regulations.
- PED 159 SOFTBALL 1 (0-2-0)
A course designed to teach the basic fundamental skills of softball. Emphasis is placed on conditioning, rules, and skills.
- PED 160 TENNIS 1 (0-2-0)
A course designed to teach basic fundamental tennis, with emphasis placed on skills, rules and regulations.
- PED 161 VOLLEYBALL 1 (0-2-0)
A course designed to teach the basic skills of volleyball with emphasis placed on team play, rules and regulations.
- PED 162 WEIGHT TRAINING 1 (0-2-0)
A course designed to teach fundamental skills related to weight training with an emphasis placed on body conditioning and control.

PED 164	VARSITY BASKETBALL	1 (0-5-0)
PED 165	VARSITY GOLF	1 (0-5-0)
PED 166	VARSITY TENNIS	1 (0-5-0)
	PED 164, 165, and 166 are courses designed for skilled students to participate against each other to improve skills and understandings of advanced techniques, rules and regulations. Students in these classes may be permitted to participate in inter-collegiate student activities.	
PED 167	HORSEBACK RIDING	1 (0-2-0)
	A course designed to teach the fundamental skills in relation to riding horses. Included in the course will be riding (English and Western), cleaning, feeding, and stabling the horse.	
PED 168	TOUCH FOOTBALL	1 (0-2-0)
	A course designed to teach the basic fundamental skills of touch football. Emphasis is placed upon rules, safety, skill and conditioning.	
PED 169	GYMNASTICS	1 (0-2-0)
	A course designed to teach basic tumbling, floor exercise, conditioning, safety, and trampoline maneuvers.	
PED 170	SKIING	1 (0-3-0)
	A course designed to give information concerning safety in skiing, equipment, clothing, and techniques of skiing used on the slopes.	
PED 171	INTERMEDIATE GOLF	1 (0-2-0)
	A course designed to teach intermediate golf skills to the student. Emphasis is based on the non-beginner skills.	
PED 172	BEGINNING KARATE	1 (0-2-0)
	A course designed to teach basic self-defense. Included are blocks, counter punches, and proper kicking techniques. Also stressed are mental and physical conditioning related to the martial art of Tae Kwan Do Karate.	
PED 173	INTERMEDIATE KARATE	1 (0-2-0)
	A course designed for the Karate enthusiast who desires a more complete knowledge of self-defense, punching and kicking techniques. The use of Karate forms (Cata) to help develop mental and physical attributes needed for the Karate enthusiast.	
PED 174	INTERMEDIATE GYMNASTICS	1 (0-2-0)
	A course designed to allow students who have completed the basic gymnastic course to further their degree of proficiency in gymnastics. Intermediate Gymnastics exercises include more partner stunts, trampoline routines, and the teamwork involved in preparing and giving a gymnastic exhibition.	
PED 175	INTERMEDIATE TENNIS	1 (0-2-0)
	A course designed to teach strategy and execution of successful skills used in a tennis match. Emphasis is placed on execution at forehand, backhand, serve, volley, and doubles play and strategy.	
PED 177	INTERMEDIATE SKIING	1 (0-2-0)
	A course designed for those who desire to attain a higher degree of skiing proficiency. Emphasis is placed on actual skiing techniques with a more appreciable knowledge of equipment, clothing, and conditioning needed for skiing.	
PED 178	COMPETITIVE BASKETBALL	1 (0-2-0)
	A course designed to teach all aspects of the competitiveness of basketball. Emphasis is placed on team play and the intramural aspects of the game of basketball.	
PED 179	SWIMMING	1 (0-2-0)
	A course designed to teach and improve basic swimming strokes, water safety, diving, and to promote general fitness.	
PED 180	WRESTLING	1 (0-2-0)
	A course designed to teach the fundamental skills of beginning wrestling. Emphasis is placed on skills related to freestyle and collegiate wrestling as well as rules and regulations.	
PED 181	TETHERBALL	1 (0-2-0)
	A course designed to teach the basic fundamentals of exercise, eye-hand contact, and conditioning in relation to tetherball.	
PED 182	INTRODUCTION TO LIFETIME SPORTS	1 (0-2-0)
	A course designed to teach activities which are available to all individuals in their lifetime. A brief introduction to the following leisure time sports: bowling, golf, tennis, billiards, archery, badminton, and physical fitness.	
PED 183	JOGGING	1 (0-2-0)
	A course designed to teach proper methods and techniques for devising a jogging program. Emphasis placed on basic fundamentals for fitness and health.	

