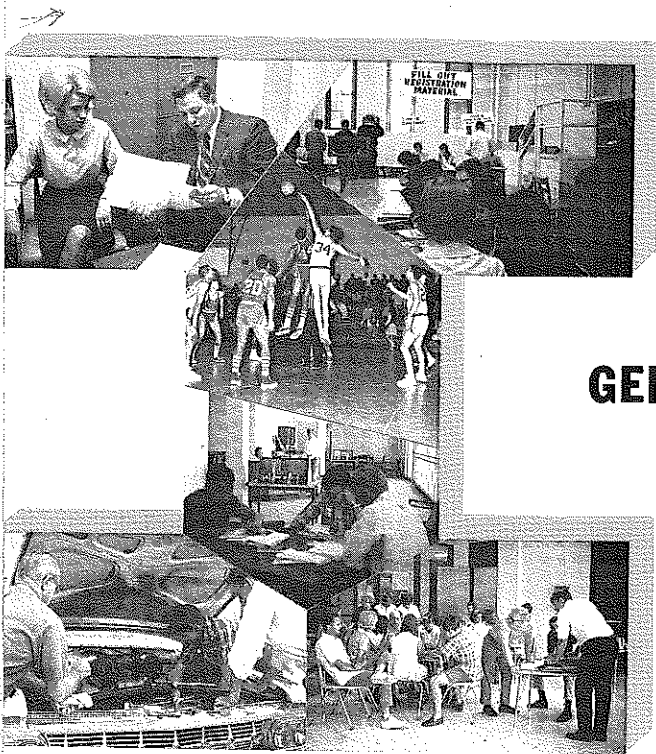


**GENERAL CATALOG  
1968-70**

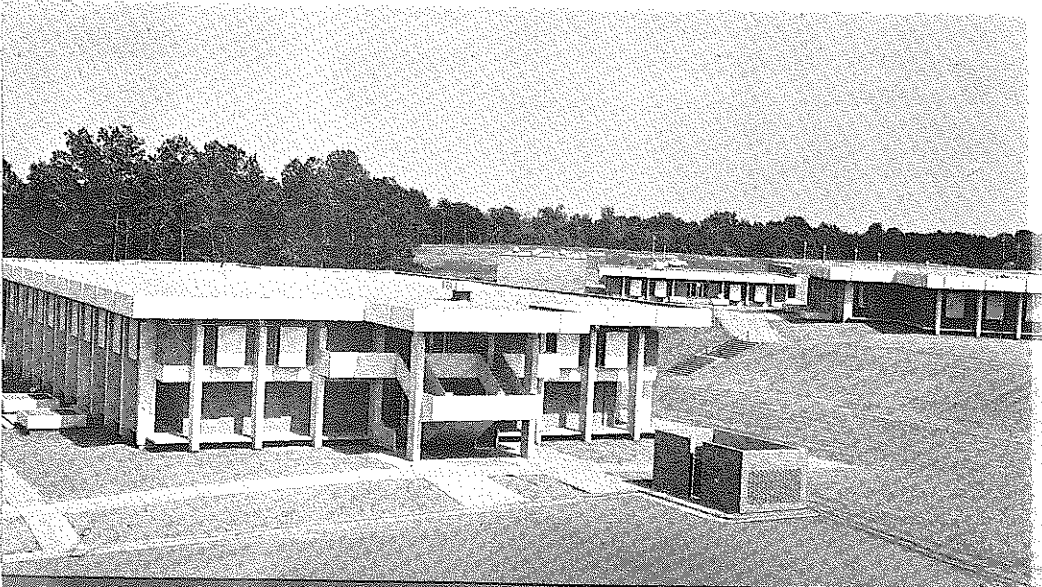
**ISOTHERMAL COMMUNITY  
COLLEGE**





**GENERAL CATALOG  
1968-70**

**ISOTHERMAL COMMUNITY  
COLLEGE**





**ISOTHERMAL COMMUNITY COLLEGE**  
**SPINDALE, NORTH CAROLINA**

**GENERAL CATALOG**

Announcements For  
1968-1970

**ISOTHERMAL COMMUNITY COLLEGE CATALOG**

Volume 3

July, 1968

Isothermal Community College Catalog is published annually by Isothermal Community College, Spindale, North Carolina 28043. Issued in July.  
Third Class postage paid in Spindale, North Carolina.



# TABLE OF CONTENTS

	PAGE
COLLEGE CALENDAR .....	5
MESSAGE FROM THE PRESIDENT .....	9
BOARD OF TRUSTEES, ADMINISTRATIVE STAFF, AND STAFF PERSONNEL .....	10
FACULTY .....	11
GENERAL INFORMATION .....	13
HISTORY OF THE COLLEGE	LEARNING LABORATORY
PURPOSE	OFFICE HOURS
OBJECTIVES	CHANGES IN REGULATIONS
ACCREDITATION	TRAFFIC REGULATIONS
LIBRARY FACILITIES	EVENING DIVISION
ADMISSION INFORMATION .....	15
ADMISSIONS PROCEDURES	APPOINTMENT CARDS
DIVISIONAL REQUIREMENTS	TUITION AND FEES
TRANSFER REQUIREMENTS	REFUND POLICY
GRADUATION	BOOKSTORE
REGISTRATION	STUDENT ACTIVITY FEE
ACADEMIC INFORMATION .....	18
CLASS ATTENDANCE	COURSE NUMBERING
ACADEMIC CONTINUATION	GRADE REPORTS
GRADING SYSTEM	STUDENT CLASSIFICATION
REPEATING COURSES	GRADUATION REQUIREMENTS
WITHDRAWAL FROM THE COLLEGE	COMMENCEMENT EXERCISES
SCHEDULE CHANGES	HONORARY COMMENCEMENT
ACADEMIC LOAD	USHERS
EXAMINATIONS	ACADEMIC HONORS
STUDENT SERVICES .....	22
OFFICE OF STUDENT PERSONNEL SERVICES	STUDENT ACTIVITIES AND ORGANIZATIONS
STUDENT COUNSELING CENTER	ORIENTATION
PLACEMENT SERVICE	TRANSCRIPTS
HEALTH SERVICES	CLASS RINGS, GRADUATION CAPS AND GOWNS AND INVITATIONS
HOUSING	SELECTIVE SERVICE
FOOD SERVICES	VETERANS AFFAIRS
STUDENT INSURANCE	FINANCIAL ASSISTANCE
STUDENT CENTER	

STUDENT RESPONSIBILITIES ..... 26

CONDUCT  
DRESS  
STANDARDS

COLLEGE PARALLEL PROGRAM ..... 27

PURPOSE  
COLLEGE TRANSFER PROGRAM  
TRANSFER TO SENIOR INSTITUTIONS  
CURRICULUM DESCRIPTION  
DEGREE OFFERED  
REQUIREMENTS FOR GRADUATION  
BUSINESS ADMINISTRATION

EDUCATION  
LIBERAL ARTS  
ENGINEERING, MATHEMATICS,  
OR SCIENCE  
TEXTILES  
INDIVIDUAL COURSE DESCRIPTIONS

TECHNICAL PROGRAM ..... 43

PURPOSE  
DEGREE OFFERED  
REQUIREMENTS FOR GRADUATION  
BUSINESS ADMINISTRATION

ELECTRONICS TECHNOLOGY  
SECRETARIAL SCIENCE  
INDIVIDUAL COURSE  
DESCRIPTIONS

VOCATIONAL PROGRAM ..... 60

PURPOSE  
DEGREE OFFERED  
AUTOMOTIVE BODY REPAIR  
AUTOMOTIVE POWER MECHANICS  
ELECTRICAL INSTALLATION AND  
MAINTENANCE

MASONRY  
MECHANICAL DRAFTING  
WELDING  
NURSES' ASSISTANT PROGRAM  
INDIVIDUAL COURSE  
DESCRIPTIONS

ADULT EDUCATION ..... 78

PURPOSE  
TYPES OF COURSES  
COURSES OF INSTRUCTION

EXTENSION ..... 79

PURPOSE  
COURSES OF INSTRUCTION

# CALENDAR OF EVENTS

1968 - 1969

## FALL QUARTER, 1968

Sept. 17, Tues.	Freshman and Transfer Orientation, 9:00 A.M.
Sept. 18, Wed.	Registration, 8:00 A.M.
Sept. 19, Thurs.	Classes begin
Sept. 26, Thurs.	Last day to register and add courses
Oct. 3, Thurs.	Last day to withdraw without academic penalty
Oct. 21-25, Thurs. - Thurs.	Mid-Term Week
Nov. 27, Wed.	Last day of classes
Nov. 28, 29, Thurs., Fri.	Thanksgiving holidays
Dec. 2, 3, 4, Mon., Tues., Wed.	Final Examinations

## WINTER QUARTER, 1968-69

Dec. 11, Wed.	Registration of former students and orientation of new students 8:00 A.M. Registration of new students, 1:00 P.M.
Dec. 12, 13, Thurs., Fri.	Classes begin
Dec. 13, Fri.	Christmas holidays begin 5:00 P.M.
Jan. 2, Thurs.	Classes resume 8:00 A.M.
Jan. 6, Mon.	Last day to register and add courses
Jan. 13, Mon.	Last day to withdraw without academic penalty
Jan. 31, Feb. 6, Fri. - Fri.	Mid-Term Week
Mar. 10, Mon.	Last day of classes
Mar. 11, 12, 13, Tues., Wed., Thurs.	Final Examinations
Mar. 13, Thurs.	Spring holidays begin

## SPRING QUARTER, 1969

Mar. 20, Thurs.	Registration of former students and orientation of new students 8:00 A.M. Registration of new students 1:00 P.M.
Mar. 21, Fri.	Classes begin
Mar. 28, Fri.	Last day to register and add classes
April 3, Thurs.	Last day to withdraw without academic penalty
April 4, 7, Fri., Mon.	Easter holidays
April 26, May 2, Fri. - Fri.	Mid-Term Week
June 2, Mon.	Last day of classes
June 3, 4, 5, Tues., Wed., Thurs.	Final Examinations

## SUMMER, 1969

The calendar of the Summer Quarter is composed of three independent terms: Full ten-week quarter, June 16, through August 26, and two five-week terms: June 16, through July 22, and July 23, through August 27.

### SUMMER QUARTER, June 16 - August 26

June 16, Mon.	Registration of former students and orientation of new students 8:00 A.M. Registration of new students 1:00 P.M.
June 17, Tues.	Classes begin
June 24, Tues.	Last day to register and add courses
July 1, Tues.	Last day to withdraw without academic penalty
July 4, Fri.	Independence Day holiday
July 18-25, Fri. - Fri.	Mid-Term Week
Aug. 26, Tues.	Last day of classes
Aug. 27, 28, 29, Wed., Thurs., Fri.	Final Examinations

### FIRST FIVE-WEEK TERM, June 16 - July 22

June 16, Mon.	Registration of former students and orientation of new students 8:00 A.M. Registration of new students 1:00 P.M.
June 17, Tues.	Classes begin
June 20, Fri.	Last day to register and add courses
June 24, Tues.	Last day to withdraw without academic penalty
July 4, Fri.	Independence Day Holiday
July 22, Mon.	Final Examinations

### SECOND FIVE-WEEK TERM, July 23 - August 27

July 23, Wed.	Registration of former students and orientation of new students 8:00 A.M. Registration of new students 1:00 P.M.
July 24, Thurs.	Classes begin
July 29, Tues.	Last day to register and add courses
July 31, Thurs.	Last day to withdraw without academic penalty
Aug. 27, Wed.	Final Examinations

GRADUATION, Friday, August 29



## FALL QUARTER, 1969

Sept. 18, Thurs.	Freshman and transfer student orientation 9:00 A.M.
Sept. 19, Fri.	Registration 8:00 A.M.
Sept. 22, Mon.	Classes begin
Sept. 29, Mon.	Last day to register and add courses
Oct. 6, Mon.	Last day to withdraw without academic penalty
Oct. 22-29, Wed. - Wed.	Mid-Term Week
Nov. 27, 28, Thurs., Fri.	Thanksgiving holidays
Dec. 2, Tues.	Last day of classes
Dec. 3, 4, 5, Wed., Thurs., Fri.	Final Examinations

## WINTER QUARTER, 1969-1970

Dec. 15, Mon.	Registration of former students and orientation of new students 8:00 A.M. Registration of new students 1:00 P.M.
Dec. 16, 17, Tues., Wed	Classes begin
Dec. 18, Thurs.	Christmas holidays begin
Jan. 5, Mon.	Classes resume
Jan. 12, Mon.	Last day to register and add courses
Jan. 19, Mon.	Last day to withdraw without academic penalty
Feb. 2-6, Mon. - Fri.	Mid-Term Week
Mar. 11, Wed.	Last day of classes
Mar. 12, 13, 16, Thurs., Fri., Mon.	Final Examinations
Mar. 17, Tues.	Spring holidays begin

## SPRING QUARTER, 1970

Mar. 23, Mon.	Registration of former students and orientation of new students 8:00 A.M. Registration of new students 1:00 P.M.
Mar. 24, Tues.	Classes begin
Mar. 30, Mon.	Easter holiday
April 1, Wed.	Last day to register and add courses
April 8, Wed.	Last day to withdraw without academic penalty
April 23-30, Thurs. - Thurs	Mid-Term Week
June 2, Tues.	Last day of classes
June 3, 4, 5, Wed., Thurs., Fri.	Final Examinations

## SUMMER, 1970

The calendar of the Summer Quarter is composed of three independent terms: Full ten-week quarter, June 12, through August 27, and two five-week terms: June 12, through July 20, and July 21, through August 25.

### SUMMER QUARTER, June 12 - August 27

June 12, Fri. ....	Registration of former students and orientation of new students 8:00 A.M. Registration of new students 1:00 P.M.
June 15, Mon. ....	Classes begin
June 22, Mon. ....	Last day to register and add classes
June 29, Mon. ....	Last day to withdraw without academic penalty
July 6, Mon. ....	Independence Day holiday
July 16-23, Thurs. - Thurs. ....	Mid-Term Week
Aug. 24, Mon. ....	Last day of classes
Aug. 25, 26, 27, Tues., Wed., Thurs. ....	Final Examinations

### FIRST FIVE-WEEK TERM, June 12 - July 20

June 12, Fri. ....	Registration of former students and orientation of new students 8:00 A.M. Registration of new students 1:00 P.M.
June 15, Mon. ....	Classes begin
June 18, Thurs. ....	Last day to register and add courses
June 22, Mon. ....	Last day to withdraw without academic penalty
July 20, Mon. ....	Final Examinations

### SECOND FIVE-WEEK TERM, July 21 - August 25

July 21, Tues. ....	Registration of former students and orientation of new students 8:00 A.M. Registration of new students 1:00 P.M.
July 22, Wed. ....	Classes begin
July 24, Fri. ....	Last day to register and add courses
July 29, Wed. ....	Last day to withdraw without academic penalty
Aug. 25, Tues. ....	Final Examinations

GRADUATION, Friday, August 28



## A MESSAGE FROM THE PRESIDENT

We believe that every citizen should have the opportunity to study and work in whatever field best suits his individual abilities and desires

We believe that no interested and capable student should be denied the privilege of attending a college or vocational school of the highest quality.

We believe that knowledge and skill are essential to a happy productive life for our people and for the welfare of our nation.

We believe that since no one's education is ever complete, continuing education can be beneficial to any community.

Because of our belief in these principles, and in the philosophy of the Community College, we are extending every effort to bring to the people of this area the best possible education and training at a price they can afford to pay.

FRED J. EASON  
President

# ISOTHERMAL COMMUNITY COLLEGE

## BOARD OF TRUSTEES

H. PAUL BRIDGES  
Cliffside, North Carolina

IVY COWAN  
Spindale, North Carolina

W. M. ELLIOTT (M.D.)  
Forest City, North Carolina

SPENCER D. GAMBLE  
Bostic, North Carolina

J. T. MIZE (D.D.S.)  
Tryon, North Carolina

HOLLIS M. OWENS, JR.  
Rutherfordton, North Carolina

MAX PADGETT (Secretary)  
Forest City, North Carolina

ROBERT R. SPRATT  
Caroleen, North Carolina

JAMES T. TANNER (Vice-Chairman)  
Rutherfordton, North Carolina

J. J. TARLTON, (Chairman)  
Rutherfordton, North Carolina

A. CLYDE TOMBLIN  
Spindale, North Carolina

FRANK H. WEST  
Caroleen, North Carolina

## ADMINISTRATIVE OFFICERS

FRED J. EASON	.....	President
WILLIAM C. HELTON	.....	Dean of the College
ROBERT L. SMITHERS	.....	Dean of Students
RICHARD T. BRINKLEY	.....	Director of Adult Education
GARLAND E. DENNING	.....	Director of Technical-Vocational Division
ELLIOTT M. SHEARON	.....	Director of Evening Program
ISAAC S. CALL	.....	Director of Audiovisual Education
ELIZABETH SHEARON	.....	Director of Library Services
WILBUR M. WRIGHT	.....	Registrar
MARIA A. GRANT	.....	Dean of Women - Counselor
JOSEPH WHITESIDE	.....	Coordinator, Learning Laboratory
RALPH E. PORTER	.....	Business Manager
MILDRED SCOGGIN	.....	Bookkeeper
MARTHA HARBISON	.....	Assistant Bookkeeper

## STAFF PERSONNEL

HILDA BARRETT	.....	Secretary to the Registrar
ANN COFFIELD	.....	Secretary, Adult Education Division
LINDA CHRISMAN	.....	Assistant Librarian
LINDA DIXON	.....	Secretary, Technical-Vocational Division
PATRICIA HARRIS	.....	Assistant Librarian
DORIS JACOBS	.....	Secretary to the President
FRANCES LOGAN	.....	Secretary, Student Personnel Office
DORIS LOWERY	.....	Secretary to the Dean of the College

# FULL TIME FACULTY AND ADMINISTRATION

- AYDLETT, DOROTHY BROCKS ..... Foreign Language  
 A.B., Duke University
- BARRETT, JOHN ANDREW ..... Chemistry  
 B.S., Atlantic Christian College; M.A., Appalachian State University
- BIGGERSTAFF, RALEIGH ..... English  
 A.A., Lees-McRae College; A.B., University of North Carolina at Chapel Hill;  
 M.Ed., University of North Carolina at Chapel Hill
- BRINKLEY, RICHARD T. .... Director of Adult Education  
 B.A., Wake Forest University; M.A., Columbia University
- CALL, CAROL BRITT ..... English and Sociology  
 B.S., Appalachian State University; M.A., Appalachian State University
- CALL, ISAAC SLATER ..... Director of Audiovisual Education  
 B.A., Mars Hill College; M.A., Appalachian State University
- CARPENTER, BETTY JO ..... Music  
 B. Mus., Converse College
- CHAMPION, GALE TEAGUE ..... Business Education  
 B.S., Carson Newman College; Graduate Work, Appalachian State University
- DENNING, GARLAND E. .... Director of Technical-Vocational Programs  
 B.S., North Carolina State University; M.A., Appalachian State University
- EASON, FRED J. .... President  
 B.A., Wake Forest University; M.A., Wake Forest University; Graduate study,  
 The University of North Carolina at Chapel Hill
- EDWARDS, LARRY R. .... Vocational Related Subjects  
 B.S., Clemson University; M.S., Clemson University
- GRANT, MARIA ANN ..... Dean of Women - Counselor  
 B.A., Longwood College; M.Ed., University of North Carolina at Chapel Hill
- HELTON, WILLIAM CURTIS ..... Dean of the College  
 B.S., East Tennessee State University; M.S., University of Tennessee; Ed.D.,  
 University of Tennessee
- HOBBS, WILLIAM KINZY, JR. .... History and Political Science  
 A.A., Campbell College; B.A., Campbell College; M.A., Appalachian State Uni-  
 versity
- HUTCHINS, NORMAN WAYNE ..... Biology and Geology  
 A.B., Duke University; M.A.T., University of North Carolina at Chapel Hill

- LOWERY, HELYN G. .... Business Education  
B.S., Limestone College; M.S., Appalachian State University
- MARTIN, JAMES WELLINGTON ..... Electronics Technology  
U.S. Naval Electronics Technical School; Virginia Polytechnic Institute
- MAYBERRY, LENA ..... English and Speech  
B.S., Western Carolina University; M.A., Western Carolina University
- MILLER, JOSEPH HENRY ..... Automotive Mechanics  
Nashville Automobile College; Vanderbilt University; Carter Carburetor School;  
General Motors Training Center
- MORROW, DILLARD L. .... English  
B.S., Western Carolina University; M.A., Western Carolina University
- PADGETT, SARA SMITH ..... Assistant Coordinator, Learning Laboratory  
A.B., Greensboro College
- PORTER, RALPH E. .... Business Manager  
B.A.E., The University of Florida; M.E.D., University of Florida
- REED, ALICE MATHENY ..... Social Science  
B.A., University of North Carolina at Chapel Hill; M.A., Appalachian State  
University
- SHEARON, ELIZABETH ..... Director of Library Services  
B.S., Appalachian State University; Graduate study, Appalachian State Univer-  
sity and The University of Florida
- SHEARON, ELLIOTT M. .... Director of Evening Programs  
B.S., University of North Carolina at Chapel Hill; M.A., University of Florida
- SMITHERS, ROBERT LAWRENCE ..... Dean of Students  
B.S., University of Tennessee; M.S., University of Tennessee
- UNDERWOOD, CLARENCE NEILAN ..... Electronics and Electrical-Industrial  
Electrical Technology U.S. Dept. of Education; U.S. Air Corps Technical Insti-  
tute; Refrigeration and Air Conditioning Training Corporation
- WALKER, CHARLES MADISON ..... Mathematics  
B.S., Western Carolina College; M.S., University of Kentucky
- WALSH, HERSCHEL NEAL ..... Athletic Director  
B.A., Western Kentucky University; M.S., East Tennessee State University
- WHITESIDE, JOSEPH RICHARD ..... Learning Laboratory Coordinator  
B.A., Wofford College; M.A., Western Carolina University
- WRIGHT, WILBUR MATHENY ..... Registrar  
B.S., Appalachian State University

# I. GENERAL INFORMATION

## HISTORY OF THE COLLEGE

Isothermal Community College was authorized by the 1963 General Assembly under 115A, General Statutes of North Carolina. In 1964, citizens of Rutherford County approved a tax levy to support the College, and necessary capital funds were appropriated to purchase a site and construct the buildings. In 1966, Isothermal Community College formally initiated its four basic programs of instruction, occupying temporary facilities in the Avondale, Caroleen and Spindale communities.

