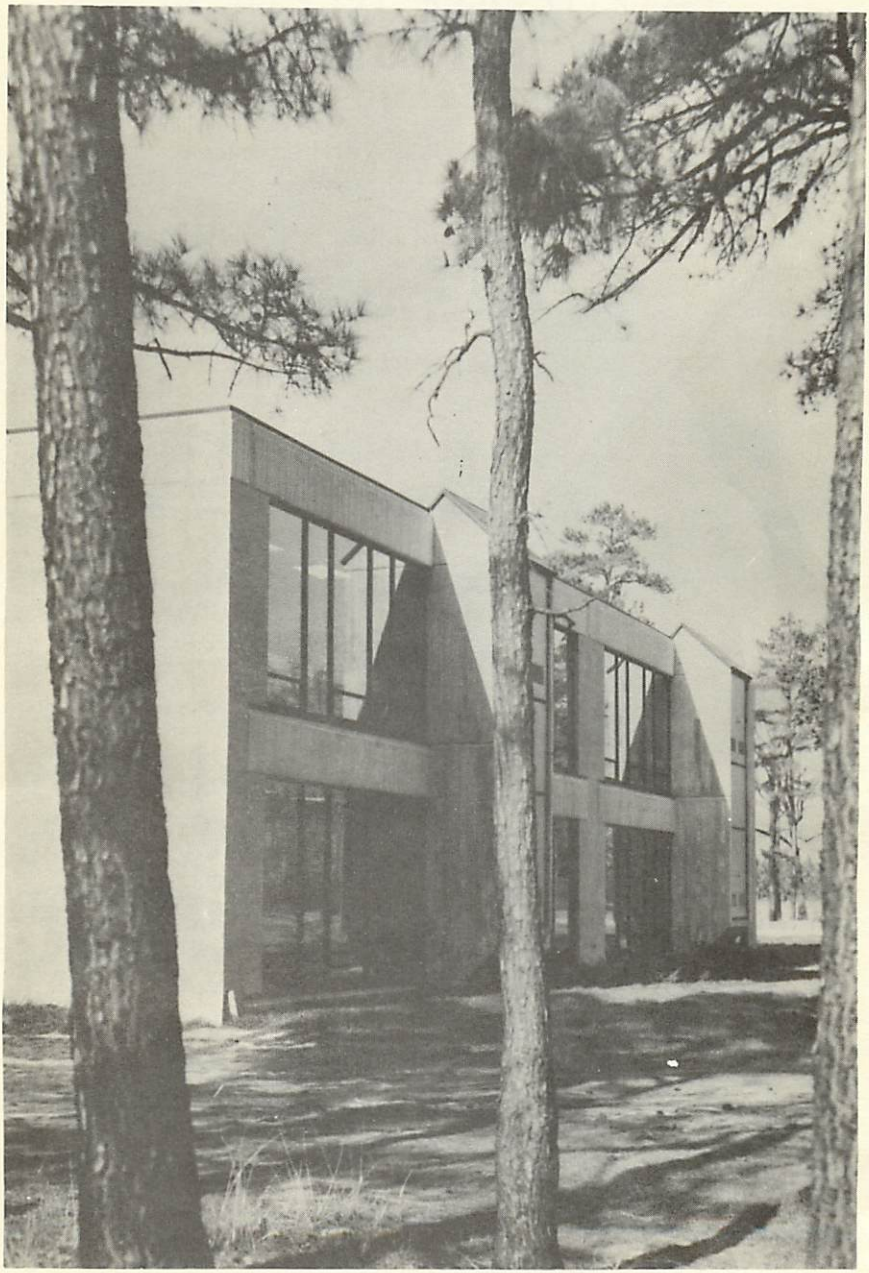
# FAYETTEVILLE TECHNICAL INSTITUTE

1968 - 1970

CATALOG

VOLUME II

P. O. BOX 5236, FAYETTEVILLE, NORTH CAROLINA
PHONE 484-4121



## FOREWORD

Technical and Vocational Education has assumed a new importance in this fast-moving civilization which we live in today. Acute shortages of trained manpower have developed in many areas despite a surplus of persons who seemingly possess ability and interest in preparing themselves, if appropriate opportunity were available.