PED 184	MODERN DANCE	1 (0-2-0)
	An introduction to the steps and techniques in modern dancing.	
PED 185	BEGINNING AMERICAN AND WESTERN SQUARE DANCE	1 (0-2-0)
	An introduction to the steps, moves and techniques associated with square dancing.	
PED 186	INTERMEDIATE AMERICAN AND WESTERN SQUARE DANCE	1 (0-2-0)
	A continuation of the remaining moves and techniques associated with square dancing.	
PED 187	BEGINNING CLOGGING	1 (0-2-0)
	The basic techniques of clogging are introduced in this course. Clogging routines, performance and execution are emphasized.	
PED 188	INTERMEDIATE CLOGGING	1 (0-2-0)
	A continuation of beginning clogging with more emphasis placed upon group routines and group performance.	
PED 189	ADVANCED CLOGGING	1 (0-2-0)
	A third level of clogging with emphasis on polish, group work, and performance. Prerequisites: PED 188 or permission of instructor.	
PED 190	AEROBIC DANCE	1 (0-2-0)
	A course designed to teach the student basic concepts and patterns of aerobic dance to ensure fitness and muscle tone through continuous, rhythmic exercise.	
PED 191	WATER SKIING	1 (2-0-0)
	A course designed to teach the fundamental skills of skiing on water. Included are safety, equipment, equipment care, fundamentals and slalom.	
PED 251	INTRODUCTION TO PHYSICAL EDUCATION	3 (3-0-0)
	An introduction to the historical, philosophical, and scientific development of physical education as related to general education.	

PHYSICS

PHY 151	ASTRONOMY I	5 (4-2-0)
	An introduction to the basic concepts of solar system astronomy. The course will include a study of: history of astronomy, astronomical measurements, astronomical instruments, sun, earth-moon, system, planets, asteroids, comets, meteors, and constellations.	
PHY 152	ASTRONOMY II	5 (4-2-0)
	An introduction to the basic concepts of stellar and galactic astronomy. The course will include a study of astronomical measurements, astronomical instruments, stars, nebulae, interstellar matter, galaxies, radio astronomy, quasars, pulsars, black holes, and cosmology.	
PHY 201	RADIOLOGICAL PHYSICS	4 (3-2-0)
	This course is an introduction to Physics as it relates to Radiology. Some of the topics that will be studied are: motion, force, energy, electricity, magnetism, electromagnetism, electromagnetic radiation, Atomic physics, and Nuclear Physics.	
PHY 271	GENERAL PHYSICS I	4 (3-3-0)
	This is the first quarter of a three quarter sequence of study in the basic principles of physics. This quarter covers the fundamental concepts of the nature of physics and classical mechanics. The basic topics included are measurement, general properties of matter, vector analysis, kinematics, dynamics, statics, and the conservation of momentum and energy.	
PHY 272	GENERAL PHYSICS II	4 (3-3-0)
	This is the second quarter of General Physics. This quarter covers the fundamental concepts of non-linear motion, heat energy, and electricity. The basic topics included are rotation, vibration, wave motion, fluids, thermal expansion, heat transfer, thermodynamics, electrostatics and current electricity. Prerequisite: PHY 271.	
PHY 273	GENERAL PHYSICS III	4 (3-3-0)
	This is the final quarter of General Physics. This quarter covers the fundamental concepts of electromagnetism, light, and modern physics. The basic topics included are magnetism, electromagnetic induction, geometrical and physical optics, atomic and nuclear physics, relativity and quantum mechanics. Prerequisite: PHY 272.	
PHY 1101	APPLIED SCIENCE I	4 (3-2-0)
	An introduction to physical principles and their application in industry. Topics include measurement; properties of solids, liquids, and gasses; basic electrical principles.	
PHY 1102	APPLIED SCIENCE II	4 (3-2-0)
	A continuation of PHY 1101. Topics include heat, thermometry, principles of force, motion, work, energy and power. Prerequisite: PHY 1101.	