The new campus of Isothermal Community College, is located between the towns of Forest City and Spindale, North Carolina, just off Highway 74. Buildings have been constructed on a wooded site that provides an attractive setting for the modern facilities which serve the people of Rutherford and surrounding counties. New Highway 74 (a modern four lane highway) is under construction and will pass near the front entrance to the main campus.

The College is planned as a commuter's college with classes taught both day and night. Four basic curricula include: college transfer, vocational, technical and adult education courses. College parallel, technical and vocational courses are planned along the lines of other college programs throughout the state. Adult education courses are initiated on the basis of adult interest and demand. Qualified instructors are selected to fill each position on the teaching staff in each curriculum.

## PURPOSE

Isothermal Community College is a comprehensive two-year institution. The purpose of the comprehensive college is to provide for all citizens beyond the normal high school age appropriate, economical, and convenient learning opportunities. The various programs include two-year college parallel and technical programs, one year vocational programs, a variety of educational programs for adults and guidance services for in-school and out-of-school citizens. Isothermal Community College offers help for the student in developing the understandings, dispositions, and habits required for living effectively. The College also seeks to prepare students for successful entry into senior colleges and universities as juniors or for immediate entry into an occupation.

## OBJECTIVE OF THE COLLEGE

The Isothermal Community College objectives are:

1. To provide two years of transferable college credit courses for students desiring to transfer to four-year colleges.
2. To provide two years of technical education appropriate to the needs of the individual and the community.
3. To provide vocational education for persons desiring to prepare for a trade or upgrade themselves in their present jobs.
4. To provide an adult program based on community needs and interests with special emphasis on the following areas:
  - a. Basic education courses for grades 1-8.
  - b. High school equivalency certificate.
  - c. Cultural and community service programs.
5. To provide a program of guidance and instruction which will help all students become effective members of a democratic society.

## ACCREDITATION

Isothermal Community College, a member of the American Association of Junior Colleges, is accredited by the North Carolina State Board of Education. Arrangements have been formulated with four-year colleges and universities whereby graduates of the college parallel division will be accepted on the same basis as transfer students from other colleges and universities during the interim before Isothermal Community College is eligible for regional accreditation.

Isothermal Community College has received a letter of satisfactory progress from the Southern Association of Colleges and Schools and full accreditation is expected by 1969.

## LIBRARY

The Library is planned to provide students and faculty, both day and evening divisions, with the materials needed to support and enrich the instructional program of the college.

New books are being added continually. The open-shelf system is used; students are encouraged to browse and use the reading room as a quiet place to study. A library handbook designed to explain our filing system for books and materials, and a floor plan for the library is furnished each new student at the time of registration.

## LEARNING LABORATORY

The Learning Laboratory is one of the most versatile of all the learning concepts utilized by the Community College system. The Laboratory uses the Programmed Materials approach and offers planned study in all of the areas served by the Community College. It starts at the fourth grade level and goes through the freshman year of college with additional study in specialized areas.

Probably the most significant factor for its tremendous success in North Carolina is that it allows the student to progress at his or her own rate without the necessity of being held back or keeping up with a class.

The Learning Laboratory serves as a second stage of our illiteracy program, as a source of preparation for the Adult High School Diploma Program, and it is also widely used by adults who merely wish to pursue subjects of interest.

There is no fee for the Learning Laboratory, and it is open to the students and public alike. The hours maintained will coincide with those of the library.

## ADMINISTRATIVE OFFICE HOURS

The administrative offices of the College are open Monday through Friday from 8:00 a.m. to 5:00 p.m. The director of Evening Programs is on duty Monday through Thursday until 10:00 p.m.

## CHANGES IN REGULATIONS

Isothermal Community College reserves the right to make changes in the regulations, fees, and other matter of policy and procedure as and when deemed necessary.

## TRAFFIC REGULATIONS

The maximum speed permitted on the campus shall not exceed posted maximum speeds, and cars must be parked in the specific areas. Parking regulations will be issued at the time of Registration.



The following traffic regulations are expected to be adhered to:

1. Students will park in the designated student parking area.
2. Students parking in unauthorized areas are subject to a parking fine. Repeated offenders will be subject to disciplinary action.
3. Reckless driving observed on campus will result in disciplinary action, up to expulsion from the college.

## EVENING DIVISION (GENERAL INFORMATION)

The college offers an evening program which includes many credit courses given in the daytime, as well as non-credit courses which are offered primarily for adults and special organizations in the community.

The purpose of the evening program is to make available college and technical credit courses to the student who must work while going to college. Any student may enroll for both evening and daytime classes. The evening program makes it possible to complete all work toward the Associate of Arts degree and the Associate in Applied Science degree by attending only in the evening.

Class schedules of all evening classes are published quarterly and are available upon request from the Director of Evening Programs. Courses listed in the Evening Class Schedule which do not receive ten or more registrations will be cancelled.

## II. ADMISSION REQUIREMENTS AND PROCEDURES

Isothermal Community College operates under an "Open Door" admission policy. Any high school graduate and any adult, whether he is a high school graduate or not, who makes application and can benefit from any of the programs may be admitted to the college.

The admission procedure requires with the exception of adult education program, that all students submit the following forms:

1. A completed application for admission.
2. A transcript(s) of all previous secondary education.
3. Verification of a physical examination.
4. Completion of the College Placement Battery. Applicants will not be permitted to register for classes until their test scores have been reviewed and course recommendations are made by the Student Personnel Counseling Staff.

Students are cautioned that unless all applicable supporting documents for admission are acknowledged by the Student Personnel Office prior to their initial registration, permission to register for classes will be denied. In the cast of extenuating circumstances a conditional admission to the college may be granted.

Additional divisional requirements are as follows:

### COLLEGE PARALLEL PROGRAMS

The applicant must be a graduate of an accredited secondary high school or he must have been awarded a high school equivalency certificate.

### TECHNICAL PROGRAMS

The applicant must be a graduate of an accredited secondary high school or he must have been awarded a high school equivalency certificate.

## VOCATIONAL PROGRAMS

The applicant must be at least eighteen years of age or have a high school diploma or its equivalent. In addition he must demonstrate an aptitude for this selected program as determined by the Placement Aptitude Tests.

## ADULT EDUCATION PROGRAMS

Requirements for admission and application procedures for the numerous adult education programs are dependent upon the nature of the course desired. Interested persons should contact the Director of Adult Education for specific information.

## TRANSFER STUDENTS

Isothermal Community College will accept any transfer student who has maintained a satisfactory conduct standing in his previous institution. In general, approval to transfer resident credits and correspondence credits and their respective quality points will be granted for courses similar in content, objective, and quality to those included in the North Carolina Community College System instructional program, provided that such courses have been taken at accredited educational institutions. Each applicant requesting transfer of credits from another institution will be considered on an individual basis.

Students on disciplinary suspension from other institutions are ineligible for enrollment for at least one quarter from the date of their suspension. If, after one quarter, the student still wishes to be considered for admission, he must submit his application for admission to the Registrar. If admitted, the student will be admitted on strict probation for one quarter.

Transfer students are required to submit the following forms:

1. A completed application for admission.
2. A transcript of all previous academic work in colleges and/or institutions attended.
3. Verification of a physical examination.
4. Students transferring less than 15 quarter hours of acceptable credit will be required to take the College Placement Battery before permission to register for classes is granted.

## GRADUATION REQUIREMENT

In the case of students transferring into Isothermal Community College, at least half of the credits required for graduation must be earned at Isothermal Community College or a member institution within the North Carolina System of Community Colleges.

## APPOINTMENT CARDS

Students are responsible for picking up Faculty Adviser appointment cards each quarter. Notices will be posted by the Registrar pertinent to time and location.

## REGISTRATION

The college operates on the quarter system. All students are expected to register during the time set aside for that purpose. Registration dates are listed in the College Calendar published in the front of this catalog. Registration clearance must be secured from the Student Personnel Office before the student is permitted to register.

## TUITION AND FEES

Isothermal Community College receives financial support from local, state, and federal sources, allowing each student an education opportunity at minimum cost. Tuition fees are set by the State Board of Education and are subject to change without notice. Cost of textbooks, laboratory fees and supplies are additional expenses which vary according to the program of study. The payment of all fees is required at the time of registration. If a student cannot pay his fees during registration, he is required to make some arrangement with the Business Manager's Office before his registration is complete.

The tuition schedule is explained as follows:

### COLLEGE PARALLEL PROGRAM

14 quarter hours or more .....	\$42.00 per quarter
Less than 14 quarter hours .....	\$ 3.00 per quarter hour
Activity Fee .....	\$ 6.50 per student each quarter (only if 7 or more quarter hours are carried)

### TECHNICAL PROGRAM

13 quarter hours or more .....	\$32.00 per quarter
Less than 13 hours .....	\$ 2.50 per quarter hour
Activity Fee .....	\$ 6.50 per student each quarter (only if 7 or more quarter hours are carried)

### VOCATIONAL PROGRAM

13 quarter hours or more .....	\$32.00 per quarter
Less than 13 quarter hours .....	\$ 2.50 per quarter hour
Activity Fee .....	\$ 6.50 per student each quarter (Only if 7 or more quarter hours are carried)

Isothermal Community College is receiving funds under the *Appalachian Programs* and is considered to be a Regional Institution. Therefore, an out-of-state student from South Carolina, for example, will pay the same rate of tuition as an in-state student from North Carolina.

## REFUND POLICY

- A. "Tuition refund for students shall not be made unless the student is, in the judgment of the institution, compelled to withdraw for unavoidable reasons. In such cases, two-thirds of the student's tuition may be refunded if the student withdraws within ten calendar days after the first day of classes as published in the school calendar. Tuition refunds will not be considered for \$5.00 or less, except if a course or curriculum fails to materialize, then the entire tuition will be refunded."
- B. "In order to comply with federal regulations in institutions not regionally accredited, the State Board authorized modification of the tuition refund policy so that veterans or war orphans receiving benefits under U.S. Code Title 38, Chapters 33 and 35, can be refunded the pro rata portion of the tuition fee not used up at the time of withdrawal of such students."

## BOOKSTORE

The college operates a bookstore where the student may purchase needed books and supplies, with profits being used for college projects and services. The hours of operation will be determined each quarter and posted.

Used books will be purchased by the bookstore if they continue to be approved for use as a text. Used prices will be determined by the condition of the book. In no case will the repurchase price be more than 60 percent of the original price.

Students should know the exact title of the text needed. Any book sold will be considered used when repurchased by the bookstore.

## STUDENT ACTIVITY FEE

A Student Activity Fee of \$6.50 will be charged each student taking seven hours or more. The proceeds of this fee will remain in the college and will be budgeted cooperatively by students and faculty in support of non-curricular educational activities. These activities include the college newspaper and yearbook, sports programs, movies, picnics, banquets, dances, speakers, and the operation of the Student Government Association.

Part-time students may purchase a Student Activity Card. Otherwise, they may be charged admission to certain functions.

## III. ACADEMIC INFORMATION

### CLASS ATTENDANCE

Every student is expected to attend all of his classes and is responsible for all class work. In the event that a class must be missed, a student may miss one class hour per quarter hour credit with an allowed maximum as stated below. When a student exceeds the maximum allowed absences, he will be withdrawn from the course *by the instructor unless the student provides the instructor with a written statement from the division director justifying the excessive absence.*

The student must understand that this system of absences is designed to allow *only* for unavoidable absences.

<i>Quarter Hours Credit</i>	<i>Class Meetings Per Week</i>	<i>Number of Class Meetings A Student May Miss</i>
3	3	3
3	2	2
3	1	1
5	5	4
1	1	1
4	3	3
1	2	2
3	5	3
3	4	3

### ACADEMIC CONTINUATION

Any student whose cumulative quality point average is less than 1.0 at the end of any quarter will be requested to report to the Office of Student Personnel Services for counseling. The counselor will attempt to identify the problems of the student. If mutually agreed, the counselor may direct the student to a program for which he is better qualified.

When the student has attempted 25 quarter hours of credit and has less than 1.0 cumulative grade point average, he may elect to change programs or be placed on academic probation with the stipulation that he must achieve at least a 1.50 grade point average for the probationary quarter in order to remain in his present program.

Any student on academic probation who fails to meet the minimum academic requirement for continuation in a particular program may elect to do one of the following:

1. Change his division, in which event he would be eligible to return to his original program after two quarters. Any student who reverts to his original division will be placed on probation requiring a 1.5 academic grade point average for that quarter.
2. Withdraw from the college for a period of one year, after which time he will be eligible to return to his original division with the stipulation that he is on academic probation and will be required to achieve a 1.5 academic grade point average for that quarter.

After attempting 60 quarter hours, the student with a cumulative grade point average of less than 1.50 will be placed on academic probation with the stipulation that he must improve his QPA for the current quarter. Any student failing to show improvement in this QPA at the end of the probationary period will have his future academic status reviewed by the Committee on Academic Continuation.

## GRADING SYSTEM

Isothermal Community College is on a quarter system. Normally, one unit of credit is equal to one class hour meeting time per week. Where the laboratory is required, one credit hour will equal at least two hours of laboratory time.

The grading system is as follows:

<i>Grade Significance</i>	<i>Quality Points</i>
A Excellent	4 per quarter hour
B Good	3 per quarter hour
C Fair	2 per quarter hour
D Passed	1 per quarter hour
F Failed	0
W Withdrawal	0
WP Withdrawal Passing	-
WF Withdrawal Failing	-
I Incomplete	0

A grade of "I" is assigned when the course work is incomplete. This grade can be removed if the course work is completed satisfactorily before the end of the following quarter.

## REPEATING COURSES

Courses with earned grades of "D's" or "F's" may be repeated. Courses with earned grades of "C" or better may be repeated only by special permission from the Dean of Instruction.

## WITHDRAWAL FROM THE COLLEGE

To withdraw from college or from a course, the student will use the following procedure:

1. The student will obtain a withdrawal form from the director of Student Personnel Services.
2. The official date of a student's withdrawal from the College is the exact date that he makes his request for withdrawal. The Student Personnel Office notifies each instructor of the name of the student and the official date of withdrawal.
3. A student may withdraw during the first two weeks of the quarter without scholastic penalty. This procedure, if followed, will entitle the student to have his permanent record show the notation "withdrawn." This notation indicates good standing and the privilege of readmission.
4. Any student who withdraws after the first two weeks of the quarter will receive a grade of "WP" or "WF". A student who withdraws unofficially from college without following the proper procedure will receive the grade of "WF".

## SCHEDULE CHANGES

All changes involving dropping, adding, and course sections shall be adjusted during the first week of classes. The following steps must be adhered to before changes are official:

1. Individual schedule changes must be approved by the faculty advisor.
2. Notifications of schedule changes must be acknowledged and recorded by the Registrar.

A student may change his academic schedule during the first two weeks of the quarter without scholastic penalty. However, any course *dropped* after the first two weeks of a quarter will be marked WP (Withdrew Passing) or WF (Withdrew Failing). A WF carries the same stigma as an F (Failure).

## ACADEMIC LOAD

Fourteen to Nineteen (14-19) hours will constitute the normal load a regular student is expected to carry each quarter. Any deviation from this load must be approved by the Faculty Advisor.

## EXAMINATIONS

Final Examinations in all subjects are held in December, March, and June, respectively. The examination record combined with the record made in class constitutes the student's final grade.

## COURSE NUMBERING

Courses in Isothermal Community College catalogs are numbered in accordance with the North Carolina Department of Community College System.

1. All college preparatory courses are indicated by a prefix, and numbers ranging from 0-99.
2. (a) All freshmen academic courses are indicated by a two-letter prefix and numbers ranging between 100-199.  
(b) All sophomore academic course are indicated by a two-letter prefix and numbers ranging between 200-299.

3. (a) All freshmen technical courses are indicated by a prefix, numbered between 100-199 and preceded by the letter "T".  
(b) All sophomore technical courses are indicated by a prefix, numbered between 200-300, and preceded by the letter "T".
4. All vocational courses are indicated by a prefix and numbered between 1000-2000.
5. All adult education courses beyond the high school are indicated by a prefix and numbered 2000-3000.
6. All high school courses are numbered according to the North Carolina Public School course number system.

## GRADE REPORTS

A written mid-term report will be provided the student if he is failing a course before the end of the sixth week. Final grade reports are furnished to the student at the end of each quarter.

## STUDENT CLASSIFICATION

Freshman—A student who has earned fewer than 45 quarter hours of credit.

Sophomore—A student who has 45 hours or more quarter hours of credit.

Part-Time—A student who is enrolled for less than 7 quarter hours.

## GRADUATION REQUIREMENTS

Requirements for the degree or diploma will vary according to curriculum. The student should refer to the required courses in the catalog which applies to his program so that he can ascertain the course requirements for graduation. All students must have a grade point average of 2.0 (C average) to be eligible for graduation.

## COMMENCEMENT EXERCISES

Commencement exercises to award degrees and diplomas to students in respective divisions is held at the conclusion of the Summer Quarter. Students are expected to file graduation applications with the Registrar's Office at least one quarter preceding Commencement exercises. The specific date of Commencement is listed in the College Calendar in the front of this catalog. All students who are eligible to receive degrees and diplomas are expected to participate in graduation exercises unless excused by the Dean of Students.

## HONORARY COMMENCEMENT USHERS

Students will be selected to serve as honorary ushers at Commencement exercises based on their individual scholastic performance during the academic year. Students will be selected from each of our three divisions: College Parallel, Technical and Vocational.

## ACADEMIC HONORS

### *The Dean's List with Highest Honors*

The Dean's List is designed to recognize all students whose academic performance is outstanding.

In order to qualify for the Dean's List with Highest Honors, a student must carry at least twelve (12) quarter hours of credit work during the quarter and maintain a 4.0 quality point average for the quarter.

### *The Dean's List*

In order to qualify for the Dean's List, a student must carry at least twelve (12) quarter hours of credit work during the quarter and maintain a 3.0 quality point average for the quarter.

### *Graduation with Honors*

Students who complete a degree or diploma program with a quality point ratio of 3.6 or better will be graduated with High Honors. The student who earns a quality point ratio of 3.00 to 3.50 will be graduated with Honors.

## IV. STUDENT SERVICES

### OFFICE OF STUDENT PERSONNEL SERVICES

Student out-of-class life, services, and activities are coordinated through and by this office.

The Dean of Students and associated professional staff members are available to provide professional assistance to individual students and groups on all matters affecting student well-being. Specifically, these offices are organized to assist students and student groups in achieving the optimum opportunity for intellectual, social, cultural, physical, and moral development as citizens of the college community.