An increasing number of high school graduates who do not plan to attend a four-year college or university continue their education by taking two years of additional training at the Fayetteville Technical Institute. Our first endeavor is to cultivate in the students those qualities of mind and character which fit them more ably for careers in our rapidly changing technological world and, secondly to train the students to take their place in our complex American society as an American citizen.

The Fayetteville Technical Institute offers a variety of programs, designed to meet the needs of all the people of our community, and to provide the type of education which industry and business are demanding of their employees today.

Howard E. Boudreau
President

# 1967

### JANUARY

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# 1968

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### MARCH

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# 1969

### JANUARY

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### FEBRUARY

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### JUNE

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### NOVEMBER

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# FAYETTEVILLE TECHNICAL INSTITUTE

## ACADEMIC CALENDAR 1968 - 69

**Fall Quarter**

| | |
|---|---|
| September 9-10 | Registration for full-time students |
| September 10 | Orientation for beginning students |
| September 11 | Classes begin for all students |
| November 26 | Last day of Fall Quarter |

**Winter Quarter**

| | |
|---|---|
| December 2-3 | Registration |
| December 4 | Classes Begin |
| March 4 | Last day of Winter Quarter |

**Spring Quarter**

| | |
|---|---|
| March 5 | Registration |
| March 6 | Classes Begin |
| May 23 | Last day of Spring Quarter |
| May 24 | Graduation Exercises |

**Summer Quarter**

| | |
|---|---|
| June 2-13 | Faculty Vacation |
| June 12-13 | Registration for new students |
| June 16 | Classes Begin |
| August 27 | Last day of Summer Quarter |

## ACADEMIC CALENDAR 1969 - 70

**Fall Quarter**

| | |
|---|---|
| September 9-10 | Registration for full-time students |
| September 10 | Orientation for beginning students |
| September 11 | Classes begin for all students |
| November 26 | Last day of Fall Quarter |

**Winter Quarter**

| | |
|---|---|
| December 2 | Registration |
| December 3 | Classes Begin |
| March 2 | Last day of Winter Quarter |

**Spring Quarter**

| | |
|---|---|
| March 4 | Registration |
| March 5 | Classes Begin |
| May 29 | Last day of Spring Quarter |
| June 2 | Graduation Exercises |

**Summer Quarter**

| | |
|---|---|
| June 8-19 | Faculty Vacation |
| June 17-18 | Registration for new students |
| June 22 | Classes Begin |
| August 31 | Last day of Summer Quarter |

## OFFICERS OF ADMINISTRATION

### DEPARTMENT OF COMMUNITY COLLEGES

I. E. Ready ..... Director

Charles R. Holloman ..... Associate Director & Business Manager

## BOARD OF TRUSTEES OF FAYETTEVILLE TECHNICAL INSTITUTE

Paul H. Thompson ..... Henry A. Rankin, Jr.

James A. Gray, Sr. ..... Thornton W. Ross

Howard L. Hall ..... Roscoe L. Blue

W. J. West ..... Neill A. Currie, Jr.

Gibson Prather ..... Marion C. George, Jr.

F. C. Franklin ..... John C. Mitchell

## FAYETTEVILLE TECHNICAL INSTITUTE

### ADMINISTRATIVE STAFF

Howard E. Boudreau ..... President
B.S., M.Ed., Colorado State University

William E. Sease ..... Director of Instruction
B.S., M.Ed., Virginia Polytechnic Institute