POLITICAL SCIENCE

- POL 251 AMERICAN NATIONAL GOVERNMENT 5 (5-0-0)
A survey course covering the organization and role of the Executive, Legislative and Judicial branches of the Federal Government, emphasizing such areas as business, national security, civil rights, the relationship between the American people and their political institutions, the electoral process, interest groups, and the international commitments of the United States.
- POL 261 STATE AND LOCAL GOVERNMENT 5 (5-0-0)
A study of the organization, functions and powers of state, county, and local governments in the United States, with emphasis on the state of North Carolina.
- POL 271 INTERNATIONAL RELATIONS 3 (3-0-0)
A study of basic forces underlying the conduct of international relations and the formation of foreign policy, with emphasis on the role of the United States in its relations with major areas of the world today.
- POL 272 COMPARATIVE GOVERNMENT 3 (3-0-0)
An intensive study of the political structure of various nations, including some nations from Asia, Europe, Africa, Latin America, as well as the United States.
- POL 274 CONSTITUTIONAL LAW 3 (3-0-0)
A study of the development of American Constitutional Law chiefly through judicial opinion, with emphasis on freedom of speech, rights of persons accused of crime, civil liberties, and separation of church and state.

PSYCHOLOGY

- PSY 150 CAREER AND LIFE PLANNING 3 (3-0-0)
This course is designed to broaden the students' understanding of himself, his potential, and related factors which contribute to personal satisfaction. Emphasis is placed on clarifying current values, interests, and personality styles so that these factors may be carefully considered in learning to set personal goals, develop career decision-making skills, and acquire techniques for self-management.
- PSY 151 INTRODUCTION TO PSYCHOLOGY 5 (5-0-0)
A study of general psychology as a behavioral science. The course introduces the students to such areas as the history and systems of psychology, sensation, perceptions, learning, emotions, motivation, conditioning, personality, abnormal behavior, development (physical and mental), and social interaction with other people and society. The course will stress the development of a sensitivity toward an awareness of the complexity of human behavior, as well as the development of the basic vocabulary of psychology.
- PSY 201 APPLIED PSYCHOLOGY 3 (3-0-0)
An examination of the problems in human relationships with special attention given to the development of those human relation skills necessary for effective interactions. Topics covered include: adjustment, attitude, communication, habits, listening, frustration, motivation, and the job-finding process.
- PSY 203 ADOLESCENT PSYCHOLOGY 3 (3-0-0)
A course designed to present basic information about the adolescent period of human development. Physiological, developmental, and psychological characteristics are examined, with special focus on the identification and understanding of problems faced by adolescents in western culture. Prerequisite: PSY 151 or permission of instructor.
- PSY 206 PSYCHOLOGY OF PERSONAL ADJUSTMENT I 3 (3-0-0)
A survey of psychological theories of personality as they relate to dealing effectively with the adjustment demands of everyday life. Topics covered include: theories of personality and behavior, self-concept and self-esteem, stress and anxiety, constructive coping, human relationships (friends, marriage, and other intimate relationships), and human sexuality.
- PSY 207 PSYCHOLOGY OF PERSONAL ADJUSTMENT II 3 (3-0-0)
The study of the adjustment process, focusing on contemporary challenges individuals must face and deal with in the environment. Topics covered include problems and issues, the adjustment process, social factors influencing personal adjustment (prejudice, aggression and violence drugs) environmental factors influencing personal adjustment (population, environmental stressors, city life), and directions for healthy personality functioning.
- PSY 261 EDUCATIONAL PSYCHOLOGY 5 (5-0-0)
The study of the principles involved in learning and teaching. Major concepts and theories in knowledge acquisition will be covered with emphasis on their educational application. Topics included are: age-level behavior characteristics, educational theories and their application to learning, motivation, individual differences, assessment, classroom control, and student/teacher relationships. Prerequisite: PSY 151 or permission of instructor.