The staff members of these offices are ready at all times to counsel students and student representatives on college policies and procedures. Specifically, students are encouraged to seek information and guidance on academic, personal, and social matters.

### STUDENT COUNSELING CENTER

The counseling staff is in operation for the benefit of students in *all* divisions, College Parallel, Technical, and Vocational.

The center incorporates several areas of student life, the most important being actual personal conferences, in which a student has the opportunity of discussing a personal, social, educational, or vocational problem with a professional counselor. Group counseling sessions are encouraged in cases where several students wish to talk over a similar problem.

Also included in the guidance program is the individual (and small group) tests administered upon request. Specific academic subject areas, problem check lists and interest inventories are among the tests offered.

Occupational and educational information are on file in the center and students are encouraged to use the pamphlets, books, brochures and leaflets on hand.

### PLACEMENT SERVICE

The college will assist all students in securing part-time employment during the enrollment at Isothermal Community College. It will give special attention to the placement of students who graduate in a terminal curricula. Applications should be made in person at the Office of Student Personnel Services.

### HEALTH SERVICES

Arrangements for emergency health services are provided by the college.

Students are urged to practice safety at all times. A first aid station will be available in the Administrative Building for treatment of minor injuries.



## HOUSING

The college does not provide living accommodations for students, however, a list of approved housing may be obtained from the Student Personnel Office. In all cases the student is responsible for making arrangements to secure housing.

## FOOD SERVICES

Light lunches can be secured from food and drink vending machines throughout each day of operation.

## STUDENT INSURANCE

At a nominal cost to students, the college has authorized a voluntary group accident insurance program for the welfare of its students. Coverage extends for the entire year for a cost of \$2.00 per student. Applications for coverage can be secured during registration or in the Student Personnel Office after registration.

## THE STUDENT CENTER

The college operates a student center which provides dispensing machines or service for soft drinks, coffee, sandwiches, candy, and cigarettes; a pay telephone for personal service; and a record player for relaxing during vacant periods during the school day. The Student Center Advisory Committee will make recommendations relevant to the nature of recreational activities and the additions or withdrawals of vending machines located in the Center.

## STUDENT ACTIVITIES AND ORGANIZATIONS

Various programs of recreation and entertainment are planned by the Committee on Student Activities. All student activities are coordinated through faculty supervision. Programs which attract major interest and participation include formal and informal dances, movies, picnics, and a yearly charity project.

Student organizations such as the "Patriot," the college newspaper, and the "Sentinel," the annual yearbook, provide periodic communication to the student body. The College Singers provide concerts for the enjoyment of the students and general public throughout the year.

Intramural and intercollegiate sports programs consisting of basketball, golf and tennis are available for student participation. Students are urged to take an active interest in the sports programs of the college.

The Student Government Association approves student programs in order that they may be performed in the best interest of the student body. They represent the students to the administration and the general public in an effort to promote good will and understanding and perpetuate the best traditions and ideals for Isothermal Community College.

## ORIENTATION FOR FRESHMEN AND TRANSFER STUDENTS

The purpose of the orientation program is to introduce the student to his new environment, and to acquaint him with the policies and ideals of the College. All new freshmen and transfer students are required to attend the quarterly orientation program sponsored by the Student Personnel Office.

## TRANSCRIPTS OF PERMANENT RECORDS

Upon request of the students, a record of academic credit earned at Isothermal Community College will be sent to any college or university or prospective employer.

Each student is entitled to one official transcript of his work, provided all accounts with the college have been settled satisfactorily. A student requesting an additional transcript will be charged one dollar for this service.

## CLASS RINGS, GRADUATION CAPS AND GOWNS, AND INVITATIONS

All orders for class rings, caps and gowns, and graduation invitations will be made through the Student Personnel Office. Notices will be posted relevant to dates for measurements. Students are urged to be prompt when making these orders.

## SELECTIVE SERVICE

Selective Service requires evidence of enrollment for all students registered with them within 30 days after school opens each year. *It is the student's responsibility to submit the Request for Deferment Form through the Student Personnel Office so that his enrollment can be verified.* These forms are made available to registration and may be obtained at any time in the Student Personnel Office.

## VETERAN AFFAIRS

Students who are eligible for G.I. Benefits should make application to the local Veterans Service Officer in order to receive a Certificate of Eligibility. This certificate is brought by the student to the Student Personnel Office where enrollment is verified and the information sent to the V.A. Regional Office.

The following hours constitute what is considered full-time, three-quarter time, and one-half time in each of the divisions:

### COLLEGE PARALLEL DIVISION

Full time .....	14 quarter hours of credit
$\frac{3}{4}$ time .....	10-14 quarter hours of credit
$\frac{1}{2}$ time .....	7-10 quarter hours of credit

### TECHNICAL DIVISION

Full time .....	25 clock hours
$\frac{3}{4}$ time .....	18-25 clock hours
$\frac{1}{2}$ time .....	12-18 clock hours

(Theory and class instruction predominates)

### VOCATIONAL DIVISION

Full time .....	30 clock hours
$\frac{3}{4}$ time .....	22-30 clock hours
$\frac{1}{2}$ time .....	15-22 clock hours

Students in technical and vocational programs will not be classified as full-time students for benefits under the G.I. Bill unless technical students are enrolled for twenty-five clock hours per week and vocational students for thirty hours per week. *When in any quarter the total weekly contact hours listed are fewer than twenty-five in a technical curriculum and fewer than thirty hours in a vocational trade curriculum, a student may enroll on request for additional instructional hours deemed by the institution to be consistent with the program and appropriate to the student to make up twenty-five hours per week in a technical curriculum or sufficient hours of attendance to make up thirty hours per week in a vocational trade curriculum.*

The contact hours shown in the catalog are minimal. It is a policy of this institution to permit students to enroll in additional subjects and laboratory work beyond those shown in the catalog in order to broaden this training.

## FINANCIAL ASSISTANCE FOR STUDENTS

Isothermal Community College is actively engaged in five basic programs of financial assistance. Inquiries and applications for financial aid consideration should be made to the Dean of Students. All full-time curriculum students at Isothermal Community College are eligible. Applications are accepted from: high school seniors who have completed three and one-half years high school work and who plan to enter Isothermal Community College at the beginning of subsequent summer or fall quarters.

Financial awards are based upon consideration of merit and need. Merit is judged by the same factors considered in connection with admission — high school achievement and placement test results with recommendations.

Need is judged by the total financial picture of the student and his family. Gross income, the number of dependents, debts, and other pertinent factors such as serious illness are taken into consideration.

Five forms of financial assistance are available at the college:

### EDUCATIONAL OPPORTUNITY GRANTS

Students enrolled on a full-time basis and who are in good standing academically, may receive Educational Opportunity Grants for each year of their higher education. Grants will range from \$200 to \$800 a year and can be no more than one-half of the total assistance given the student.

### COLLEGE AND VOCATIONAL WORK-STUDY PROGRAMS

Students, particularly those from low income families, who need a job to help pay for college expenses are potentially eligible for employment by their colleges under federally supported work-study programs.

The amount of hours a student can work a week will depend on the division he is enrolled in. During the summer or other vacation periods when they do not have classes, students can work full-time (40 hours per week).

### NATIONAL DEFENSE STUDENT LOANS

A student may borrow up to \$1,000 each academic year up to a total of \$3,000. The repayment period and the interest do not begin until nine months after the student ends his studies. The loan bears interest at the rate of 3 percent each year and repayment of principal may be extended over a ten year period, except that the institution requires a minimum repayment of \$15.00 per month.

If a borrower becomes a full-time teacher in an elementary or secondary school or in an institution of higher learning, as much as half of the loan may be forgiven at the rate of 10 percent for each year of teaching service.

Other forms of Financial Assistance are available.

*Local Scholarships* — There are limited local scholarships available ranging from \$50.00 to \$500.00 each year. Consideration is based on academic performance and extreme financial need.

*Guaranteed Loan Program* — administered by the College Foundation Inc.

*Scholarship Loan Fund for Prospective Teachers of North Carolina* — administered by the State Department of Public Instruction.

Additional information and applications relative to these financial assistance programs may be secured in the Student Personnel Office.

## V. STUDENT RESPONSIBILITIES

### CONDUCT

The conduct of a student, both in and out of school, will be measured on an adult standard. He assumes full responsibility for the consequences of his actions and behavior. Each student should accept as his personal responsibility to uphold the rules and regulations of Isothermal Community College. The college reserves the right to dismiss any student who in its judgment conducts himself in a manner that is not in compliance with the purposes of this institution.

### DRESS

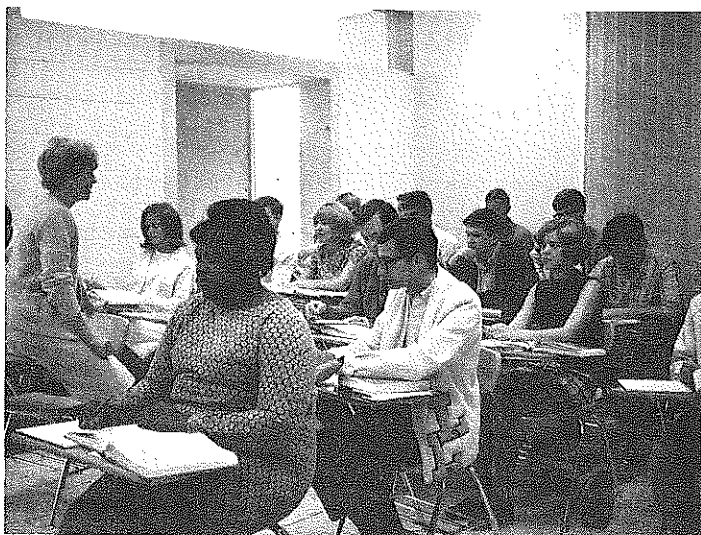
One of the purposes of college experience is to afford a student the opportunity to practice effective personal grooming. Appropriate dress is encouraged and required. While the college aims to honor the individuality of each student, it reserves the prerogative to announce and implement regulations concerning dress.

### STANDARDS

The following standards apply to all students enrolled in this institution:

1. Each student is held responsible for information published through notice and announcements placed on the bulletin board.
2. Students who negligently lose, damage, destroy or dispose of school property placed in their possession or entrusted to them will be charged for the full extent of the damage or loss and are subject to disciplinary action.
3. Under no conditions will alcoholic beverages or liquors be permitted in or on school property. Any violation of this regulation will result in disciplinary action up to and including expulsion from this institution.
4. Excessive noise will not be tolerated within the buildings. Students are asked to conduct their conversations in the Student Center or outside the building.
5. Smoking is prohibited in all classrooms and laboratories at all times. Smoking is permitted in the Student Center, in the halls, and outside the building.
6. This is *YOUR* college. Your efforts to keep it clean by doing what you can and influencing others to do the same will reflect your pride in this institution.

Additional information on rules and regulations is contained in the *STUDENT HANDBOOK*. *It is the individual responsibility of each student to read and understand this HANDBOOK.*



## VI. COLLEGE PARALLEL DIVISION

### DIVISION OF COLLEGE PARALLEL STUDIES

The College Parallel Division has several missions. First, it makes available in pre-planned programs of study, the first two years of college for students who intend to transfer to a senior college or university to complete a baccalaureate degree. These are called transfer programs. Second, it provides individual college courses for our out-of-school citizens who desire, for a variety of reasons, to continue their education. Finally, it provides the opportunity to study in the arts and sciences for those whose desire for such an education is satisfied by two years or less of work. The degree Associate in Arts is awarded to those who complete all requirements for that degree.

### COLLEGE TRANSFER PROGRAM

The student who plans to transfer to a senior college or university from Isothermal Community College is advised to give careful attention to several important considerations.

1. The transferability of courses taken at Isothermal is determined solely by the institution to which the student transfers. Courses numbered 100 through 299 are generally accepted by senior institutions. Courses numbered below 100 are developmental studies and carry no college transfer credit.

2. The transferring student is responsible for meeting the entrance requirements of the senior institution at the time of transfer. A student may earn more than 90 quarter hours of academic credit, but the total number of hours accepted for transfer is determined by the senior institution to which the student transfers.

3. The institution to which an official transcript of credits is sent may recompute the quality point ratio and/or the credits of the student in accordance with its own grading system and calendar.

## TRANSFER TO SENIOR INSTITUTIONS

The student at Isothermal Community College will have little difficulty in completing his transfer satisfactorily if he adheres to the following recommended procedures:

1. Decide early which senior institution to attend. Allow sufficient time for the acknowledgement of admission data and the transit of permanent records.
2. Obtain a current copy of the catalog of that college and study its entrance requirements and curriculum recommendations for freshman and sophomore level courses in the student's major field.
3. Obtain a curriculum standing form in the Student Personnel Office. This will help to insure that the student is scheduling and completing prescribed courses required for graduation.
4. Confer with an assigned faculty advisor about transfer preparation.
5. Contact the admissions officer at the senior institution periodically relative to admission status and additional information.
6. Check carefully at least two quarters in advance of anticipated transfer to insure proper scheduling of classes and meeting necessary requirements.

## CURRICULUM DESCRIPTION

In the first two years of college, students secure a general education in area of humanities, social studies, science, and mathematics; in addition, they begin specialized work in their own particular fields of interest. It is the aim of Isothermal Community College to provide quality instruction in these areas for transfer credit to senior institutions.

Isothermal Community College promotes a series of counselor-student conferences to help the student plan his program for transfer to the college or university of his choice.

## DEGREE OFFERED

Isothermal Community College offer the following college parallel degree pending satisfactory completion of a prescribed program:

### Associate in Arts Degree

- a. Business Administration
- b. Education
- c. Engineering
- d. Liberal Arts
- e. Mathematics
- f. Science
- g. Textiles

## COURSE REQUIREMENTS FOR THE ASSOCIATION IN ARTS DEGREE

Associate in Arts candidates must complete the following courses or equivalents in addition to approved electives for a minimum of 96 hours with an overall grade point average of 2.0 (C) or better:

<i>Subject Area</i>	<i>Quarter Hours Credit</i>
Communications ..... (English 101, 102, 103, are required of all college parallel students.)	9
Humanities ..... (This requirement may be met by a selection from literature, art, or music and in all cases English 201, 202, 203 will be required.)	12
Mathematics ..... .....	9
Laboratory Science ..... (At least 3 courses in sequence will be selected from one of the laboratory sciences.)	12
Social Science ..... (History 101, 102, 103 will be required in all cases.)	12
*Physical Education ..... .....	6
Education 101 ..... .....	1
Electives ..... .....	35

\*Prior to completion of physical education facilities, the physical education requirement is waived. Students should be advised that four year colleges and universities may expect transferring students to complete this requirement at the transferring institution.

### *Physical Education Exemption Requirements*

1. Physician's Exemption
2. Twenty-five years or older
3. Twelve months continued military service

Note: R.O.T.C. and National Guard Training do not count for Physical Education exemption.

## COLLEGE PARALLEL PROGRAMS

### BUSINESS ADMINISTRATION

This program is designed for the student to transfer to a college of business administration with no loss of credit. Business majors should follow this program with some modifications depending upon their particular needs.

#### FRESHMAN YEAR

##### FALL QUARTER

<i>Course Title</i>	<i>Credit Hours</i>
English 101 .....	3
History 101 .....	3
Math 101 .....	3
Biology (or) Chemistry 101 .....	4
Pol. Sci. 101 .....	3
Phy. Ed. 101 .....	1
Educational Orientation .....	1
	18

##### WINTER QUARTER

English 102 .....	3
History 102 .....	3
Math 102 .....	3
Biology (or) Chemistry 102 .....	4
Pol. Sci. 102 .....	3
Phy. Ed. 102 .....	1
	17

##### SPRING QUARTER

English 103 .....	3
History 103 .....	3
Math 103 .....	3
Biology (or) Chemistry 103 .....	4
Pol. Sci. 103 .....	3
Phy. Ed. 103 .....	1
	17

#### SOPHOMORE YEAR

##### FALL QUARTER

<i>Course Title</i>	<i>Credit Hours</i>
English 201 .....	3
Economics 201 .....	3
History 251 .....	3
Accounting 201 .....	3
Phy. Ed. 201 .....	1
Elective .....	3
	16

##### WINTER QUARTER

English 202 .....	3
Economics 202 .....	3
History 252 .....	3
Accounting 202 .....	3
Phy. Ed. 202 .....	1
Elective 202 .....	3
	16

##### SPRING QUARTER

English 203 .....	3
Economics 203 .....	3
History 253 .....	3
Accounting 203 .....	3
Phy. Ed. 203 .....	1
Elective .....	3
	16

SUGGESTED ELECTIVES: Mathematics, Speech Psychology, Health, Earth Science



## EDUCATION

This program is designed to meet the general educational requirements of the college as well as provide sufficient electives to explore various fields of interest.

### COLLEGE PARALLEL PROGRAM

#### FRESHMAN YEAR

##### FALL QUARTER

<i>Course Title</i>	<i>Credit Hours</i>
English 101 .....	3
History 101 .....	3
Math 101 .....	3
Biology 101 (or)	
Chemistry 101 .....	4
Phy. Ed. 101 .....	1
Pol. Sci. 101 .....	3
Educational Orientation .....	1
<hr/>	
Total Hours .....	18

##### WINTER QUARTER

English 102 .....	3
History 102 .....	3
Math 102 .....	3
Biology 102 (or)	
Chemistry 102 .....	4
Phy. Ed. 102 .....	1
Pol. Sci. 102 .....	3
<hr/>	
Total Hours .....	17

##### SPRING QUARTER

English 103 .....	3
History 103 .....	3
Math 103 .....	3
Biology 103 (or)	
Chemistry 103 .....	4
Phy. Ed. 103 .....	1
Pol. Sci. 103 .....	3
<hr/>	
Total Hours .....	17

#### SOPHOMORE YEAR

##### FALL QUARTER

<i>Course Title</i>	<i>Credit Hours</i>
English 201 .....	3
Sociology 201 .....	3
Am. Hist. 251 .....	3
Phy. Ed. 201 .....	1
Geology 101 .....	4
Elective .....	3
<hr/>	
Total Hours .....	17

##### WINTER QUARTER

English 202 .....	3
Sociology 202 .....	3
Am. Hist. 252 .....	3
Phy. Ed. 202 .....	1
Geology 102 .....	4
Elective .....	3
<hr/>	
Total Hours .....	17

##### SPRING QUARTER

English 203 .....	3
Sociology 203 .....	3
Am. Hist. 253 .....	3
Phy. Ed. 203 .....	1
Geology 103 .....	4
Elective .....	3
<hr/>	
Total Hours .....	17

**SUGGESTED ELECTIVES:** Economics, Geography, Speech Mathematics, Health, Foreign Language.

## LIBERAL ARTS

The liberal arts program is designed to serve a variety of needs. The person who intends to pursue a baccalaureate major in such areas as chemistry, physics, mathematics, sociology, history, music, philosophy, or psychology may complete his first two years of work at Isothermal Community College.

### FRESHMAN YEAR

#### FALL QUARTER

<i>Course</i>	<i>Credit Hours</i>
English 101 .....	3
History 101 .....	3
Biology 101 (or) Chemistry 101 .....	4
Math 101 .....	3
Foreign Language .....	3
Phy. Ed. 101 .....	1
Educational Orientation .....	1
<b>Total Hours .....</b>	<b>18</b>

#### WINTER QUARTER

English 102 .....	3
History 102 .....	3
Biology 102 (or) Chemistry 102 .....	4
Math 102 .....	3
Foreign Language .....	3
Phy. Ed. 102 .....	1
<b>Total Hours .....</b>	<b>17</b>

#### SPRING QUARTER

English 103 .....	3
History 103 .....	3
Biology 103 (or) Chemistry 103 .....	4
Foreign Language .....	3
Math 103 .....	3
Phy. Ed. 103 .....	1
<b>Total Hours .....</b>	<b>17</b>

### SOPHOMORE YEAR

#### FALL QUARTER

<i>Course</i>	<i>Credit Hours</i>
English 201 .....	3
Am. Hist. 251 .....	3
Foreign Language .....	3
Phy. Ed. 201 .....	1
Geology 101 .....	4
Elective .....	3
<b>Total Hours .....</b>	<b>17</b>

#### WINTER QUARTER

English 202 .....	3
Am. Hist. 252 .....	3
Foreign Language .....	3
Phy. Ed. 202 .....	1
Geology 102 .....	4
Elective .....	3
<b>Total Hours .....</b>	<b>17</b>

#### SPRING QUARTER

English 203 .....	3
Am. Hist. 253 .....	3
Foreign Language .....	3
Phy. Ed. 203 .....	1
Geology 103 .....	4
Elective .....	3
<b>Total Hours .....</b>	<b>17</b>

SUGGESTED ELECTIVES: Speech, Psychology, Music, Art, Mathematics, Health.