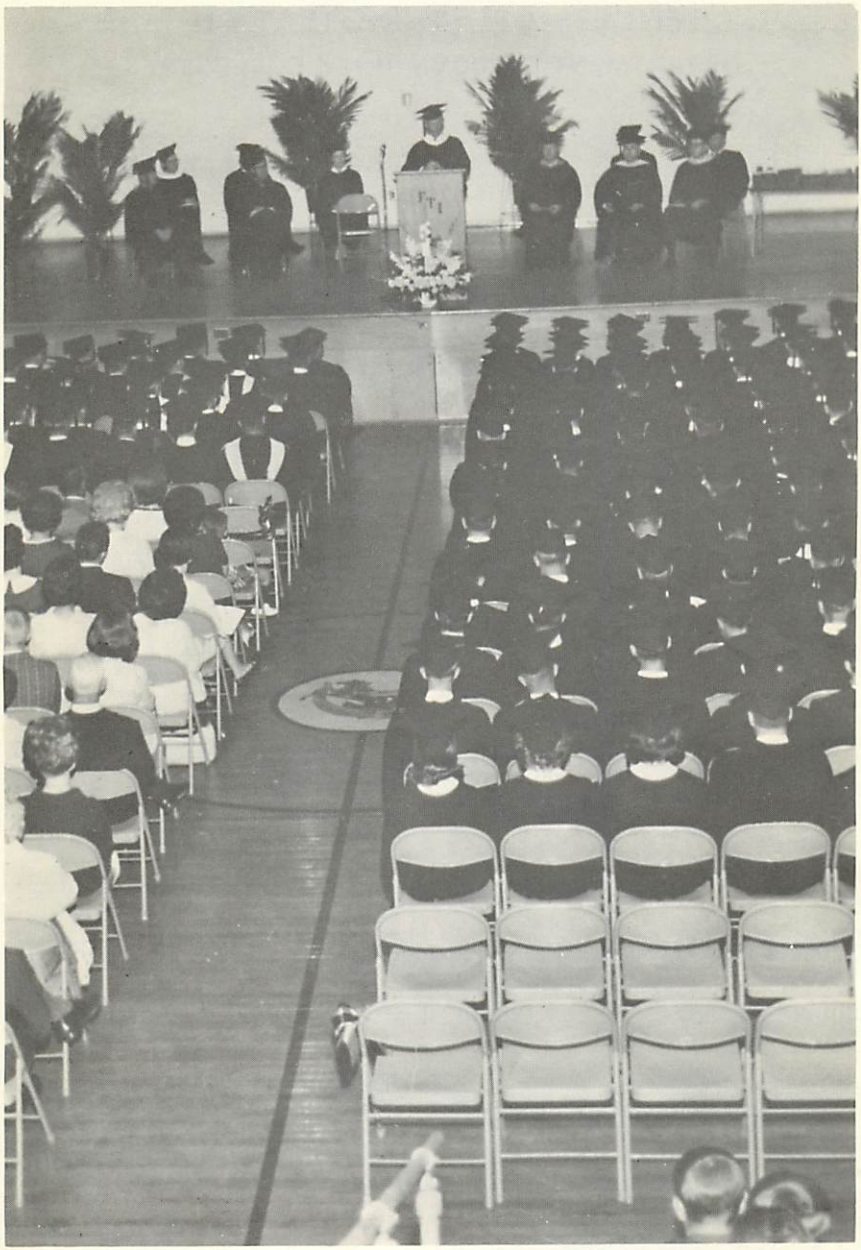
Samuel Lee Johns ..... Administrative Assistant to the President
Maj. (ASA) Ret.

Niles E. Compton ..... Director of Student Personnel
B.S., M.Ed., University of Florida

William L. Bryant ..... Director of Extension
B.S., M.Ed., North Carolina State University

George W. J. Horton ..... Director of Adult Basic Education
B.A., M.A., East Carolina

William P. Standley ..... Business Manager
CWO (AGC), Ret., San Francisco State



# FACULTY

## BUSINESS EDUCATION

William O. Cameron ____ Division Chairman, Accounting
B.S., Campbell College

Robert L. Carter ____ Accounting
B.S., M.B.A., University of North Carolina

Walter McD. Croom ____ Department Head, Agricultural Business
B.S., M.Ed., North Carolina State University

Steve M. Gatyas, Jr. ____ Accounting
A.A., B.S., Pembroke State College

Thomas J. Hall ____ Department Head, Business Administration
B.S., M.B.A., University of North Carolina