PSY 262 HUMAN GROWTH AND DEVELOPMENT 5 (5-0-0)
An integrated study of the human life span structured to introduce basic concepts and principles of the stages of physiological and psychological development from conception to senescence. Emphasis is on personality development. Consideration is given to the common chronological processes of development and the sociological, biological, and cultural influences experienced throughout the life span. Prerequisite: PSY 151 or permission of instructor.

PSY 264 ABNORMAL PSYCHOLOGY 5 (5-0-0)
A course designed to introduce the learner to theories relating to abnormality. Topics covered include: definitions and history, three perspectives on abnormal behavior, psychosis, suicide and depression, criminal behavior, psychosomatic disorders, brain disorders, mental retardation, and high risk groups. Prerequisite: PSY 151.

PSY 1101 HUMAN RELATIONS 3 (3-0-0)
A study of the principles of psychology that will be of assistance in the understanding of interpersonal relations on the job. Motivation, feelings, and emotions are considered with particular reference to on-the-job problems. Other topics investigated are employee selection, supervision, job satisfaction, and industrial conflicts. Attention is also given to personal and group dynamics so that the student may learn to apply the principles of mental hygiene to adjustment problems as a worker and a member of the general community.

READING

RDG 092 DEVELOPMENTAL READING I 3 (1-4-0)
Designed for the student who needs instruction in word recognition and/or basic comprehension skills before entering Reading 094. Instruction will be individualized. Institutional credit only.

RDG 094 DEVELOPMENTAL READING II 3 (1-4-0)
Designed for the student who needs reading instruction, this course will emphasize development of effective study skills and improvement of reading rate, comprehension, and vocabulary. Institutional credit only.

RDG 1101 VOCATIONAL READING IMPROVEMENT 3 (3-0-0)
Designed for the vocational student, this course provides an individualized framework that allows the student to concentrate on his own particular weaknesses and to progress at his own rate. Major objectives are to improve word attack skills, vocabulary, comprehension, and reading rate, through the use of multi-media materials. Required of all vocational students.

RELIGION

REL 151 INTRODUCTION TO THE OLD TESTAMENT 3 (3-0-0)
This course is intended to be a survey of the Old Testament touching on the principal themes such as creation, the entrance of sin into human life, and redemption. The course will also involve an historical survey relating the Biblical literature to the surrounding cultures that affected the life of Israel. The student should emerge from the course with a better understanding of the Biblical literature of the Old Testament.

REL 152 INTRODUCTION TO THE NEW TESTAMENT 3 (3-0-0)
This course will be an introduction to the New Testament material through a study of the Gospels, Acts, and selected materials from the Epistles of the New Testament. It is recommended that the student should take the Old Testament introduction the first quarter in preparation for this second quarter. This is a suggestion and not a prerequisite: The student should emerge from this introduction to the New Testament with a deeper understanding of the Christian faith which is important to the understanding of our contemporary culture.

REL 153 THE RELIGIONS OF MAN 3 (3-0-0)
This course surveys the religions of man, beginning with the early primitive religion of prehistoric man, and ending with contemporary developments in Eastern and Western Religion. Special emphasis is given to Hinduism, Buddhism, Zen, Taoism, Confucianism, Judaism, Christianity, and Islam. The purpose of this course is to enable the student to appreciate the faith of other men, and to become aware of major spiritual forces in the world today.

SOCIOLOGY

SOC 151 INTRODUCTION TO SOCIOLOGY 5 (5-0-0)
This course begins with the definition and classification of things which pertain to human interaction. Definition of words and concerns with sociological concepts make it a typical introductory course. The scope of the course is wide enough so that most sociological problems are briefly mentioned.