## ENGINEERING, MATHEMATICS OR SCIENCE

The following, subject to modification, is generally what most engineering and science majors need.

### FRESHMAN YEAR

#### FALL QUARTER

<i>Course</i>	<i>Credit Hours</i>
Mathematics 111 .....	5
History 101 .....	3
English 101 .....	3
Chemistry 101 .....	4
Phy. Ed. 101 .....	1
Education Orientation .....	1
	<hr/>
Total Hours .....	17

#### WINTER QUARTER

Mathematics 112 .....	5
History 102 .....	3
English 102 .....	3
Chemistry 102 .....	4
Phy. Ed. 102 .....	1
	<hr/>
Total Hours .....	16

#### SPRING QUARTER

Mathematics 113 .....	5
History 103 .....	3
English 103 .....	3
Chemistry 103 .....	4
Phy. Ed. 103 .....	1
	<hr/>
Total Hours .....	16

### SOPHOMORE YEAR

#### FALL QUARTER

<i>Course</i>	<i>Credit Hours</i>
Mathematics 211 .....	5
English 201 .....	3
Physics 201 .....	4
Phy. Ed. 201 .....	1
Elective .....	3
	<hr/>
Total Hours .....	16

#### WINTER QUARTER

Mathematics 212 .....	5
English 202 .....	3
Physics 202 .....	4
Phy. Ed. 202 .....	1
Elective .....	3
	<hr/>
Total Hours .....	16

#### SPRING QUARTER

Mathematics 213 .....	5
English 203 .....	3
Physics 203 .....	4
Phy. Ed. 203 .....	1
Elective .....	3
	<hr/>
Total Hours .....	16

SUGGESTED ELECTIVES: Earth Science, Speech, Math, Political Science, Sociology, American History, Health.

## TEXTILES

The wide range of career opportunities in textiles include production supervision, designing and styling, sales and marketing, research and development, and management. The following curriculum is generally what Textile majors need to satisfy freshman and sophomore year requirements.

### TEXTILE PROGRAM

#### FRESHMAN YEAR

##### FALL QUARTER

<i>Course Title</i>	<i>Credit Hours</i>
Math 111 .....	5
English 101 .....	3
Chemistry 101 .....	4
History 101 .....	3
Phy. Ed. 101 .....	1
Educational Orientation .....	1
	<hr/>
	17

##### WINTER QUARTER

Math 112 .....	5
English 102 .....	3
Chemistry 102 .....	4
History 102 .....	3
Pol. Sci. 101 .....	3
Phy. Ed. ....	1
	<hr/>
	19

##### SPRING QUARTER

Math 113 .....	5
English 103 .....	3
Chemistry 103 .....	4
History 103 .....	3
Phy. Ed. ....	1
	<hr/>
	16

#### SOPHOMORE YEAR

##### FALL QUARTER

<i>Course Title</i>	<i>Credit Hours</i>
Math 211 .....	5
Physics 201 .....	4
English 201 .....	3
Economics 201 .....	3
Elective .....	3
Phy. Ed. 201 .....	1
	<hr/>
	19

##### WINTER QUARTER

Math 212 .....	5
Physics 202 .....	4
English 202 .....	3
Soc. 201 .....	3
Phy. Ed. 202 .....	1
Elective .....	3
	<hr/>
	19

##### SPRING QUARTER

Math 213 .....	5
Physics 203 .....	4
English 203 .....	3
Phy. Ed. 203 .....	1
Elective .....	3
	<hr/>
	16

SUGGESTED ELECTIVES: Speech, Geography, American History, Political Science and Sociology.

# COURSES OF INSTRUCTION

## COLLEGE PARALLEL DIVISION

### COURSE DESCRIPTIONS

The Courses listed below represent the offerings within the College Transfer Division. Courses should be taken in numerical sequence with prerequisite courses taken as indicated.

Following the name of the course, appears two numbers (3-3) which should be interpreted as follows: First number represents the number of hours in Lecture or Laboratory Study, the second number equals number of credits assigned to the course.

Courses in the Guided Studies Program are described in areas where developmental work is offered. When test results indicate weaknesses in a subject area, students will be assigned to non-credit study courses. When weaknesses are overcome, curriculum students will be scheduled for College credit courses.

### ART

- ART 201 — Survey of Art ..... 3-3  
An introduction to the architecture and sculpture of the pre-classic, Greek, Roman, Medieval, Renaissance, American, and contemporary periods; and the major schools of painting — Italian, Flemish, German, Spanish, Dutch, English, French and American.
- ART 210 — Watercolor Painting ..... 2-1  
Emphasis will be placed upon the study of form and composition as the student learns to apply various methods of watercolor rendering. Two hours per week.

### BIOLOGY

- BIO 101 — Principles of Biology ..... 6-4  
Principles, problems and basic similarities of all living organisms with emphasis on the chemistry of living organisms, metabolism, cytology, and genetics.
- BIO 102 — Principles of Biology ..... 6-4  
Principles of reproduction, development, organic maintenance, organization and integration, and behavior in plants and animals. A study of the principles of evolution and the concept of species.  
Prerequisite: BIO 101
- BIO 103 — Principles of Biology ..... 6-4  
A systematic study of living organisms with emphasis on the vertebrates and Angiosperms. The principles of ecology and taxonomy will be included as they relate to the study of living organisms.  
Prerequisite: BIO 101, 102
- BIO 201 — General Zoology (Invertebrates) ..... 6-4  
A study of the classification, morphology, physiology, and ecology of invertebrates. Three Lecture and three Laboratory hours a week.  
Prerequisite: BIO 101, 102, 103
- BIO 202 — General Zoology (Vertebrates) ..... 6-4  
A study of the classification, morphology, physiology, ecology, and development of vertebrates. Three Lecture and three Laboratory hours a week.  
Prerequisite: BIO 201
- BIO 203 — General Botany (Vascular Plants) ..... 6-4  
Structure, physiology and taxonomy of the vascular plants with special emphasis on the flowering plants. Three Lecture and three Laboratory hours a week.  
Prerequisite: BIO 202

## BUSINESS

- BUS 101 — Introduction To Business ..... 3-  
This course is designed to give a business freshman an introduction to the areas of accounting, business finance, economics, transportation, management, marketing, business law and business education.
- BUS 102 — Beginning Typewriting ..... 5-  
Students who have less than one year of typewriting experience should begin their college typewriting with this course. Emphasis is placed on the typewriting keyboard and theory.
- BUS 103 — Intermediate Typewriting ..... 5-  
Students who have had one year of high school typewriting and type at a speed of 30 words a minute on a five-minute time test must begin their college typewriting with this course. The emphasis is again placed on the typewriting keyboard and theory.
- BUS 104 — Advanced Typewriting ..... 5-  
Students who have had two years of typewriting will begin with this course. Study and tabulations, telegrams, memos, business letters, and legal forms. Fundamental skills are developed on duplicating machines and transcription machines.
- BUS 106 — Shorthand ..... 5-  
Principles of Gregg Shorthand. Presentation of theory with extensive practice in reading and writing. (Students with one year of high school shorthand will receive no credit for this course.) Five meetings a week.
- BUS 107 — Intermediate Shorthand ..... 5-  
A review of fundamental principles, followed by assignments which stress speed, accuracy, fluency, and vocabulary. Introduction to transcription.  
Prerequisite: BUS 106 or one year of high school shorthand. Five meetings a week.
- BUS 108 — Intermediate Shorthand ..... 5-  
Further study of shorthand theory, acquisition of ability to take rapid dictation and transcribe accurately.  
Prerequisite: BUS 104. Five meetings a week.
- BUS 201 — Principles of Accounting I ..... 3-  
Principles, techniques, and tools of accounting for understanding the mechanics of accounting — collecting, summarizing, analyzing, and reporting information about service and mercantile enterprises; include practical application of principles learned.
- BUS 202 — Principles of Accounting II ..... 3-  
Partnership and corporation accounting including a study of payrolls and federal and state taxes with emphasis on the recording, summarizing and interpreting of data for management control rather than on bookkeeping details. Accounting services are shown as they contribute to the recognition and solution of management problems.  
Prerequisite: BUS 201.

BUS 203 — Principles of Accounting ..... 3-3  
 Partnership and corporation accounting including a study of payrolls and federal and state taxes with emphasis on the recording, summarizing and interpreting of data for management control rather than on bookkeeping details. Accounting services are shown as they contribute to the recognition and solution of management problems.  
 Prerequisite: BUS 201.

BUS 205 — Advanced Typewriting ..... 3-3  
 Emphasis is placed on the development of individual production rates. From the knowledge the student has previously acquired in typewriting, he learns to set-up problems using his own judgment. He learns the techniques needed in planning and typing special reports for executives, applying for a job, duplicating processes, manuscripts, and legal papers.

**CHEMISTRY**

CHM 101 — General Chemistry ..... 6-4  
 An intensive treatment of basic principles with emphasis upon atomic and molecular theory. Special attention is given to quantitative topics. Laboratory work devoted to experiments which reinforce the theoretical concepts.

CHM 102 — General Chemistry ..... 6-4  
 An intensive treatment of basic principles with emphasis upon atomic and molecular theory. Special attention is given to quantitative topics. Laboratory work devoted to experiments which reinforce the theoretical concepts.  
 Prerequisite: CHM 101.

CHM 103 — General Chemistry ..... 6-4  
 A continuation of general chemistry with major emphasis upon stoichicmetry chemistry. Laboratory practice is seperation and identification of the more common cations and anions.  
 Prerequisite: CHM 102 and CHM 101

**DRAMA**

DRA 201 — Literature for the Theatre ..... 3-3  
 Survey of significant plays, both classic and contemporary.

**ECONOMICS**

ECO 201 — Economic Principles I ..... 3-3  
 An introduction to economic principles, problems, and policies. The nature of economic concepts, the principles and problems involved in national incomes, employment and prices, aggregate demand, business cycles, monetary and fiscal policies.  
 Prerequisite: Sophomore standing or permission of instructor.

ECO 202 — Economic Principles II ..... 3-3  
 A continuation of Economics 201 with emphasis on the market and price system and the allocation of resources.  
 Prerequisite: ECO 201.

ECO 203 — Economic Principles III ..... 3-4  
 The distribution of income, government expenditures and revenues, public debt, and the distribution of the tax burden. A study of the international economy and perspectives on economic change.  
 Prerequisite: ECO 202.

ECO 208 — Consumer Economics ..... 3-4  
 A study of personal financial problems in such areas as housing, budgeting, loans, banking, taxes, credit and insurance.

### EDUCATION

EDU 101 — Educational Orientation ..... 1-2  
 Required of all full-time freshmen and transfer students during their first quarter at Isothermal Community College. Class meets once a week during regular class periods. The course covers the art of effective study, educational and vocational planning, use of the library, art of writing papers, and personal relations in college.

### ENGINEERING

EGN 101 — Engineering Drawing I ..... 3-4  
 An introductory course in drafting for students needing a knowledge of drawing principles and practices for reading and describing objects in the graphic language. The instruments, lettering, geometrical construction, free-hand sketching, and describing objects orthographically with principle views. Freehand sketching and orthographic reading are to be emphasized.

EGN 102 — Engineering Drawing II ..... 3-4  
 Basically descriptive geometry: presents graphic analysis of space problems involving points, lines, planes, connectors, and a combination of these. Practical design problems will be stressed with analytical verification where applicable. Visualization shall be stressed on every problem.

### ENGLISH

ENG 90 — Fundamentals of Grammar ..... 3-6  
 A guided studies course designed to review the fundamentals of grammar, including: spelling, punctuation, sentence structure, paragraph development, and theme writing.

ENG 95 — Reading Proficiency ..... 3-6  
 A guided studies course for the improvement of reading and study skills through vocabulary study, use of the controlled reader, and timed test for comprehension and speed.

ENG 101 — Freshman Composition I ..... 3-6  
 A study of sentence structure for variety; a study of paragraph development: writing through use of exposition, narration, description, and argumentation. Writing compositions from books read and reviewed and writing from other experiences. Reviewing of books read.

ENG 102 — Freshman Composition II ..... 3-6  
 Reading and writing. Study of works of literature selected for their excellence. Reading for minute details and writing from planned observations.



ENG 103 — Freshman Composition III .....	3-3
Reading, writing and speaking from assigned and selected topics. A detailed study of use of Library and Library materials for compiling a footnoted Library paper.	
ENG 201 — English Literature I .....	3-3
A survey of English literature from the fifth through the eighteenth century. Representative works are related to historical background and language development. Term paper.	
ENG 202 — English Literature II .....	3-3
A survey of English literature of nineteenth and twentieth centuries with special attention to development of literary types. Term paper.	
ENG 203 — Major American Writers .....	3-3
Survey of American literature presenting representative works and types selected by instructor. Term paper.	
ENG 211 — Speech .....	3-3
Performance course designed for (1) experience in speaking to small groups, contributing to discussions, and presiding at meetings and (2) command of parliamentary procedure.	

#### FRENCH

FRE 101, 102, 103 — Elementary French .....	(each) 3-3
Basic elements of French in conversation, reading, and composition designed for beginning students. Compulsory language laboratory attendance. Students with two high school units in French are not allowed credit for this sequence.	
FRE 201, 202, 203 — Intermediate French .....	3-3
Includes two areas of study: (1) An intensive review of basic grammar and syntax. (2) Development of reading skills through the study of significant literary works.	
Prerequisite: FRE 103 or two high school units and a satisfactory score on the placement test.	

#### GEOGRAPHY

GEOG 101 — Physical Geography .....	3-3
The earth's astronomical relations, factors of weather and climate, and physiographic features.	
GEOG 102 — World Regions .....	3-3
Relation of human activities to the larger geographic regions of the world.	

#### GEOLOGY

GEOL 101 — Physical Geology .....	6-4
The nature and occurrence of rocks and minerals, together with crustal features on the earth's surface. Laboratory work devoted to a study of rocks and minerals and their structure and occurrence.	
GEOL 102 — Physical Geology .....	6-4
A continuation of Geology 101 with major emphasis upon glaciation and glacial deposits, deserts, oceans, mountains and mountain building, and the earth's interior. Laboratory work will consist of topographic map interpretation.	
Prerequisite: GEOL 101.	

GEOL 103 — Historical Geology ..... 6-4  
 Emphasis in this course is on the stratigraphic and fossil history of the earth as found in the earth's crust together with the necessary information on both plant and animal kingdoms to trace the evolution of life down through the ages. Laboratory work devoted to experience with fossils, geologic maps, and aerial photographs.

### HISTORY

HIS 101, 102, 103 — World Civilization ..... (each) 3-3  
 A survey of world history: ancient and medieval; early modern; mid-nineteenth century to date.

HIS 251, 252, 253 — History of the United States ..... (each) 3-3  
 A survey of the history of the United States: 1492-1840; 1840-1900; 1900 to date.

### MATHEMATICS

MAT 90 — Developmental Mathematics ..... 3-GS3  
 An intensive review and application of basic mathematical concepts, designed for the student whose mathematical background is not strong enough to enable him to meet with success in college mathematics. This course is considered a three hour course for scheduling purposes.

MAT 99 — Solid Geometry ..... 3-GS3  
 Theorems and problems applying to planes and lines, polyhedrons, cylinders, cones, the sphere. Required of all pre-engineering students who do not offer at entrance one-half high school unit in solid geometry or equivalent.

MAT 101, 102, 103 — Foundation of Mathematics ..... (each) 3-3  
 A series of courses designed to give some insight into the nature and structure of mathematics. Topics include systems of numerations, finite mathematical systems, sets introduction to probability, a unified treatment of the basic concepts of algebra, logic, and numerical trigonometry.

MAT 111, 112 — Integrated College Algebra and Trigonometry ..... (each) 5-5  
 A unified treatment of Algebra and Trigonometry to provide a thorough preparation for a course in analytic geometry and the calculus.

MAT 113, 211, 212, 213 — Analytic Geometry and the Calculus ..... (each) 5-5  
 An integrated course in the fundamentals of analytic geometry and the calculus including application of derivatives, differentials, indefinite integrals, definite integrals, equations of curves and conic sections, differentiations of transcendental functions, polar coordinates, parametric equations, theory and applications of integrations, infinite series, solid analytic geometry, partial derivatives, multiple integrals and an introduction to differential equations.

MAT 161 — Elementary Statistics ..... 5-5  
 A study of fundamental statistical methods, basic statistical distributions, measures of control tendency and dispersion, statistical inference, and sampling techniques.

### MUSIC

MUS 110, 111, 112 — Choral Music ..... (each) 1-1  
 A study-activity course of vocal techniques and choral interpretation. Ensemble singing including the performance of works from standard choral repertory with emphasis on improving understanding, enjoyment and taste for a variety of good music.

MUS 251 — Music Appreciation .....	3-3
A historical survey of music from its primitive beginning to the present, designed to develop a deeper understanding, appreciation, and enjoyment of music.	

### PHYSICAL EDUCATION

P. E. 101 — Conditioning .....	2-1
P. E. 102 — Golf .....	2-1
P. E. 103 — Archery .....	2-1
P. E. 104 — Tumbling .....	2-1
P. E. 105 — Badminton .....	2-1
P. E. 107 — Volleyball .....	2-1
P. E. 205 — Basketball .....	2-1
P. E. 207 — Softball .....	2-1
P. E. 208 — Tennis .....	2-1
P. E. 209 — Touch Football .....	2-1
P. E. 210 — Folk Dancing .....	2-1
P. E. 211 — Square Dancing .....	2-1
P. E. 212 — Social Dancing .....	2-1

### PHYSICS

PHY 201 — General Physics I .....	6-4
An introduction to systems of measurements, properties of matters (solids, liquids, gases). Laboratory experiments in mass, pressure, and volume.	
PHY 202 — General Physics II .....	6-4
Electron theory. Magnetism, electricity, and heat. Direct and alternating currents, series and parallel circuits. Heat temperature, and change of state. Laboratory experiments in resistance, voltage and current measurements, and magnetic and electromagnetic effects.	
PHY 203 — General Physics III .....	6-4
A study of light and sound wave motion, measurements of intensity, velocities, frequencies, and qualitative analysis.	

### PHILOSOPHY

PHI 101 — Introduction to Philosophy .....	5-5
An introduction to the basic problems of human thought and the philosophical systems dealing with these problems as well as their historical development.	

### POLITICAL SCIENCE

POL 201 — American National Government .....	3-3
A study of the formation and development of the National government, its organization, functions, and powers.	
POL 202 — Problems and Policies of American Government .....	3-3
A study of the politics, functions, and progress of the national government. Specific policies in the areas of labor, agriculture, welfare, business, civil rights, citizenship, and national security, using a background of history, politics, and governmental institutions.	
Prerequisite: POL 201.	
POL 203 — American State and Local Government .....	3-3
A study of the organization, functions, and powers of state and local government throughout the United States.	

## SCIENCE

SCI 90

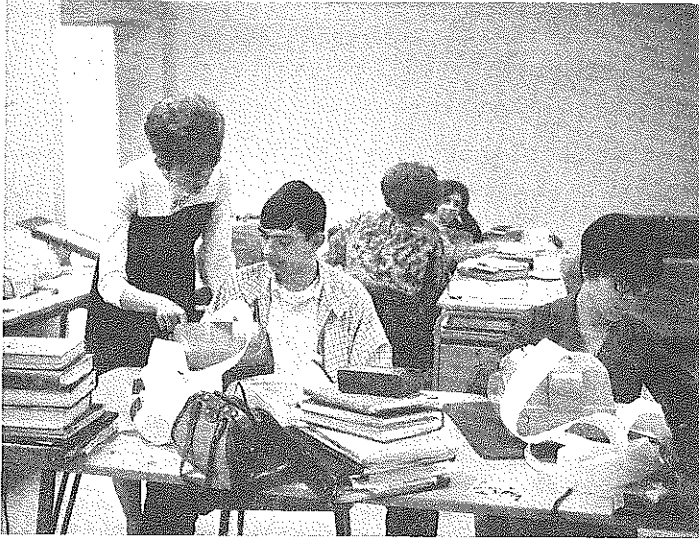
A guided study in developing the student's weakness in this area with emphasis on biology, chemistry, and physics.