SOC 261 COURTSHIP, MARRIAGE, AND THE FAMILY 5 (5-0-0)
This course deals with the nature of self which is preparatory for a discussion of courtship. The emotional and down-to-earth problems of marriage are examined in considerable detail. Such problems as marital adjustment, divorces, re-marriages, careers and marriage, and in-laws are considered. The developing family is traced, and the necessity for maturity before marriage is considered. Prerequisite: SOC 151 or permission of the instructor.

SOC 271 SOCIAL PROBLEMS 3 (3-0-0)
This course introduces the sociological approach to viewing social problems, and surveys possible causes and solutions to the following problem areas: physical and mental health, variations in human sexuality, chemical dependency, crime and criminals, violence, affluence and poverty, and prejudice and discrimination. Prerequisite: SOC 151 is recommended.

SOC 272 SOCIAL PROBLEMS 3 (3-0-0)
This course reviews the sociological approach to social problems, and surveys possible causes and solutions to problems related to the following topics: sex roles, aging, family stress, big business, employment, urban living, population growth, and the environment. Prerequisite: SOC 151 is recommended.

SPANISH

SPA 151 ELEMENTARY SPANISH I 5 (5-0-0)
A beginning course for students who have never studied Spanish. Much oral work, drill in grammatical principles, written composition, conversation, dictation, and pronunciation are stressed. SPA 151 and 152 are equivalent to two years of high school Spanish. Senior colleges which required two years of foreign language for admission normally accept these two courses for entrance credit or for six semester hours elective credit. Prerequisite: None.

SPA 152 ELEMENTARY SPANISH II 5 (5-0-0)
A continuation of SPA 151. Prerequisite: One year of high school Spanish or SPA 151.

SPA 251 INTERMEDIATE SPANISH I 5 (5-0-0)
A review of grammatical principles, composition, conversation, dictation, and reading. Knowledge of Spanish and Hispanic American culture is encouraged through projects and reports. Prerequisite: Two years of high school Spanish or SPA 152.

SPA 252 INTERMEDIATE SPANISH II 5 (5-0-0)
A continuation of SPA 251. This is a study of selective readings from short stories and poetry. A major literary paper and oral report are required. Prerequisite SPA 251.

SPA 261 SPANISH LITERATURE I 5 (5-0-0)
A survey of selective literature from the Middle Ages through the 18th Century with related writing assignments. Prerequisite: SPA 252.

SPA 262 SPANISH LITERATURE II 5 (5-0-0)
A survey of selective literature from the 19th and 20th Centuries, with related writing assignments. Prerequisite: SPA 252.

SPEECH

SPH 251 PUBLIC SPEAKING 3 (3-0-0)
A basic course in public speaking designed to give the student the poise and confidence necessary for thinking and speaking freely before an audience. Set goals in preparation and delivery of different types of speeches will be met largely by means of practice with guidance.

SPH 252 VOICE AND DICTION 3 (3-0-0)
Practical applications of the student's knowledge of the principles of public speaking, progressing to the more complex speaking situation. More emphasis is placed on written critiques and listening aids. Suggested for students planning to major in Education, Liberal Arts, and supporting fields. Prerequisite: SPH 251.

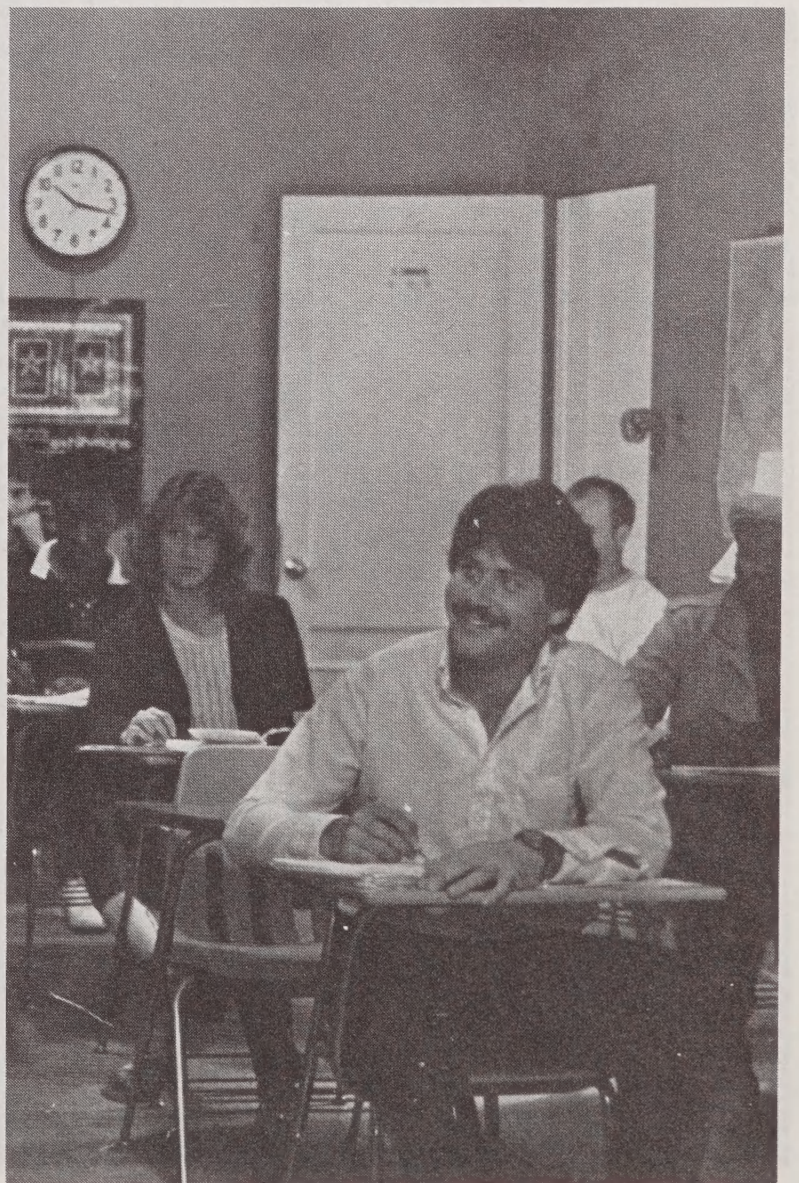
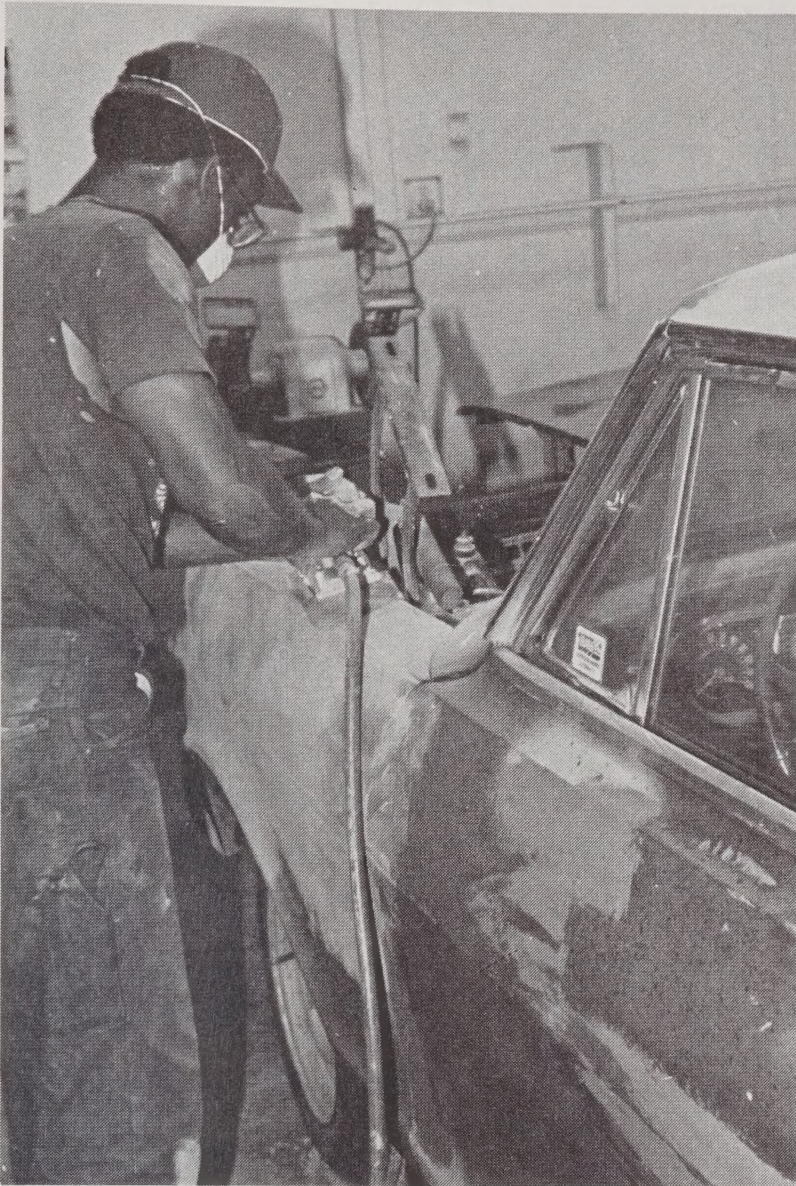
WELDING