## SOCIOLOGY

- SOC 201 — Introduction to Sociology ..... 3-3  
An analysis of the society and culture dealing with social organization, control, institutions, stratification, and social change.
- SOC 202 — Social Problems ..... 3-3  
A study of the major social problems of modern society, including family disorganization, minority groups, and problems associated with industrial and urban development.
- SOC 203 — Sociology of the Family ..... 3-3  
Study of the American family with attention given to courtship, marriage, family relationships and interdependencies, and social cultural stresses emerging from contemporary family life.

## SPANISH

- SPA 101, 102, 103 — Elementary Spanish ..... (each) 3-3  
Basic elements of Spanish in conversation, reading, and composition. Designed for beginning students. Compulsory language laboratory attendance. Students with two high school units in Spanish are not allowed credit for this sequence.
- SPA 201, 202, 203 — Intermediate Spanish ..... (each) 3-3  
Includes two areas of study: (1) An intensive review of basic grammar and syntax. (2) Development of reading skills through the study of significant literary works.  
Prerequisite: SPA 103 or two high school units and a satisfactory score on the placement test.



## VII. TECHNICAL DIVISION

Courses offered in the Technical Division are designed to meet the increasing demand in industry for high level industrial skills. The technician is a person whose chief interests and activities lie in the direction of testing, developing, and applying the operation of engineering and scientific processes. The student will be exposed to such activities as drafting and design, installation and operation of equipment, estimating, and sales. The technical curriculum requires two years for completion. The curriculum is similar to professional engineering but briefer and more technical in content.

Students choosing to enter a technical program must meet educational and aptitude requirements applicable to the individual course of their choosing. Students must have a well-rounded educational background in mathematics and science and possess adult maturity with a general aptitude for this advanced type of training.

Isothermal Community College endeavors to meet the needs of the people in the area by offering a two year technical curriculum geared to train a person in specific technical areas.

### DEGREE OFFERED

The student is eligible for an Associate in Applied Science Degree pending completion of one of the following two year programs:

Associate in Applied Science Degree in:

- Business Administration
- Electronics Technology
- Executive Secretary

## REQUIREMENTS FOR GRADUATION WITH AN ASSOCIATE OF APPLIED SCIENCE DEGREE

1. A minimum of 108 quarter hours credit.
2. A minimum of 18 quarter hours in the areas of English, Social Science, and Humanities, and not less than three (3) quarter hours in each field.
3. A student may be exempt from one area upon the approval of the Director of Guidance. (In such a case, the total number of hours would not be reduced but concentrated in the remaining two areas.)

### TECHNICAL PROGRAMS

#### BUSINESS ADMINISTRATION

In North Carolina the opportunities in business are increasing. With the increasing population and industrial development in this state, business has become more competitive and automated. Better opportunities in business will be filled by students with specialized education beyond the high school level. The Business Administration Curriculum is designed to prepare the student for employment in one of many occupations common to business. Training is aimed at preparing the student in many phases of administrative work that might be encountered in the average business.

The specific objectives of the Business Administration Curriculum are to develop: (1) Understanding of the principles of organization and management in business operations; (2) Understanding our economy through study and analysis of the role of production and marketing; (3) Knowledge in specific elements of accounting, finance, and business law; (4) Understanding and skill in effective communication for business operations in a rapidly expanding economy.

The graduate of the Business Administration Curriculum may enter a variety of career opportunities from beginning sales person or office clerk to management trainee. The duties and responsibilities of this graduate vary in different firms. These duties might include: making up and filing reports, tabulating and posting data in various books, sending out bills, checking calculations, adjusting complaints, operating various office machines, and assisting managers in supervision. Positions are available in businesses such as advertising; banking; credit, finance, retailing; wholesaling; hotel, tourist, and travel industry; insurance; transportation; manufacturing; and communications.

## BUSINESS ADMINISTRATION

<i>Course Title</i>	<i>Hours Per Week</i>		<i>Quarter Hours Credit</i>
	<i>Class</i>	<i>Lab.</i>	
<b>FIRST QUARTER</b>			
T-ENG 101 Grammar .....	3	0	3
T-MAT 110 Business Mathematics .....	3	2	4
T-BUS 101 Introductions to Business .....	3	0	3
T-ECO 102 Economics .....	3	0	3
T-BUS 102 Typewriting or Elective .....	2	3	3
EDU 101 Educational Orientation .....	1	0	1
	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>
	15	5	17
<b>SECOND QUARTER</b>			
T-ENG 102 Composition .....	3	0	3
T-BUS 120 Accounting .....	5	2	6
T-BUS 115 Business Law .....	3	0	3
T-ECO 104 Economics .....	3	0	3
T-BUS 123 Business Finance .....	3	0	3
	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>
	17	2	18
<b>THIRD QUARTER</b>			
T-ENG 103 Report Writing .....	3	0	3
T-BUS 121 Accounting .....	5	2	6
T-BUS 116 Business Law .....	3	0	3
T-BUS 110 Office Machines .....	2	2	3
T-BUS 124 Business Finance .....	3	0	3
	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>
	16	4	18
<b>FOURTH QUARTER</b>			
T-ENG 204 Oral Communication .....	3	0	3
T-BUS 232 Sales Development .....	3	0	3
T-BUS 239 Marketing .....	5	0	5
T-EDP 104 Introduction to Data Processing .....	3	2	4
..... Elective .....	3	0	3
	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>
	17	2	18
<b>FIFTH QUARTER</b>			
T-ENG 206 Business Communication .....	3	0	3
T-BUS 243 Advertising .....	3	2	4
T-BUS 235 Business Management .....	3	0	3
T-PSY 206 Applied Psychology .....	3	0	3
..... Elective .....	5	0	5
	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>
	17	2	18
<b>SIXTH QUARTER</b>			
T-BUS 229 Taxes .....	3	2	4
T-BUS 271 Office Management .....	3	0	3
T-BUS 272 Principle of Supervision .....	3	0	3
..... Social Science Elective .....	3	0	3
..... Elective .....	6	0	6
	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>
	18	2	19

## ELECTRONICS TECHNOLOGY

The field of electronics has developed at a tremendously rapid pace, especially since 1940. For many years the major concern of electronics was in the area of communications. Developments during and following World War II have revolutionized production techniques. Completely new industries have been established to supplement the need and demand for electronics equipment. This rapid growth of the electronics industry has been accompanied by an equally phenomenal growth in the demand for qualified technicians — both men and women.

This program provides a basic background in electronics theory and practical applications for business and industry. The Electronics Technology curriculum is designed to give the student a thorough introduction to the basic theory and application of electronic fundamentals, along with a solid foundation of mathematics and physics. The graduate of this curriculum is qualified to enter any of the many branches of our modern and ever-expanding world of electronics. Skilled electronic technicians are in great demand in our giant aerospace, communications, and computer industries. There is also a growing demand for skilled personnel in the medical and service fields. A career in Electronics Technology easily leads into supervisory and management positions in industry. There is no foreseeable decrease in the demand or growing opportunity for the skilled technician in electronics.

Upon completion of this program, students will find employment opportunities in such fields as radio and television production, radar, sonar, telemetering, and other forms of communication such as telephone; industrial and medical measuring, recording, indicating, and controlling devices; navigational equipment; missile and spacecraft guidance; electronic computers; and other types of equipment using vacuum tubes, transistors, and semiconductor circuits.

### ELECTRONICS

<i>Course Title</i>	<i>Hours Per Week</i>		<i>Quarter Hours Credit</i>
	<i>Class</i>	<i>Lab.</i>	
<b>FIRST QUARTER</b>			
T-ENG 101 Grammar .....	3	0	3
T-MAT 101 Technical Mathematics .....	5	0	5
T-PHY 101 Physics: Properties of Matter .....	3	2	4
T-DFT 101 Technical Drafting .....	0	6	2
T-ELC 101 Fundamentals of Electricity .....	4	4	6
EDU 101 Educational Orientation .....	1	0	1
	<u>16</u>	<u>12</u>	<u>21</u>
<b>SECOND QUARTER</b>			
T-ENG 102 Composition .....	3	0	3
T-MAT 102 Technical Mathematics .....	5	0	5
T-PHY 102 Physics: Work, Energy, Power .....	3	2	4
T-DFT 102 Technical Drafting .....	0	6	2
T-ELC 102 Fundamentals of Electricity .....	4	4	6
	<u>15</u>	<u>12</u>	<u>20</u>
<b>THIRD QUARTER</b>			
T-ENG 103 Report Writing .....	3	0	3
T-MAT 103 Technical Mathematics .....	5	0	5
T-ELN 101 Electronics Instruments and Measurements .....	3	6	3
T-ELN 105 Control Devices .....	5	4	7
	<u>16</u>	<u>10</u>	<u>18</u>



#### FOURTH QUARTER

T-ENG 204	Oral Communication .....	3	0	3
T-MAT 201	Technical Mathematics .....	5	0	5
T-PHY 104	Physics: Light and Sound .....	3	2	4
T-ELN 205	Applications of Vacuum Tubes and Transistors .....	5	6	7
		<hr/>	<hr/>	<hr/>
		16	8	19

#### FIFTH QUARTER

	Social Science Elective .....	3	0	3
T-ELN 210	Semiconductor Circuit Analysis ..	5	3	6
T-ELN 214	Wave Shaping and Pulse Circuits	2	3	3
	Elective .....	3	0	3
		<hr/>	<hr/>	<hr/>
		13	6	15

#### SIXTH QUARTER

	Social Science Elective .....	3	0	3
T-ELN 215	Wave Shaping and Pulse Circuits	2	3	3
T-ELN 220	Electronic Systems .....	5	4	7
	Elective .....	3	0	3
		<hr/>	<hr/>	<hr/>
		13	7	16

### SECRETARIAL SCIENCE — EXECUTIVE, LEGAL AND MEDICAL OPTIONS

Almost 11 million people were employed in clerical or some closely related type of work in 1965. More than two million of these were employed in occupations requiring stenographic skills. In fact, more individuals are employed in the clerical fields than in any other category.

A very rapid increase in employment in the late 1960's and early 1970's is anticipated. Openings may total more than 200,000 annually. Local employment opportunities parallel national trends.

In today's increasingly complex society, everyone needs an understanding of the business world. The successful business enterprise can no longer operate with only a few typists and bookkeepers. The private secretary must supplement her typing and shorthand with many new skills and abilities to meet demands of her position today.

The Executive Secretary curriculum is designed to develop the necessary secretarial skills in typing, dictation, transcription, operation of office machines, and terminology for employment in the business world. The special training in secretarial subjects is supplemented by related courses in mathematics, accounting, business law, and personality development.

The graduate of the Executive Secretary curriculum may be employed as a stenographer or a secretary as well as in a variety of other clerical occupations. Stenographers are primarily responsible for taking dictation and transcribing letters, memoranda, or reports. The secretary, in addition to taking dictation and transcribing, is given more responsibility in connection with meeting office callers, screening telephone calls, handling numerous routine duties, private and confidential records, and a variety of business details on her own initiative. Positions are available in a variety of businesses such as insurance companies, banks, marketing institutions, financial firms, as well as all types of manufacturing firms.

BUSINESS TECHNOLOGY

EXECUTIVE SECRETARY WITH LEGAL AND MEDICAL OPTIONS

	<i>Course Title</i>	<i>Hours Per Week</i>		<i>Quarter</i>
		<i>Class</i>	<i>Lab.</i>	<i>Hours</i> <i>Credit</i>
<b>FIRST QUARTER</b>				
T-ENG 101	Grammar .....	3	0	3
T-MAT 110	Business Mathematics .....	3	2	4
T-BUS 101	Introduction to Business .....	3	0	3
T-BUS 102	Typewriting or Elective .....	2	3	3
T-BUS 106	Shorthand or Elective .....	3	2	4
EDU 101	Educational Orientation .....	1	0	1
		<u>15</u>	<u>7</u>	<u>18</u>
<b>SECOND QUARTER</b>				
T-ENG 102	Composition .....	3	0	3
T-BUS 103	Typewriting or Elective .....	2	3	3
T-BUS 107	Shorthand .....	3	2	4
T-BUS 115	Business Law .....	3	0	3
T-BUS 183	Terminology and Vocabulary .....	3	0	3
		<u>14</u>	<u>5</u>	<u>16</u>
<b>THIRD QUARTER</b>				
T-ENG 103	Report Writing .....	3	0	3
T-BUS 104	Typewriting .....	2	3	3
T-BUS 108	Shorthand .....	3	2	4
T-BUS 112	Filing .....	3	0	3
T-BUS 110	Office Machines .....	2	2	3
T-PSY 112	Personality Development .....	3	0	3
		<u>16</u>	<u>7</u>	<u>19</u>
<b>FOURTH QUARTER</b>				
T-BUS 199	Accounting .....	3	1	3
T-ENG 204	Oral Communications .....	3	0	3
T-BUS 205	Advanced Typewriting .....	2	3	3
T-BUS 206E	Dictation and Transcription .....	3	2	4
T-BUS 211	Office Machines .....	2	2	3
	Elective .....	3	0	3
		<u>16</u>	<u>8</u>	<u>19</u>
<b>FIFTH QUARTER</b>				
T-ENG 206	Business Communication .....	3	0	3
T-BUS 207E	Dictation and Transcription .....	3	2	4
T-BUS 214	Secretarial Procedures .....	3	2	4
T-PSY 206	Applied Psychology .....	3	0	3
	Elective .....	6	0	6
		<u>18</u>	<u>4</u>	<u>20</u>
<b>SIXTH QUARTER</b>				
T-BUS 208E	Dictation and Transcription .....	3	2	4
T-BUS 271	Office Management .....	3	0	3
	Social Science Elective .....	3	0	3
	Elective .....	6	0	6
		<u>15</u>	<u>2</u>	<u>16</u>

# COURSES OF INSTRUCTION

## TECHNICAL DIVISION

### COURSE DESCRIPTIONS

The courses listed in this section represent the offerings with in the Technical Division. Courses should be taken in numerical sequence with prerequisite courses taken as prescribed.

Courses in the Guided Studies Program are described in areas where developmental work is offered. When test results indicate weaknesses in a subject area, students will be assigned to a non-credit course. When weaknesses are overcome, curriculum students will be scheduled for college credit courses.

## COURSES OF INSTRUCTION

### TECHNICAL DIVISION

#### BUSINESS ADMINISTRATION

	<i>Credit Hours</i>
T-BUS 101 — Introduction to Business .....	5
A survey of the business world with particular attention devoted to the structure of the various types of business organization, methods of financing, internal organization, and management.	
Prerequisite: None.	
T-BUS 102 — Typewriting .....	3
Introduction to the touch typewriting system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation, and manuscripts.	
T-BUS 103 — Typewriting .....	3
Instruction emphasizes the development of speed and accuracy with further mastery of correct typewriting techniques. These skills and techniques are applied in tabulation, manuscript, correspondence, and business forms.	
Prerequisite: T-BUS 102 or the equivalent. Speed requirements 30 words per minute for five minutes.	
T-BUS 104 — Typewriting .....	3
Emphasis on production typing problems and speed building. Attention to the development of the student's ability to function as an expert typist, producing mailable copies. The production units are tabulation, manuscript, correspondence, and business forms.	
Prerequisite: T-BUS 103 or the equivalent. Speed requirement, 40 words per minute for five minutes.	
T-BUS 106 — Shorthand .....	4
A beginning course in the theory and practice of reading and writing shorthand. Emphasis on phonetics, penmanship, word families, brief forms, and phrases.	
Prerequisite: None.	
T-BUS 107 — Shorthand .....	4
Continued study of theory with greater emphasis on dictation and elementary transcription.	
Prerequisite: T-BUS 106 or the equivalent.	

- T-BUS 108 — Shorthand ..... 4  
 Theory and speed building. Introduction to office style dictation. Emphasis on development of speed in dictation and accuracy in transcription.  
 Prerequisite: T-BUS 107.
- T-BUS 110 — Office Machines ..... 3  
 A general survey of the business and office machines. Students will receive training in techniques, processes, operation and application of the ten-key adding machines, full keyboard adding machines, and calculator.  
 Prerequisite: None.
- T-BUS 112 — Filing ..... 3  
 Fundamentals of indexing and filing, combining theory and practice by the use of miniature letters, filing boxes and guides. Alphabetic, Triple Check, Automatic, Geographic, Subject, Soundex, and Dewey Decimal Filing.  
 Prerequisite: None.
- T-BUS 115 — Business Law ..... 3  
 A general course designed to acquaint the student with certain fundamentals and principles of business law, including contracts, negotiable instruments, and agencies.  
 Prerequisite: None.
- T-BUS 116 — Business Law ..... 3  
 Includes the study of laws pertaining to bailments, sales, riskbearing, partnership-corporation, mortgages, and property rights.  
 Prerequisite: T-BUS 115
- T-BUS 117 — Business Law ..... 3  
 A study of the powers, policies, methods, and procedures used by the various Federal, state and local administrative agencies in promoting and regulating business enterprises. It includes a consideration of the constitutional and statutory limitations on these bodies and judicial review of administrative action.  
 Prerequisite: T-BUS 116.
- T-BUS 120 — Accounting ..... 6  
 Principles, techniques and tools of accounting, for understanding of the mechanics of accounting. Collecting, summarizing, analyzing, and reporting information about service and mercantile enterprises, to include practical application of the principles learned  
 Prerequisite: T-MAT 110.
- T-BUS 121 — Accounting ..... 6  
 Partnership and corporation accounting including a study of payrolls, federal and state taxes. Emphasis is placed on record keeping, summarizing and interpreting data for management control rather than on bookkeeping skills. Accounting services are shown as they contribute to the recognition and solution of management problems.  
 Prerequisite: T-BUS 120.
- T-BUS 123 — Business Finance ..... 3  
 Financing of business units, as individuals, partnerships, corporations, and trusts. A detailed study is made of short-term, long-term, and consumer financing.  
 Prerequisite: None.

- T-BUS 124 — Business Finance ..... 3  
 Financing, federal, state, and local government and the ensuing effects upon the economy. Factors affecting supply of funds, monetary and credit policies. Prerequisite: T-BUS 123.
- T-BUS 183E — Terminology and Vocabulary ..... 3  
 To develop an understanding of the terminology and vocabulary appropriate to the course of study, as it is used in business, technical, and professional offices. Prerequisite: T-BUS 107.
- T-BUS 199 — Accounting ..... 3  
 Principles, techniques and tools of accounting for understanding of the mechanics of accounting. Emphasis is placed on record keeping, including a study of payroll, cash receipts and disbursements, also including summarizing and analyzing through the accounting cycle.
- T-BUS 204 — Advanced Typewriting ..... 3  
 Emphasis is placed on the development of individual production rates. The student learns the techniques needed in planning and in typing projects that closely approximate the work appropriate to the field of study. These projects include review of letter forms, methods of duplication, statistical tabulation, and the typing of reports, manuscripts and legal documents. Prerequisite: T-BUS 104. Speed requirement, 50 words per minute for five minutes.
- T-BUS 206E — Dictation and Transcription ..... 4  
 Develops the skill of taking dictation and of transcribing at the typewriter materials appropriate to the course of study, which includes a review of the theory and the dictation of familiar and unfamiliar material as varying rates of speed. Minimum dictation rate of 100 words per minute required for five minutes on new material. Prerequisite: T-BUS 108.
- T-BUS 207E — Dictation and Transcription ..... 4  
 Covering materials appropriate to the course of study, the student develops the accuracy, speed, and vocabulary that will enable her to meet the stenographic requirement of business and professional offices. Minimum dictation rate of 110 words per minute required for five minutes on new material. Prerequisite: T-BUS 206.
- T-BUS 208E — Dictation and Transcription ..... 4  
 Principally a speed building course, covering materials appropriate to the course of study, with emphasis on speed as well as accuracy. Minimum dictation rate of 120 words per minute required for five minutes on new material. Prerequisite: T-BUS 207E.
- T-BUS 211 — Office Machines ..... 3  
 Instruction in the operation of the bookkeeping-accounting machines, duplicating equipment, and the dictating and transcribing machines. Prerequisite: T-BUS 110.
- T-BUS 214 — Secretarial Procedures ..... 4  
 Designed to acquaint the student with the responsibilities encountered by a secretary during the work day. These include the following: receptionist duties, handling the mail, telephone techniques, travel information, telegrams, office records, purchasing of supplies, office organization, and insurance claims. Prerequisite: None.

- T-BUS 215E — Office Application ..... 6  
 During the sixth quarter only, students are assigned to work in a business, technical, or professional office for six hours per week. The objective is to provide actual work experience for secretarial students and an opportunity for the practical application of the skills and knowledge previously learned, according to the course of study.  
 Prerequisite: T-BUS 214, T-BUS 205, T-BUS 208, T-BUS 211.
- T-BUS 219 — Credit Procedures and Problems ..... 3  
 Principles and practices in the extension of credit; collection procedures; laws pertaining to credit extension and collection are included.  
 Prerequisite: T-BUS 120.
- T-BUS 229 — Taxes ..... 4  
 Application of federal and state taxes to various businesses and business conditions. A study of the following taxes: income, payroll, intangible, capital gain, sales and use, excise, and inheritance.  
 Prerequisite: T-BUS 121.
- T-BUS 232 — Sales Development ..... 3  
 A study of retail, wholesale and specialty selling. Emphasis is placed upon mastering and applying the fundamentals of selling. Preparation for and execution of sales demonstrations required.  
 Prerequisite: None.
- T-BUS 233 — Personnel Management ..... 3  
 Principles of organization and management of personnel, procurement, placement, training, performance checking, supervision, remuneration, labor relations, fringe benefits and security.  
 Prerequisite: None.
- T-BUS 235 — Business Management ..... 3  
 Principles of business management including overview of major functions of management, such as planning, staffing, controlling, directing, and financing. Clarification of the decision-making function versus the operating function. Role of management in business — qualifications and requirements.  
 Prerequisite: None.
- T-BUS 237 — Wholesaling ..... 3  
 The development of wholesaling; present day trends in the United States. A study of the function of wholesaling.  
 Prerequisite: None.
- T-BUS 239 — Marketing ..... 5  
 A general survey of the field of marketing, with a detailed study of the function, policies, and institutions involved in the marketing process.
- T-BUS 243 — Advertising ..... 4  
 The role of advertising in a free economy and its place in the media of mass communications. A study of advertising appeals; product and market research; selection of media; means of testing effectiveness of advertising. Theory and practice of writing advertising copy for various media.  
 Prerequisite: None.

- T-BUS 245 — Retailing ..... 3  
 A study of the role of retailing in the economy including development of present retail structure, functions performed, principles governing effective operation and managerial problems resulting from current economic and social trends.  
 Prerequisite: None.
- T-BUS 247 — Business Insurance ..... 3  
 A presentation of the basic principles of risk insurance and their application. A survey of the various types of insurance is included.  
 Prerequisite: None.
- T-BUS 255 — Interpreting Accounting Records ..... 3  
 Designed to aid the student in developing a "use understanding" of accounting records, reports and financial statements. Interpretation, analysis, and utilization of accounting statements.  
 Prerequisites: T-BUS 121.
- T-BUS 266 — Budget and Record Keeping ..... 3  
 The basic principles, methods, and procedures for preparation and operation of budgets. Special attention is given to the involvement of individual departments and the role they play. Emphasis on the necessity for accurate record keeping in order to evaluate the effectiveness of budget planning.  
 Prerequisites: T-BUS 121.
- T-BUS 271 — Office Management ..... 3  
 Presents the fundamental principles of office management. Emphasis on the role of office management including its function, office automation, planning, controlling, organizing and actuating office problems.  
 Prerequisite: None.
- T-BUS 272 — Principles of Supervision ..... 3  
 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.

#### CHEMISTRY

- T-CHM 101 — Chemistry ..... 5  
 Study of the physical and chemical properties of substances, chemical changes; elements, compounds, gases, chemical combinations; weights and measurements; theory of metals; acids, bases, salts, solvents, solutions, and emulsions. In addition, study of carbohydrates; electrochemistry, electrolytes, and electrolysis in their application of chemistry to industry.  
 Prerequisite: T-MAT 101.

#### DATA PROCESSING

- T-EDP 104 — Introduction to Data Processing Systems ..... 4  
 Fundamental concepts and operational principles of data processing systems, as an aid in developing a basic knowledge of computers, prerequisite to the detail study of particular computer problems. This course is a prerequisite for all programming courses.  
 Prerequisite: None.

## DRAFTING

- T-DFT 101 — Technical Drafting ..... 2  
The study of technical drafting is drawing principles and practices for print reading and describing objects in graphic language. Basic skills and techniques of drafting included are: use of drafting equipment, lettering, freehand orthographic and pictorial sketching, geometric construction, orthographic instrument drawing of principal views, and standards and practices of dimensioning. The principles of isometric, oblique, and perspective are introduced.  
Prerequisite: None.
- T-DFT 102 — Technical Drafting ..... 2  
The application of orthographic projection principles to the more complex drafting problems, primary and secondary auxiliary views, simple and successive revolutions, and sections and conventions will be studied. Most important is the introduction of the graphical analysis of space problems. Problems of practical design elements involving points, lines, planes, and a combination of these elements shall be studied. Dimensioning practices for "details," and "working drawings," approved by the American Standard Association will also be included. Introduction is given to intersections and developments of various types of geometrical objects.  
Prerequisite: T-DFT 101

## ECONOMICS

- T-ECO 102 — Economics ..... 3  
The fundamental principles of economics including the institutions and practices by which people gain a livelihood. Included is a study of the laws of supply and demand and the principles bearing upon production, exchange, **distribution**, and consumption both in relation to the individual enterprise and to society at large.  
Prerequisite: None.
- T-ECO 104 — Economics ..... 3  
Greater depth in principles of economics, including a penetration into the composition and pricing of national output, distribution of income, international trade and finance, and current economic problems.  
Prerequisite: T-ECO 102.
- T-ECO 108 — Consumer Economics ..... 3  
Designed to help the student use his resources of time, energy, and money to get the most out of life. It gives the student an opportunity to build useful skills in buying, managing his finances, increasing his resources, and to understand better the economy in which he lives.  
Prerequisite: None.

## ELECTRICITY

- T-ELC 101 — Fundamentals of Electricity ..... 6  
Elementary principles of electricity including: basic electric units, Ohms law, Kirchhoffs law, network theorems, magnetics, basic electrical measuring instruments, inductance, capacitance, sine wave analysis, and non-resonant resistive, inductive and capacitive networks.  
Prerequisite: None.
- T-ELC 102 — Fundamentals of Electricity ..... 6  
Series and parallel resonant-circuit analysis, resonant and non-resonant transformer analysis, basic diode power supply analysis, introduction to non-linear resistive control devices, and introduction to electro-mechanical devices.  
Prerequisite: T-ELC 101.



- T-ELC 210 — Rotating Devices ..... 3  
 Introduction to electrical machinery. AC and DC motor and generator principles, synchros and servomechanisms, alternators and dynamotors, Ward-Leonard and amplidyne control systems will be analyzed. A general knowledge of the theory, operation, and maintenance of these devices and systems will be stressed.  
 Prerequisite: T-ELC 102, T-PHY 102.

## ELECTRONICS

- T-ELN 101 — Electronic Instruments and Measurements ..... 3  
 A study of basic electronic instruments, their theory of operation, function, tolerances, and calibration. Both service and laboratory instruments will be studied. Laboratory experience will provide application of each type instrument studied.  
 Prerequisite: T-ELC 102
- T-ELN 105 — Control Devices ..... 7  
 A study in depth of the electrical characteristics of vacuum tubes and transistor. Basic parameters and applications of each type device to the three configurations of a three terminal two port system will be included.  
 Prerequisite: T-ELC 102
- T-ELN 205 — Application of Vacuum Tubes and Transistors ..... 6  
 Practical applications of vacuum tubes and transistor to amplifiers, radio frequency amplifiers, detectors, modulators and oscillators.  
 Prerequisite: T-ELN 105.
- T-ELN 210 — Semiconductor Circuit Analysis ..... 6  
 A study in some depth of the analysis and design of transistor circuits. Network theorems and equivalent circuits are used extensively in evaluating total circuit performance. Device peculiarities and limitations pertinent to reliable operations are considered. H. Y. Z. and T. parameters are employed as well as signal-flow graphs.  
 Prerequisite: T-ELN 105.
- T-ELN 214 — Wave Shaping and Pulse Circuits ..... 3  
 Broadband amplifiers, magnetic amplifiers, multivibrators, wave shaping techniques, chopper amplifiers, clipper and clamper circuits.  
 Prerequisites: T-ELN 105, T-MAT 103.
- T-ELN 215 — Wave Shaping and Pulse Circuits ..... 3  
 Pulse techniques, diode switches, gates, step-counters, restorers and other specific circuits which function as switches.  
 Prerequisite: T-ELN 214.
- T-ELN 220 — Electronic Systems ..... 7  
 A block diagram course investigating numerous electronic systems. Modules or blocks of various circuits already studied are arranged in various manners to produce complex electronic systems. Systems will be explained and reduced to functions and then to block diagrams. AM, FM, and Single Sideband transmitters and receivers, multiplexing, TV transmitters and receivers, pulse-modulated systems, computers, telemetry, navigational systems, sonar and radar will be considered.  
 Corequisite: T-ELN 215.

T-ELN 225 — Transmission and Propagation .....	3
<p>An introduction to the electromagnetic radiation, principles of antenna, radiation patterns and field strength. The characteristics and use of transmission lines in radio frequency application. Factors involved in propagation, ground waves, reflections, sky waves, atmospheric effects, ionosphere, fading, noise, static, wire radiators, directive gain, effect of ground, impedance, antenna systems and arrays.</p> <p>Prerequisite: T-ELN 105. Corequisite: T-ELN 205.</p>	
T-ELN 227 — UHF and Microwave Systems .....	7
<p>A study of UHF and components, circuits, and measurement techniques. The use of distributed constant elements, waveguides and coaxial cables, microwave links, high frequency oscillators, magnetrons, klystrons, traveling wave tubes. An introduction to the use of the Smith Chart.</p> <p>Prerequisite: T-ELN 225.</p>	
T-ELN 230 — Television Systems .....	7
<p>A study of the principles of television including the television system, camera tubes, scanning and synchronization, composite video signal, receiver circuits, transmitting equipment, color television, and closed-loop systems.</p> <p>Corequisite: T-ELN 214.</p>	
T-ELN 235—Industrial Instrumentation .....	7
<p>Broad introduction to use of industrial electro-mechanical and electronic circuits and equipment. Provides an understanding of the methods, techniques, and skills required for installation, service and operation of a variety of industrial control systems. Analysis of sensing devices for detecting changes in pressure, temperature, humidity, sound, light electricity, the associated circuitry and indicating and recording devices.</p> <p>Prerequisites: T-ELN 205, T-PHY 104.</p>	
T-ELN 240 — Digital Computers .....	3
<p>An exploration into the methodology of counting and computing. Various computer techniques will be investigated including: non-sinusoidal waveforms, binary and decade counters, industrial counters, readout devices, logic circuits, arithmetic circuits, storage devices, input-output devices, computer control, analog and digital converters.</p> <p>Prerequisite: T-ELN 214.</p>	
T-ELN 245 — Electronic Design Project .....	2
<p>Students are required to design and construct a project approved by the instructor. Includes selection of project, design, construction, and testing of completed project. Projects may include: AM or FM transmitters or receivers, amplifiers, test equipment, control devices, simple counters, lasers, masers, etc.</p> <p>Prerequisite: T-ELN 205.</p>	

## ENGLISH

T-ENG 101 — Grammar .....	3
<p>Designed to aid the student in the improvement of self-expression in grammar. The approach is functional with emphasis on grammar, diction, sentence structure, punctuation, and spelling. Intended to stimulate students in applying the basic principles of English grammar in their day-to-day situations in industry and social life.</p> <p>Prerequisite: None.</p>	

- T-ENG 102 — Composition ..... 3  
 Designed to aid the student in the improvement of self-expression in business and technical composition. Emphasis is on the sentence, paragraph and whole composition.  
 Prerequisite: T-ENG 101
- T-ENG 103 — Report Writing ..... 3  
 The fundamentals of English are utilized as a background for the organizations and techniques of modern report writing. Exercises in developing typical reports, using writing techniques and graphic devices are completed by the students. Practical application in the preparation of a full-length report is required of each student at the end of the term. This report must have to do with something in his chosen curriculum.  
 Prerequisite: T-ENG 102.
- T-ENG 204 — Oral Communication ..... 3  
 A study of basic concepts and principles of oral communications to enable the students to communicate with others. Emphasis is placed on the speaker's attitude, improving diction, voice, and the application of particular techniques of theory to correct speaking habits and to produce effective oral presentation. Particular attention is given to conducting meetings, conferences, and interviews.
- T-ENG 206 — Business Communication ..... 3  
 Develops skills in techniques in writing business communications. Emphasis is placed on writing action—getting sales letters and prospectuses. Business reports, summaries of business conferences, letters involving credit, collection, adjustments, complaints, orders, acknowledgements, remittances, and inquiry.  
 Prerequisite: T-ENG 102.

## MATHEMATICS

- T-MAT 101 — Technical Mathematics ..... 5  
 The real number system is developed as an extension of natural numbers. Number systems of various bases are introduced. Fundamental algebraic operations, the rectangular coordinated system, as well as fundamental trigonometric concepts and operations are introduced. The application of these principles to practical problems is stressed.  
 Prerequisite: Satisfactory evidence that admission requirements have been met.
- T-MAT 102 — Technical Mathematics ..... 5  
 A continuation of T-MAT 101. Advanced algebraic and trigonometric topics including quadratics, logarithms, determinants, progressions, the binomial expansion, complex numbers, solution of oblique triangles and graphs of the trigonometric functions are studied in depth.
- T-MAT 103 — Technical Mathematics ..... 5  
 The fundamental concepts of analytical geometry, differential and integral calculus are introduced. Topics included are graphing techniques, geometric and algebraic interpretation of the derivative, differentials, rate of change, the integral and basic integration techniques. Application of these concepts to practical situations are stressed.  
 Prerequisite: T-MAT 102.

- T-MAT 110 — Business Mathematics ..... 5  
 This course stresses the fundamental operations and their application to business problems. Topics covered include payrolls, price marking, interest and discounts, commissions, taxes, and pertinent uses of mathematics in the field of business.  
 Prerequisite: None.
- T-MAT 201 — Technical Mathematics ..... 5  
 A continuation of T-MAT 103. More advanced concepts of differentiation and integration are considered. Included are graphs and derivatives of the trigonometric functions, exponential and logarithmic differentiation and integration, metric equations, and Fourier series.  
 Prerequisite: T-MAT 103.
- T-MAT 208 — Calculus and Laplace Transforms for Electronics ..... 5  
 An investigation of the methods of calculus which are of the most direct use in the study of electronic circuits. Introduction to selected topics from differential equations and Laplace transforms and applications of these methods to the solution of electronic circuit problems.  
 Prerequisite: T-MAT 201. Corequisite: T-ELN 214.

### MECHANICS

- T-MEC 110 — Fundamental Mechanisms ..... 4  
 A study of the purpose and actions of cams, cables, gear trains, differentials, screws, belts, pulleys, shafts, levers, and other mechanical devices used to transmit or control signals.  
 Prerequisite: T-PHY 102.

### PHYSICS

- T-PHY 101 — Physics: Properties of Matter ..... 4  
 A fundamental course covering several basic principles of physics. The divisions included are solids and their characteristics, liquids at rest and in motion, gas laws and applications. Laboratory experiments and specialized problems dealing with these topics are part of this course.  
 Prerequisite: None.
- T-PHY 102 — Physics: Work, Energy, Power ..... 4  
 Major areas covered in this course are work, energy, and power. Instruction includes such topics as statics, forces, center of gravity and dynamics. Units of measurement and their applications are a vital part of this course. A practical approach is used in teaching students the use of essential mathematical formulas.  
 Prerequisites: T-MAT 101, T-PHY 101.
- T-PHY 104 — Physics: Light and Sound ..... 4  
 A survey of the concepts involving wave motion leads to a study of sound, its generation, transmission and detection. The principles of wave motion also serve as an introduction to a study of light, illumination and the principles involved in optical instruments. Application is stressed throughout.  
 Prerequisite: T-MAT 101, T-PHY 101.

## POLITICAL SCIENCE

- T-POL 201 — United States Government ..... 3  
A study of government with emphasis on basic concepts, structure, powers, procedures and problems.  
Prerequisite: None.

## PSYCHOLOGY

- T-PSY 112 — Personality Development ..... 3  
Designed to help the student recognize the importance of the physical, intellectual, social, and emotional dimensions of personality. Emphasis is placed on grooming and methods of personality improvement.  
Prerequisite: None.
- T-PSY 206 — Applied Psychology ..... 3  
A study of the principles of psychology 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. 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 his adjustment problems as a worker and a member of the general community.  
Prerequisite: None.

## SOCIAL SCIENCE

- T-SSC 201 — Social Science ..... 3  
An integrated course in the social sciences, drawing from the fields of anthropology, psychology, history, and sociology.  
Prerequisite: None.
- T-SSC 202 — Social Science ..... 3  
A further study of social sciences with emphasis on economics, political science, and social problems as they relate to the individual.  
Prerequisite: T-SSC 201.
- T-SSC 205 — American Institutions ..... 3  
A study of the effect of American social, economic, and political institutions upon the individual as a citizen and as a worker. The course dwells upon current local, national, and global problems viewed in the light of our political and economic heritage.  
Prerequisite: None.



## VIII. VOCATIONAL DIVISION

In an ever changing world of engineering and technologies, one must not lose sight of the growing need for skilled craftsmen. Isothermal Community College offers a series of training courses in the trade division with emphasis on manipulative and mental skills applicable to a particular course for which a student is enrolled. Trade courses require from nine months to one full year on a full-time basis.

### DIPLOMA AND CERTIFICATE OFFERED

A diploma is awarded at the completion of one of the following programs:

Automotive Body Repair	Masonry
Automotive Power Mechanics	Mechanical Drafting
Electrical Installation	Welding

A certificate is awarded at the completion of the following program:

#### NURSE ASSISTANT

### VOCATIONAL PROGRAMS

#### AUTOMOTIVE BODY REPAIR

This curriculum provides a training program for developing the basic knowledge and skills needed to inspect, estimate, repair and paint automobile bodies. Manual skills are developed in practical shop work. The study of automobile bodies, the stresses of metal and the composition of paint constitute the curriculum.

Complexity in automobile vehicles increases each year because of scientific discovery and new engineering. The changes are reflected not only in passenger vehicles, but also in trucks, buses, and a variety of motor vehicles. This curriculum provides a basis for the student to compare and adapt to new techniques and new tools for repairing motor vehicle bodies as changes are made from year to year.

The Automotive Body Repair curriculum is a one-year program.

## AUTOMOTIVE BODY REPAIR

<i>Course Title</i>		<i>Hours Per Week</i>		<i>Quarter Hours Credit</i>
		<i>Class</i>	<i>Lab.</i>	
<b>FIRST QUARTER</b>				
AUT 1111	Auto Body Repair .....	3	12	7
MAT 1101	Fundamentals of Mathematics ....	5	0	5
PHY 1101	Applied Science .....	3	2	4
ENG 1101	Reading Improvement .....	2	0	2
WLD 1101	Basic Gas Welding .....	0	3	1
		13	17	19
<b>SECOND QUARTER</b>				
AUT 1112	Auto Body Repair .....	3	13	7
WLD 1105	Auto Body Welding .....	0	3	1
DFT 1101	Schematics and Diagrams: Power Mechanics .....	0	3	1
PHY 1102	Applied Science .....	3	2	4
ENG 1102	Communications Skills .....	3	0	3
		9	21	16
<b>THIRD QUARTER</b>				
AUT 1113	Metal Finishing and Painting ....	3	13	7
PSY 1101	Human Relations .....	3	0	3
AUT 1115	Trim, Glass & Radiator Repair ...	2	9	5
		8	22	15
<b>FOURTH QUARTER</b>				
AUT 1114	Body Shop Applications .....	3	24	10
BUS 1103	Small Business Operations .....	3	0	3
		6	24	13

## AUTOMOTIVE POWER MECHANICS

### PURPOSE OF CURRICULUM

This curriculum provides a training program for developing the basic knowledge and skills needed to inspect, diagnose, repair or adjust automotive vehicles. Manual skills are developed in practical shop work. Thorough understanding of the operating principles involved in the modern automobile comes in class assignments, discussion, and shop practice.

Complexity in automotive vehicles increases each year because of scientific discovery and new engineering. These changes are reflected not only in passenger vehicles, but also in trucks, buses and a variety of gasoline-powered equipment. The one-year curriculum (four consecutive quarters) provides a basis for the student to compare and adapt to new techniques for servicing and repair as vehicles are changed year by year.

## JOB DESCRIPTION

Automobile mechanics maintain and repair mechanical, electrical, and body parts of passenger cars, trucks, and buses. In some communities and rural areas they also may service tractors or marine engines and other gasoline-powered equipment. Mechanics inspect and test to determine the causes of faulty operation. They repair or replace defective parts to restore the vehicles or machine to proper operating condition. They use shop manuals and other technical publications.