WLD 1001 ARC WELDING AND OXY-ACETYLENE CUTTING 6 (3-0-9)
A course consisting of the operation of AC/DC transformers/rectifier welding units and a study of heats, polarities, and electrodes used in joining various metal alloys. Surface and fillet welds made in the basic welding positions will be evaluated by the instructor to determine weaknesses in the student's procedure and/or technique. This course will also introduce the student to the oxy-acetylene cutting process. Studies will consist of operation principles, equipment function, set-up, and adjustment. Practices will include straight-line and contour cutting, beveling, and hole piercing. Students will operate both manual and machine cutting equipment. Safety will be stressed throughout the course. Prerequisite: None.

- WLD 1002 ARC WELDING AND OXY-ACETYLENE WELDING 6 (3-0-9)
This course involves further studies of the shielded metal arc welding process. Practices will be directed toward the student acquiring proficiency in producing quality welds; including fillet and groove welds in the basic welding positions. The course will also cover oxy-acetylene welding. Studies will include fundamentals of operation, equipment function, selection, set-up, and maintenance. Welding procedures such as surface, fillet, and groove welding will be covered; including oxy-acetylene braze welding. Safety procedures are emphasized throughout the course. Prerequisite: None.
- WLD 1003 INERT GAS WELDING AND INTRODUCTION TO PIPE WELDING 6 (3-0-9)
A course intended to equip the student with a sound understanding and skills in the use of the inert gas welding processes, MIG and TIG welding. Studies will involve process theory, equipment set-up, adjustment, and maintenance. Practices will include surface, groove and fillet welds in the flat, vertical, horizontal and overhead positions. Also the student will be introduced to basic pipe welding procedures. Studies will include the welding of pressure piping in the horizontal, vertical, and horizontal fixed positions using the shielded metal arc welding process. Practices will be directed toward the student gaining proficiency in producing code quality welds. Safety procedures will be stressed. Prerequisite: WLD 1002 or permission of instructor.
- WLD 1004 COMMERCIAL AND INDUSTRIAL PRACTICES 6 (3-0-9)
Practice in simulated industrial processes and techniques; sketching and laying out a paper the size and shape of description; listing the procedure steps necessary to build the product; following these directions to build the product. A study of maintenance, repairing worn or broken parts by special welding applications, field welding and nondestructive tests and inspections. Prerequisite: WLD 1001, 1002 or approval of instructor.
- WLD 1101 BASIC WELDING (GAS) 2 (1-0-3)
Welding demonstrations by the instructor and practice by students in the welding shop. Safe and correct methods of assembling, adjusting, and operating the welding equipment. Practice will be given in surface welding, bronze welding, fillet welding, and flame-cutting methods applicable to mechanical repair work. Prerequisite: None.
- WLD 1102 BASIC WELDING (ARC) 2 (1-0-3)
This course consists of a study of the fundamentals of the shielded metal arc process. Topics include arc welding principles, machine set-up and adjustment, electrode selection, and process applications. Practices are directed toward the student acquiring skills in such welding techniques as running beads, fillet, and groove welds. Safety procedures in the use of equipment and tools will be stressed throughout the course. Prerequisite: None.
- WLD 1112 MECHANICAL TESTING AND INSPECTION 2 (1-0-3)