Automotive mechanics in smaller shops usually are general mechanics qualified to perform a variety of repair jobs. A large number of automobile mechanics specialize in particular types of repair work. For example, some may specialize in repairing only power steering and power brakes, or automatic transmissions. Usually such specialists have an all-round knowledge of automotive repair and may occasionally be called upon to do other types of work.

### AUTOMOTIVE MECHANICS

			<i>Hours Per Week</i>		<i>Quarter</i>
<i>Course Title</i>			<i>Class</i>	<i>Lab.</i>	<i>Hours</i>
			<i>Credit</i>		
<b>FIRST QUARTER</b>					
PME	1101	Internal Combustion Engines .....	3	14	7
MAT	1101	Fundamentals of Mathematics .....	5	0	5
DFT	1101	Schematics and Diagrams: Power Mechanics .....	0	3	1
PHY	1101	Applied Science .....	3	2	4
			<hr/>	<hr/>	<hr/>
			11	19	17
<b>SECOND QUARTER</b>					
PME	1102	Engne Electrical and Fuel Systems .....	5	15	9
ENG	1102	Communication Skills .....	3	0	3
ENG	1101	Reading Improvement .....	2	0	2
MAT	1201	Fundamentals of Mathematics .....	5	0	5
			<hr/>	<hr/>	<hr/>
			15	15	19
<b>THIRD QUARTER</b>					
AUT	1123	Automotive Chassis and Suspensions Systems .....	3	10	6
AUT	1121	Braking Systems .....	3	3	4
PSY	1101	Human Relations .....	3	0	3
AHR	1101	Automotive Air Conditioning .....	2	3	3
WLD	1101	Basic Gas Welding .....	0	3	1
			<hr/>	<hr/>	<hr/>
			11	19	17
<b>FOURTH QUARTER</b>					
AUT	1124	Automotive Power Train Systems .....	3	9	6
AUT	1125	Automotive Servicing .....	3	12	6
BUS	1103	Small Business Operations .....	3	0	3
			<hr/>	<hr/>	<hr/>
			9	21	15



## ELECTRICAL INSTALLATION AND MAINTENANCE

### PURPOSE OF CURRICULUM

The rapid expansion of the national economy and the increasing development of new electrical products are providing a growing need for qualified people to install and maintain electrical equipment. Today more than 350,000 are employed as either construction electricians or maintenance electricians. Between 5,000 and 10,000 additional tradesmen are required each year to replace those leaving the industry. The total requirements for electrical tradesmen are 500,000 and will be 700,000 by 1970. The majority of the electrical tradesmen today are trained through apprenticeship or on-the-job training programs.

The one-year curriculum (4 consecutive quarters) will provide a training program in the basic knowledge, fundamentals, and practices involved in the electrical trades. A large portion of the program is devoted to laboratory and shop instruction which is designed to give the student practical knowledge and experience.

### JOB DESCRIPTION AND REQUIREMENTS

The graduate of the electrical trades program will be qualified to enter an electrical trade as an on-the-job trainee or apprentice, where he will assist in the planning, layout, installation, check out, and maintenance of systems in residential, commercial, or industrial plants. He will have an understanding of the fundamentals of the National Electrical Code regulations as relate to wiring installations, electrical circuits, and the measurements of voltage, current, power, and power factor of single and polyphase alternating circuits. He will have a basic knowledge of motor and motor control systems; industrial electronic control systems; business procedures, organizations, and practices; communicative skills; and the necessary background to be able to advance through experience and additional training.

## ELECTRICAL INSTALLATION AND MAINTENANCE

		<i>Hours Per Week</i>		<i>Quarter Hours Credit</i>	
<i>Course Title</i>		<i>Class</i>	<i>Lab.</i>		
<b>FIRST QUARTER</b>					
ELC	1112	Direct and Alternating Current ..	5	15	9
MAT	1115	Electrical Math .....	5	0	5
PHY	1101	Applied Science .....	3	2	4
			<hr/>	<hr/>	<hr/>
			13	17	18
<b>SECOND QUARTER</b>					
ENG	1101	Reading Improvement .....	2	0	2
ELC	1113	Alternating Current and Direct Current Machines and Controls .....	5	12	9
DFT	1110	Blueprint Reading: Building Trades .....	0	3	1
ENG	1102	Communication Skills .....	3	0	3
MAT	1116	Electrical Math .....	5	0	5
			<hr/>	<hr/>	<hr/>
			15	15	20

### THIRD QUARTER

ELC	1124	Residential Wiring .....	5	9	8
DFT	1113	Industrial Electronics .....	3	7	5
PSY	1101	Human Relations .....	3	0	3
DFT	1113	Blueprint Reading: Electrical ...	0	3	1
			<hr/>	<hr/>	<hr/>
			11	19	17

### FOURTH QUARTER

ELC	1125	Commercial and Industrial Wiring .....	5	12	9
ELN	1119	Industrial Electronics .....	3	7	5
BUS	1103	Small Business Operations .....	3	0	3
			<hr/>	<hr/>	<hr/>
			11	19	17

## BUILDING CONSTRUCTION TRADES

### MASONRY

#### PURPOSE OF CURRICULUM

Masons are the craftsmen in the building trades that work with artificial stone, brick, concrete masonry units, stone and the like. As building construction continues to increase the demand for brick-layers, cement masons, and stonemasons will also increase.

The nine months curriculum (3 quarters) is designed to train the individual to enter the trade with the knowledge and basic skills that will enable him to perform effectively. He must know the methods used in laying out a masonry job with specific reference to rigid insulation, refractories, and masonry units specified for residential, commercial and industrial construction.

Most employment opportunities for masons are found with contractors in new building construction. However, a substantial proportion of masons are self-employed and work with contractors doing repair, alteration, or modernization work.

#### JOB DESCRIPTION

Most masons lay brick, and blocks made of tile, concrete, glass, gypsum or terra cotta. Also, he constructs or repairs walls, partitions, arches, sewers, furnaces and other masonry structures.

After gaining experience in the various types of the masonry trade along with leadership training, it is possible for the tradesman to become a foreman, inspector and eventually a contractor.

## MASONRY

		<i>Course Title</i>	<i>Hours Per Week</i>		<i>Quarter</i>
			<i>Class</i>	<i>Lab.</i>	<i>Hours</i> <i>Credit</i>
<b>FIRST QUARTER</b>					
MAS	1101	Bricklaying .....	5	17	10
MAT	1101	Fundamentals of Mathematics.....	5	0	5
DFT	1110	Blueprint Reading: Building Trades .....	0	3	1
			—	—	—
			10	20	16
<b>SECOND QUARTER</b>					
MAS	1102	Bricklaying .....	5	19	10
MAT	1112	Building Trades Mathematics .....	3	0	3
DFT	1111	Blueprint Reading & Sketching .....	0	3	1
			—	—	—
			8	22	14
<b>THIRD QUARTER</b>					
MAS	1103	General Masonry .....	5	16	10
MAS	1113	Masonry Estimating .....	3	3	4
DFT	1112	Blueprint Reading & Sketching .....	0	3	1
			—	—	—
			8	22	15

## MECHANICAL DRAFTING

### PURPOSE OF CURRICULUM

This curriculum is designed to prepare students to enter the field of drafting. The first three quarters of study include courses basic to all fields of drafting. The fourth quarter involves specialization and related courses that prepare one to enter any one of several drafting occupations.

Each course is prepared to enable an individual to advance rapidly in drafting proficiency upon entering the field of work. Courses are arranged in sequence to develop drafting skills and proficiency in mathematics and science. The draftsman associates with many levels of personnel and must be able to communicate effectively with them. Courses to develop knowledge and skills in communication, human relations, economics and industrial organization are provided to assist the student in developing understanding and confidence in his relations with other persons. The Mechanical Drafting curriculum is a one year program.

### JOB DESCRIPTION

Draftsmen prepare clear, complete, and accurate working plans and detail drawings from rough or detailed sketches or notes according to the specified dimensions. They make final sketches of the proposed drawing, checking dimensions of parts, materials to be used, the relation of the various parts to the whole structure. They make any adjustments or changes necessary or desired. Draftsmen ink in all lines and letters on pencil drawings as required. They exercise manual skill in the manipulation of the triangle, T-Square, and other drafting tools. They utilize their knowledge of various machines, engineering practices, mathematics, building materials, and other physical sciences to complete the drawings.

## MECHANICAL DRAFTING

		<i>Hours Per Week</i>		<i>Quarter Hours Credit</i>	
<i>Course Title</i>		<i>Class</i>	<i>Lab.</i>		
<b>FIRST QUARTER</b>					
DFT	1121	Drafting .....	3	17	7
MAT	1103	Geometry .....	3	0	3
ENG	1101	Reading Improvement .....	2	0	2
PHY	1101	Applied Science .....	3	2	4
			<hr style="width: 100%;"/>	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>
			11	19	16
<b>SECOND QUARTER</b>					
DFT	1122	Drafting .....	3	9	5
DFT	1125	Descriptive Geometry .....	2	3	3
MAT	1102	Algebra .....	5	0	5
ENG	1102	Communication Skills .....	3	0	3
PHY	1102	Applied Science .....	3	2	4
			<hr style="width: 100%;"/>	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>
			16	14	20
<b>THIRD QUARTER</b>					
DFT	1131	Mechanical Drafting .....	3	11	7
MAT	1104	Trigonometry .....	3	0	3
PSY	1101	Human Relations .....	3	0	3
MEC	1113	Shop Processes .....	2	3	3
MEC	1115	Treatment of Ferrous Metals .....	2	3	3
			<hr style="width: 100%;"/>	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>
			13	17	19
<b>FOURTH QUARTER</b>					
DFT	1132	Mechanical Drafting .....	3	14	7
MEC	1114	Shop Processes .....	2	3	3
MEC	1116	Treatment of Non-Ferrous Metals .....	2	3	3
BUS	1105	Industrial Organizations .....	3	0	3
			<hr style="width: 100%;"/>	<hr style="width: 100%;"/>	<hr style="width: 100%;"/>
			10	20	16

## INDUSTRIAL OCCUPATIONS

### WELDING

#### PURPOSE OF CURRICULUM

This curriculum was developed to fill the tremendous need for welders in North Carolina. The recently completed Manpower Survey shows clearly that many welders will be needed annually to fill present and projected vacancies in the State.

The content of this curriculum is designed to give students sound understanding of the principles, methods, techniques and skills essential for successful employment in the welding and metals industry.

Welding offers a person security and a future of continuous employment with steady advancement. It offers employment in practically any industry: shipbuilding, automotive, aircraft, guided missiles, railroads, construction, pipe fitting, production shop, job shop and many others. The Welding curriculum is a one-year program (4 quarters).

## JOB DESCRIPTION

Welders join metals by applying intense heat, and sometimes pressure, to melt the edges to form a permanent bond. Closely related to welding is "oxygen cutting." Of the more than 35 different ways of welding metals, arc, gas, and resistance welding are the three most important.

The principal duty of the welder using manual techniques is to control the melting by directing the heat from either an electric arc or gas welding torch, and to add filler metal where necessary to complete the joint. He should possess a great deal of manipulative skill with a knowledge of jigs, welding symbols, mathematics, basic metallurgy, and blueprint reading.

## WELDING

		<i>Hours Per Week</i>		<i>Quarter</i>
<i>Course Title</i>		<i>Class</i>	<i>Lab.</i>	<i>Hours</i>
				<i>Credit</i>
<b>FIRST QUARTER</b>				
WLD 1120	Oxyacetylene Welding and Welding .....	3	12	7
MAT 1101	Fundamentals of Mathematics .....	5	0	5
DFT 1104	Blueprint Reading: Mechanical .....	0	3	1
PHY 1101	Applied Science .....	3	2	4
ENG 1101	Reading Improvement .....	2	0	2
		<hr/>	<hr/>	<hr/>
		13	17	19
<b>SECOND QUARTER</b>				
WLD 1121	Arc Welding .....	3	13	7
MAT 1103	Geometry .....	3	0	3
DFT 1117	Blueprint Reading: Welding .....	0	3	1
ENG 1102	Communication Skills .....	3	0	3
MAT 1201	Fundamentals of Mathematics .....	5	0	5
		<hr/>	<hr/>	<hr/>
		14	16	19
<b>THIRD QUARTER</b>				
WLD 1124	Pipe Welding .....	3	13	7
WLD 1123	Inert Gas Welding .....	1	3	2
WLD 1112	Mechanical Testing and Inspection .....	1	3	2
DFT 1118	Pattern Development and Sketching .....	0	3	1
PSY 1101	Human Relations .....	3	0	3
		<hr/>	<hr/>	<hr/>
		8	22	15
<b>FOURTH QUARTER</b>				
WLD 1122	Commercial and Industrial Practices .....	3	9	6
WLD 1125	Certification Practices .....	3	6	5
MEC 1112	Machine Shop Processes .....	0	6	2
BUS 1105	Industrial Organizations .....	3	0	3
		<hr/>	<hr/>	<hr/>
		9	21	16

## NURSES' ASSISTANT PROGRAM

A three months program (1 quarter) designed to prepare qualified men and women to give effective nursing care to selected patients, to make and report observations, and to carry out routine aspects of ward management. Classroom teaching is centered around modern concepts of health, functional relationships within a hospital, fundamentals of effective interpersonal relations, and nursing procedures related to daily needs of patients and to common therapeutic measures. Throughout the course emphasis is given to the role of nurses' assistant. Clinical experiences provide opportunities for applying classroom learnings to practice in the hospital setting.

NURSES' ASSISTANT		<i>Hours Per Week</i>		<i>Quarter</i>
		<i>Class</i>	<i>Lab.</i>	<i>Hours</i> <i>Credit</i>
Unit I	Introduction to Nurse Assistant .....	2	0	1
Unit II	Understanding Effects of Illness .....	1	0	1
Unit III	Making Observations on Patients .....	2	2	3
Unit IV	Safety Measures in Care of the Sick .....	2	1	2
Unit V	Measures to Promote the Patient's Comfort .....	2	2	3
Unit VI	Measures Related to Patient's Happiness	3	5	5
Unit VII	Becoming a Hospital Employee .....	3	5	5
		15	15	20

## COURSES OF INSTRUCTION

### VOCATIONAL DIVISION

AUTOMOTIVE	<i>Class</i>	<i>Lab</i>	<i>Credit</i>
	<i>Hours</i>	<i>Hours</i>	<i>Hours</i>
AHR 1101 — Automotive Air Conditioning .....	2	2	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. Prerequisite: PHY 1102			
AUT 1111 — Auto Body Repair .....	3	12	7
Basic principles of automobile construction, design, and manufacturing. A thorough study of angles, crown, and forming of steel into the complex contour of the present day vehicles. The student applies the basic principles of straightening, aligning, and painting of damaged areas. Prerequisite: None			

AUT 1112 — Auto Body Repair .....	3	13	7
<p>A thorough study of the requirements for a metal worker, including the use of essential tools, forming fender flanges and beads, and straightening typical auto body damage. The student begins acquiring skills such as shaping angles, crowns, and contour of the metal of the body and fenders. Metal working and painting.</p> <p>Prerequisites: AUT 1111, WLD 1101, PHY 1101, MAT 1101</p>			
AUT 1113 — Metal Finishing and Painting .....	3	13	7
<p>Development of the skill to shrink stretched metal, soldering and leading, and preparation of the metal for painting. Straightening of doors, hoods, and deck lids; fitting and aligning. Painting fenders and panels, spot repairs, and complete vehicle painting; the use and application of power tools.</p> <p>Prerequisites: AUT 1112, WLD 1105</p>			
AUT 1114 — Body Shop Applications .....	3	24	10
<p>General introduction and instruction in the automotive frame and front end suspension systems, the methods of operation and control, and the safety of the vehicle. Unit job application covers straightening of the frames and front wheel alignment. The student applies all phases of training. Repair order writing, parts purchasing, estimates of damage, and developing the final settlement with adjuster.</p> <p>Prerequisites: AUT 1115, PHY 1102, DFT 1101</p>			
AUT 1115 — Trim, Glass and Radiator Repair .....	2	9	5
<p>Methods of removing and installing interior trim; cutting, sewing and installing headlinings, seat covers, and door trim panels, cutting, fitting, and installation. The student gains a thorough knowledge of the engine cooling system and repairs and replaces damaged cooling system components. Tests are made to insure normal engine cooling operation.</p> <p>Prerequisites: AUT 1112, WLD 1105</p>			
AUT 1121 — Braking Systems .....	3	3	4
<p>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.</p> <p>Prerequisite: PHY 1102</p>			
AUT 1123 — Automotive Chassis and Suspension Systems .....	3	10	6
<p>Principles and functions of the components of automotive chassis. Practical job instruction in adjusting and repairing of suspension, and steering systems. Units to be studied will be shock absorbers, springs, steering systems, steering linkage, and front end alignment.</p> <p>Prerequisite: PME 1102</p>			
AUT 1124 — Automotive Power Train Systems .....	3	9	6
<p>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.</p> <p>Prerequisites: PHY 1102, AUT 1123</p>			

AUT 1125 — Automotive Servicing .....	3	12	6
<p>Emphasis is on the shop procedures necessary in determining the nature of troubles developed in the various component systems of the automobile. Troubleshooting of automotive systems, providing a full range of experiences in testing, adjusting, repairing and replacing.</p> <p>Prerequisites: AUT 1123, AUT 1121, AHR 1101</p>			

## BUSINESS

BUS 1103 — Small Business Operations .....	3	0	3
<p>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.</p> <p>Prerequisite: None</p>			
BUS 1105 — Industrial Organizations .....	3	0	3
<p>Methods, techniques, and practices of modern management in planning, organization and controlling operations of a manufacturing concern. Introduction to the competitive system and the factors constituting product cost.</p> <p>Prerequisite: None</p>			

## DRAFTING

DFT 1101 — Schematics & Diagrams: Power Mechanics .....	0	3	1
<p>Interpretation and reading of blueprints. Development of ability to read and interpret blueprints, charts, instruction and service manuals, and wiring diagrams. Information on the basic principles of lines, views, dimensioning procedures, and notes.</p> <p>Prerequisite: None</p>			
DFT 1104 — Blueprint Reading: Mechanical .....	0	3	1
<p>Interpretation and reading of blueprints. Information on the basic principles of the blueprint; lines, views, dimensioning procedures and notes.</p> <p>Prerequisite: None</p>			
DFT 1110 — Blueprint Reading: Building Trades .....	0	3	1
<p>Principles of interpreting blueprints and trade specifications common to the building trades. Development of proficiency</p>			
DFT 1112 — Blueprint Reading and Sketching .....	0	3	1
<p>Designed to develop abilities in reading complex drawings in the masonry field. Blueprints of residential and commercial buildings will be studied with emphasis on the plot plan, floor plan, basement and/or foundation plan, walls and various detailed drawings of masonry work.</p> <p>Prerequisite: DFT 1111</p>			



DFT 1113 — Blueprint Reading: Electrical .....	0	3	1
<p>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.</p> <p>Prerequisite: DFT 1110</p>			
DFT 1117 — Blueprint Reading: Welding .....	0	3	1
<p>A thorough study of trade drawings in which welding procedures are indicated. Interpretation, use and application of welding symbols, abbreviations, and specifications.</p> <p>Prerequisite: DFT 1104</p>			
DFT 1118 — Pattern Development and Sketching .....	0	3	1
<p>Continued study of welding symbols; methods used in layout of sheet steel; sketching of projects, jibs and holding devices involved in welding. Special emphasis is placed on developing pipe and angle layouts by the use of patterns and templates.</p> <p>Prerequisite: None</p>			
DFT 1121 — Drafting .....	3	17	7
<p>An introduction to drafting and the study of drafting practices. Instruction is given in the selection, use and care of instruments, singlestroke lettering, applied geometry, freehand sketching consisting of orthographic and pictorial drawings. Orthographic projection, reading and instrument drawing of principal views, single auxiliary views (primary), and double (oblique) auxiliary views will be emphasized. Dimensioning and note practices will be studied with reference to the American Standards Association practices. Methods of reproducing drawing will be included at the appropriate time.</p> <p>Prerequisite: None</p>			
DFT 1122 — Drafting .....	3	9	5
<p>The trainee will study simple and successive revolutions and their applications to practical problems. Sections and conventions will be studied, and both detail and assembly sections will be drawn. Intersections and developments will be studied by relating the drawing 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.</p> <p>Methods of drawing and projecting axonometric, oblique, and perspective drawings will be studied with emphasis on the practical applications of pictorial drawings. Various methods of shading will be introduced, and dimensioning and sectioning of oblique and axonometric pictorials will be done.</p> <p>Prerequisite: DFT 1121</p>			
DFT 1125 — Descriptive Geometry .....	2	3	3
<p>Graphical analysis of space problems. The problems deal with practical design elements involving points, lines, planes, connectors, and a combination of these. Included are problems dealing with solid geometry theorems. Where applicable, each graphical solution shall be accompanied by the analytical solution. Prerequisite: DFT 1121</p>			

DFT 1131 — Mechanical Drafting .....	3	11	7
<p>An introduction to mechanical drafting beginning with problems concerning precision and limit dimensioning. Methods of fastening materials, and fasteners; keys, rivets, springs, and welding. Symbols will be studied and drawings will be made involving these items. Principles of design will be introduced with study of basic mechanisms of motion transfer; gears, cams, power trains, pulleys, belting and methods of specifying and calculating dimensions will be studied. Drawings will be made involving these mechanisms.</p> <p>Prerequisite: DFT 1122</p>			
DFT 1132 — Mechanical Drafting .....	3	14	7
<p>Principles of design sketching, design drawings, layout drafting, detailing from layout drawings, production drawings and simplified drafting practices constitute areas of study. Forging and casting drawings will be made from layouts. Specifications, parts list and bill of materials are emphasized in this course. The student will develop a complete set of working drawings of a tool jig, fixture or simple machine and learn principles of design, handbook and manual usage.</p> <p>Prerequisite: DFT 1131</p>			

## ELECTRICITY

ELC 1112 — Direct and Alternating Current .....	5	15	9
<p>A study of the electrical structure of matter and electron theory, the relationship between voltage, current, and resistance in series, parallel, and series-parallel circuits. An analysis of direct current circuits by Ohm's Law and Kirchoff's Law. A study of the sources of direct current voltage potentials. Fundamental concepts of alternating current flow, reactance, impedance, phase angle, power, and resonance. Analysis of alternating current circuits.</p> <p>Prerequisite: None</p>			
ELC 1113 — Alternating Current and Direct Current Machines and Controls .....	5	12	9
<p>Provides fundamental concepts in single and polyphase alternating current circuits, voltages, currents, power measurements, transformers, and motors. Instruction in the use of electrical test instruments in circuit analysis. The basic concepts of AC and DC machines and simple system controls. An introduction to the type control used in small appliances such as thermostats, times, or sequencing switches.</p> <p>Prerequisites: ELC 1112, MAT 1115</p>			
ELCE 1124 — Residential Wiring .....	5	9	8
<p>Provides instruction and application in the fundamentals of blueprint reading, planning, layout, and installation of wiring in residential applications such as: services, switchboards, lighting, fusing, wire sizes, branch circuits, conduits, National Electrical Code regulations in actual building mock-ups.</p> <p>Prerequisites: ELC 1113, DFT 1110</p>			

ELC 1125 — Commercial and Industrial Wiring ..... 5 12 9  
 Layout, planning, and installation of wiring systems in commercial and industrial complexes, with emphasis upon blueprint reading and symbols, the related National Electrical Codes, and the applications of the fundamentals to practical experience in wiring, conduit preparation, and installation of simple systems.  
 Prerequisites: ELN 1118, ELC 1124

**ELECTRONICS**

ELN 1118 — Industrial Electronics ..... 3 7 5  
 Basic theory, operating characteristics, and application of vacuum tubes such as: diodes, triodes, tetrodes, pentodes, and gaseous control tubes. An introduction to amplifiers using triodes, power supplies using diodes and other basic applications. Prerequisite: ELC 1113

ELN 1119—Industrial Electronics ..... 3 7 5  
 Basic industrial electronic systems such as: motor controls, alarm systems, heating systems and controls, magnetic amplifier controls, welding control systems using thyatron tubes, and other basic types of systems commonly found in most industries. Prerequisite: ELN 1118

**ENGLISH**

ENG 1101 — Reading Improvement ..... 2 0 2  
 Designed to improve the student's ability to read rapidly and accurately. Special machines are used for class drill to broaden the span of recognition, to increase eye coordination and word word group recognition and to train for comprehension in larger units. Prerequisite: None

ENG 1102 — Communication Skills ..... 3 0 3  
 Designed to promote effective communication through correct language usage in speaking and writing.  
 Prerequisite: ENG 1101

**MASONRY**

MAS 1101 — Bricklaying ..... 5 17 10  
 The history of the bricklaying industry. Clay and shale brick, mortar, laying foundations, laying bricks to a line, bonding, and tools and their uses. Laboratory work will provide training in the basic manipulative skills.  
 Prerequisite: None

MAS 1102 — Bricklaying ..... 5 19 10  
 Designed to give the student practice in selecting the proper mortars, layout, and construction of various building elements such as foundations, walls, chimneys, arches and cavity walls. The proper use of bonds, expansion strips, wall ties and caulking methods are stressed.  
 Prerequisite: MAS 1101

MAS 1103 — General Masonry .....	5	16	10
<p>Layout and erection of reinforced grouted brick masonry lintels, fireplaces, glazed tile, panels, decorative stone, granite, marble, adhesive terra cotta and modular masonry construction theory and techniques. Prerequisite: MAS 1102</p>			
MAS 1113 — Masonry Estimating .....	3	3	4
<p>This is a practical course in quantity "takeoff" from prints of the more common type jobs for bricklayers and masons. Figuring the quantities of materials needed and costs of building various components and structures. Prerequisite: MAS 1103</p>			

## MATHEMATICS

MAT 1101 — Fundamentals of Mathematics .....	5	0	5
<p>Review and analysis of basic operations — addition, subtraction, multiplication, and division. Properties of common fractions, decimal fractions and decimals, percentages. Practice in depth.</p>			
MAT 1102 — Algebra .....	5	0	5
<p>Basic concepts and operations of algebra: historical background of our base-10 number system; algebraic operations: addition, subtraction, multiplication and division; fractions, letter representation, grouping, factoring, ratios and proportions, variation; graphical and algebraic solution of first degree equations; solution of simultaneous equations by addition and subtraction, substitution, graphing; exponents, logarithms, tables and interpolation. Prerequisite: None</p>			
MAT 1103 — Geometry .....	3	0	3
<p>Fundamental properties and definitions; plane and solid geometric figures, selected general theorems, geometric construction of lines, angles and plane figures. Dihedral angles, areas of plane figures, volumes of solids. Geometric principles are applied to shop operations. Prerequisite: None</p>			
MAT 1104 — Trigonometry .....	3	0	3
<p>Trigonometric ratios; solving problems with right triangles, using tables, and interpolating; solution of oblique triangles using law of sines and law of cosines; graphs of the trigonometric functions; inverse functions, trigonometric equations. All topics are applied to practical problems. Prerequisites: MAT 1102, MAT 1103</p>			
MAT 1112 — Building Trades Mathematics .....	3	0	3
<p>Practical problems dealing with volumes, weights, ratios; mensuration, and basic estimating practices for building materials. Prerequisite: MAT 1101</p>			

MAT 1115 — Electrical Math .....	5	0	5
<p>A review of everyday mathematics to supplement the mathematical knowledge of students in the operations which are needed in the applications of electrical principles; to introduce practical applications of powers and roots, ratio and proportion; and to give the student a working knowledge of practical applications of fundamental algebraic concepts and operations. Prerequisite: None</p>			
MAT 1116 — Electrical Math .....	5	0	5
<p>A study of fundamental concepts of algebra; use of letters and signs, groupings, factoring, exponents, ratios, and proportions, solution of equations, algebraically and graphically; a study of logarithms and use of tables; an introduction to trigonometric functions and their application to right angles; and a study of vectors for use in alternating current.</p> <p>Prerequisite: MAT 1115</p>			
MAT 1211 — Continuation of Math 1101 .....	5	0	5
<p>Review. Powers and roots, ratio and proportion. Measurement of surfaces and volumes in applied geometry. Introduction of algebraic equations. Practice in depth.</p> <p>Prerequisite: MAT 1101</p>			
<b>MECHANICS</b>			
MEC 1113 — Shop Processes .....	2	3	3
<p>Study of practices used in metal working shops; introduction to how materials can be utilized, and to the processes of shaping, forming and fabricating metals. Demonstration of the metal working lathes, grinders, drills, milling machines, shapers, planers, saws, broachers, gear cutting machines and finishing machines. A study of the capabilities of these machines.</p> <p>Prerequisite: None</p>			
MEC 1114 — Shop Processes .....	2	3	3
<p>Comparison of the unit-production and mass-production systems. Casting, forging and allied processes, welding and sheet metal working processes are demonstrated and discussed. Mass-production methods are studied in relationship to precision dimensional control.</p> <p>Prerequisite: MEC 1113</p>			
MEC 1115 — Treatment of Ferrous Metals .....	2	3	3
<p>Investigates the properties of ferrous metals and tests to determine their uses. Instructions will include some chemical metallurgy to provide a background for the understanding of the physical changes and causes of these changes in metals. Physical metallurgy of ferrous metals, producing iron and steel, theory of alloys, shaping and forming, heat treatments for steel, surface treatments, alloy of special steel, classification of steels, and cast iron will be topics for study.</p> <p>Prerequisite: None</p>			

MEC 1116 — Treatment of Non-Ferrous Metals .....	2	3	3
Continuation of the study of physical metallurgy. The non-ferrous metals; bearing metals (brass, bronze, lead) light metals (aluminum and magnesium) and copper and its alloys are studied. Powder metallurgy, titanium, zirconium, indium and vanadium are included in this course. Prerequisite: MEC 1115			

**PHYSICS**

PHY 1101 — Applied Science .....	3	2	4
An introduction to industrial application of principles of physics. Topics include measurements, simple mechanics, forces of work and motion, magnetism, waves, heat.			
PHY 1102 — Applied Science .....	3	2	4
The second in a series of two courses of applied physical principles. Topics include waves, light and color, atomic structure, descriptive chemistry including pigmentation, vehicles or bases and additives. Prerequisite: PHY 1101			

**POWER MECHANICS**

PME 1101 — Internal Combustion Engine .....	3	14	7
Development of a thorough knowledge and ability in using, maintaining, and storing the various hand tools and measuring devices needed in engine repair work. Study of the construction and operation of components of internal combustion engines. Testing of engine performance; servicing and maintenance of pistons, valves, cams and camshafts, fuel and exhaust systems, cooling systems; proper lubrication; and methods of testing, diagnosing and repairing. Prerequisite: None			
PME 1102 — Engine Electrical and Fuel Systems .....	5	15	9
A thorough study of the electrical and fuel systems of the automobile. Battery cranking mechanism, generator, ignition, accessories and wiring; fuel pumps, carburetors, and fuel injectors. Characteristics of fuels, types of fuel systems, special tools, and testing equipment for the fuel and electrical system. Prerequisite: PME 1101			

**PSYCHOLOGY**

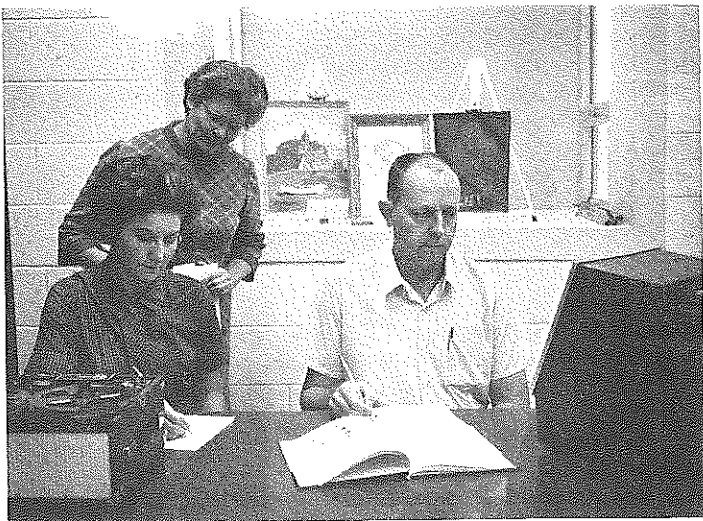
PSY 1101 — Human Relations .....	3	0	3
A study of basic principles of human behavior. The problems of the individual are studied in relation to society, group membership, and relationships within the work situation. Prerequisite: None			

**WELDING**

WLD 1101 — Basic Gas Welding .....	0	3	1
Welding demonstrations by the instructor and practice by the students in the welding shop. Safe and correct methods of assembling and operating the welding equipment. Practice will be given for surface welding; bronze welding, silver-soldering, and flamecutting methods applicable to mechanical repair work. Prerequisite: None			

WLD 1105 — Auto Body Welding .....	0	3	1
<p>Welding practices on material applicable to the installation of body panels and repairs to doors, fenders, hoods, and deck lids. Student runs beads, does butt and fillet welding. Performs tests to detect strength and weaknesses of welded joints. Safety procedures are emphasized throughout the course. Prerequisite: WLD 1101</p>			
WLD 1112 — Mechanical Testing and Inspection .....	1	3	2
<p>The standard methods for mechanical testing of welds. The student is introduced to the various types of tests and testing procedures and performs the details of the test which will give adequate information as to the quality of the weld. Types of tests to be covered are: bend, destructive, free-bend, guided-bend, nick-tear, notched-bend, tee-bend, nondestructive, V-notch, Charpy impact, etc. Prerequisites: WLD 1120, WLD 1121</p>			
WLD 1120 — Oxacetylene Welding and Cutting .....	3	12	7
<p>Introduction to the history of oxyacetylene welding, the principles of welding and cutting, nomenclature of the equipment, assembly of the units. Welding procedures such as practice of puddling and carrying the puddle, running flat beads, butt welding in the flat, vertical and overhead position, brazing, hard and soft soldering, safety procedures are emphasized throughout the course in the use of tools and equipment. Prerequisite: None</p>			
WLD 1121 — Arc Welding .....	3	13	7
<p>The operation of AC transformers and DC motor generator arc welding sets. Studies are made of welding heats, polarities, and electrodes for use in joining various metal alloys by the arc welding process. After the student is capable of running beads, butt and fillet welds in all positions are made and tested in order that the student may detect his weaknesses in welding. Safety procedures are emphasized throughout the course in the use of tools and equipment.</p>			
WLD 1122 — Commercial and Industrial Practices .....	3	9	6
<p>Designed to build skills through practices in simulated industrial processes and techniques: sketching and laying out on paper the size and shape description, listing the procedure steps necessary to build the product, and then actually following these directions to build the product. Emphasis is placed on maintenance, repairing worn or broken parts by special welding applications, field welding. Prerequisites: WLD 1120, WLD 1121</p>			
WLD 1123 — Inert Gas Welding .....	1	3	2
<p>Introduction and practical operations in the use of inert-gas-shield arc welding. A study will be made of the equipment, operation, safety and practice in the various positions. A thorough study of such topics as: principles of operation, shielding gases, filler rods, process variations and applications, manual and automatic welding. Prerequisites: WLD 1120, WLD 1121</p>			

WLD 1124 — Pipe Welding .....	3	13	7
Designed to provide practice in the welding of pressure piping in the horizontal, vertical, and horizontal fixed position using shielded metal arc welding processes according to Sections VIII and IX of the ASME code. Prerequisite: WLD 1121			
WLD 1125 — Certification Practices .....	3	6	5
This course involves practice in welding the various materials to meet certification standards. The student uses various tests including the guided bend and the tensile strength tests to check the quality of his work. Emphasis is placed on attaining skill in producing quality welds. Prerequisites: WLD 1120, WLD 1121, WLD 1123, WLD 1124			



#### XIV. ADULT EDUCATION

The purpose of the Adult Education Program at Isothermal Community College is to provide the opportunity for adults to enrich their lives by offering the facilities for continuing education. Through this program it is hoped that the individual will be more conscious of his role and obligation in the community, to better prepare him for his job in life, to stimulate creativity, to help the individual appreciate the creative efforts of others, and to provide avenues for the enrichment of leisure time.

The Adult Program consists of the following types of courses:

- (1) **BASIC ADULT EDUCATION** — a program designed to help individuals learn to read and write and to help early dropouts attain an eighth grade education.
- (2) **HIGH SCHOOL EQUIVALENCY PROGRAM** — a program designed to enable adults to complete their high school education by preparing for the test that leads to the North Carolina Certificate.



- (3) ARTS AND CRAFTS — programs that give adults the opportunity to develop their creative talents.
- (4) SELF-IMPROVEMENT COURSES — designed to enable individuals to improve themselves by continuing education during leisure time.
- (5) COMMUNITY SERVICE PROGRAMS — consists of lectures, exhibits, shows, and other cultural functions for community enrichment.
- (6) LEARNING LABORATORY — The Learning Laboratory is one of the most versatile of all the learning concepts utilized by the Community College system. The Laboratory uses the programmed Materials approach and offers planned study in all of the areas served by the Community College. It starts at the fourth grade level and goes through the freshman year of college with additional study in specialized areas.

#### COURSES OF INSTRUCTION

A partial list of the courses that will be offered in the Adult Education Program appears below. Additional offerings will be offered as the need arises.

IND 2100 Interior Decorating I  
 IND 2100 Interior Decorating II  
 HAT 2101 Hat Designing I  
 HAT 2101 Hat Designing II  
 RUG 2101 Rug Knotting  
 CAK 2105 Cake Decorating  
 CER 2106 Ceramics I  
 PBS 2107 Public Speaking  
 OIL 2108 Oil Painting  
 SPD 2109 Speed Reading  
 DRA 2112 Dramatics  
 STN 2118 Stenoscript  
 SEW 2120 Sewing I  
 SEW 2120 Sewing II  
 SEW 2120 Sewing III  
 KNT 2123 Knitting I  
 KNT 2123 Knitting II  
 FLO 2125 Floral Arts  
 SKT 2126 Sketching  
 TYP 2127 Typing  
 ART 2129 Art Appreciation  
 COM 2130 Communism

#### XV. EXTENSION

The purpose of the Extension Program is to provide additional training in job improvement for the people in the area. Training of any type, which will improve individual job proficiency may be offered when sufficient interest is shown.

The following is a list of some of the different courses offered in the Extension Program:

##### *Supervisory Development Training*

SDT 2401 Principles of Supervision  
 SDT 2402 Human Relations I  
 SDT 2403 Human Relations II  
 SDT 2404 Art of Motivating People  
 SDT 2405 Economics in Business and Industry

SDT 2406 Effective Communications  
SDT 2407 Effective Writing  
SDT 2408 Effective Speaking  
SDT 2409 Reading Improvement  
SDT 2410 Work Measurement  
SDT 2411 Job Methods  
SDT 2412 Conference Leadership  
SDT 2413 Instructor Training  
SDT 2414 Creative Thinking  
SDT 2415 Industrial Safety and Accident Prevention  
SDT 2416 Industrial First Aid  
SDT 2417 The Supervisor in North Carolina  
SDT 2418 The Supervisor and Employee Benefits  
SDT 2419 Job Analysis Training  
SDT 2420 Cost Accounting  
SDT 2421 Supervision in Hospitals

### *Firemanship Training*

FIP 2501 Introduction to Firefighting  
FIP 2502 Forcible Entry  
FIP 2503 Rope Practices  
FIP 2504 Portable Fire Extinguishers  
FIP 2505 Ladder Practices  
FIP 2506 Hose Practices  
FIP 2507 Salvage and Overhaul Practices  
FIP 2508 Fire Stream Practices  
FIP 2509 Fire Apparatus Practices  
FIP 2510 Ventilation  
FIP 2511 Rescue Practices  
FIP 2512 Protective Breathing Equipment  
FIP 2513 Firefighting Procedures

### *Upgrading Courses*

AHR 2454 Air Conditioning  
AHR 2455 Refrigeration  
AUT 2457 Automatic Transmission  
AUT 2458 Alternators  
AUT 2459 Generators and Starters  
POL 2565 Police Training  
GIV 2473 Estimating Building Construction Costs  
DFT 2479 Blueprint Reading  
DFT 2480 Drafting  
ELC 2484 Basic Electricity  
ELC 2485 National Electrical Code  
HOS 2529 Hospitality  
MAS 2531 Masonry  
NUR 2535 Nurses Assistant  
NUR 2536 Personal Care and Family Aide  
NUR 2537 Infant and Child Care  
TEX 2553 Loom Fixing  
TEX 2554 Industrial Power Sewing  
TEX 2555 Textile Designing  
UPH 2561 Upholstering  
WLD 2563 Welding