The standard methods for mechanical testing of welds. Introduction to the various types of tests and testing procedures. Types of tests to be covered are: bend, destructive, free-bend, guided-bend, nick-tear, notched-bend, tee-bend, nondestructive, V-notch, Charpy impact. Prerequisite: WLD 1120, 1121.
- WLD 1114 INERT GAS WELDING — MIG 4 (2-0-6)
A course designed to provide the student with an understanding of the gas metal arc welding process. Topics will include principles of operation, machine set-up and adjustment, selection of consumables, and welding techniques. Practice will include seam, fillet, and groove welds in the four basic welding positions. Prerequisite: None.
- WLD 1116 INERT GAS WELDING — TIG 4 (2-0-6)
A course providing the student an understanding of the gas tungsten arc welding process. Studies will include process applications, principles, variations and the selection of equipment and consumables. Practice will cover seam, fillet, and groove welds in the basic welding positions; and welds made on carbon steel, stainless steel and aluminum. Prerequisite: WLD 1120.
- WLD 1118 OXYACETYLENE CUTTING 2 (1-0-3)
This course will include a study of operation principles, component function and care, and proper set-up and adjustment of the oxyacetylene flame cutting equipment. Practices are directed toward the student acquiring skills in such procedures as straight line and shape cutting, beveling, hole piercing, and pipe cutting. Throughout the course safety will be emphasized. Prerequisite: None.
- WLD 1120 OXYACETYLENE WELDING 5 (2-0-9)
Introduction to the history of oxyacetylene welding; the principles of welding, nomenclature of equipment, and assembly of the unit. Welding procedures, and practice will consist of carrying a puddle; making surface, seam, groove, and fillet welds in the flat, horizontal, vertical, and overhead positions. Brazing and bronze welding are also covered. Safety is stressed throughout the course. Prerequisite: None.

- WLD 1121 ARC WELDING 7 (3-0-12)
 The operation of AC and AC/DC rectifier welding machines. Studies are made of welding heats, polarities, and electrodes used in joining metals by the shielded metal arc process. After the student is capable of running beads, fillet and groove welds are made in all positions and tested so the student may detect weaknesses and improve his welding technique. Safety procedures are stressed throughout the course. Prerequisite: None.
- WLD 1122 COMMERCIAL AND INDUSTRIAL PRACTICES 5 (2-0-9)
 Practice in simulated industrial processes and techniques; sketching and laying out a paper the size and shape of description; listing the procedure steps necessary to build the product; following these directions to build the product. A study of maintenance, repairing worn or broken parts by special welding applications, field welding and nondestructive tests and inspections. Prerequisites: WLD 1120, 1121.
- WLD 1124 INTRODUCTION TO PIPE WELDING 4 (2-0-6)
 A course designed to provide practice in the welding of pressure piping in the horizontal, vertical, and horizontal fixed positions using the shielded metal arc welding process according to section IX of the ASME code. Prerequisite: WLD 1121.
- WLD 1125 CERTIFICATION PRACTICE 4 (2-0-6)
 Practice in welding the various materials to meet certification standards. Use of various tests, including the guided bend and the tensile strength tests, to check the quality of work. Emphasis placed on attaining skill in producing quality welds. Prerequisites: WLD 1120, 1114, 1116, 1124.









**MITCHELL COMMUNITY COLLEGE
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