James M. Johnson, Jr. ____ Business Administration
B.S., Appalachian State Teachers College

Dickey V. Jones ____ Business Administration
B.S., M.Ed., University of North Carolina

Linda Rose Lee ____ Department Head, Secretarial Science
A.B., Meredith College

James A. Sinclair ____ Business Administration
B.S., M.A., University of North Carolina

Ada M. Watson ____ Secretarial Science
B.S., East Carolina

Victor C. Webster ____ Accounting
B.S., University of South Carolina

## ENGINEERING TECHNOLOGY

Clarence A. Balch, Jr. ____ Department Head, Mechanical Technology
B.S., California State Polytechnic College

Robert M. Carn ____ Department Head, Civil Technology
B.S.C.E., Pennsylvania State University

Charles A. Carter ____ Department Head, Electronics Technology
University of Southern Mississippi

Bethel H. Davis ____ Civil Technology
Reg. Surveyor, B.S.C.E., North Carolina State University

Gordon L. Dwiggins ____ Division Chairman, Sanitary Technology
PE, B.S., MSSE, University of North Carolina

Jon C. Dyer ____ Department Head, Sanitary Technology
B.S., MSSE ,Virginia Polytechnic Institute

Joseph H. Foerch, Jr. ____ Electronics Technology
B.S., North Carolina State University

William E. Hancock ..... Mechanical Technology
B.B.E., B.S., M.A., East Tennessee State University

Charles A. Purcell, Jr. ..... Civil Technology
PE, BSGE, Georgia Institute of Technology

Paul B. Sharpe, Jr. ... Department Head, Air Cond. & Refrigeration Technology
A.A.S., Danville Technical Institute

Ronald E. Sleeper ..... Mechanical Technology
B.S., University of Southern Mississippi

Mercedes R. O'Hale ..... Coordinator, Associate Degree Nursing
B.S., M.S., University of Chicago

## GENERAL EDUCATION

Dewey N. Bass ..... Department Head, Science-Physics
B.S., M.A., University of North Carolina

Clarence H. Cannady ..... Mathematics
B.S., M.M., University of South Carolina

Arthur T. Cavano ... Department Head, Communicative Skills-English
B.A., M.A., University of North Carolina

Franklin T. Edwards ..... Biology
B.S., M.A., Middle Tennessee State College

George R. Hicks, Jr. ..... Department Head, Social Science
B.S., Campbell College

Stacey H. Johnson ..... Physics
B.S., Campbell College

Larry T. Jones ..... Mathematics
B.S., Campbell College

Charles E. Koonce ..... Mathematics
B.S., Campbell College

William Paul Lewis ..... Division Chairman, Physics
B.S., M.A., East Carolina

Graves H. McDowall ..... Communicative Skills - English
A.B., Millsaps College

Judith A. Simmons ..... English
B.A., M.A., University of North Carolina

Lonnie G. Smith ..... English
B.S., M.A., Appalachian State Teachers College

A. C. Stephenson ..... Department Head, Mathematics
A.B., Elon College

Edward A. Warner, Jr. ..... English
B.S., Campbell College

## VOCATIONAL EDUCATION

James H. Christie ---------- Department Head, Welding
B.S., North Carolina State University

Claudie A. Dancy ---------- Practical Nurse Education
R.N.

J. D. Detter ---------- Air Conditioning and Refrigeration
Refr. and A.C. Licensed Contractor, Wilmington Technical Institute

Frances R. King ---------- Practical Nurse Education
R.N.

Ada M. Leonard ---- Department Head, Practical Nurse Educaction
R.N.

Frank M. McDonald ------ Department Head, Automotive Mechanics
Master Mechanic

Edmund E. Nute ------- Division Chairman, Automotive Mechanics
Master Mechanic

Ervin D. Oakes, Jr. ---------- Air Conditioning and Refrigeration
Refrigeration Licensed Contractor

James T. Paden, Sr. ---------- Automotive Mechanics
A.A.S., Presbyterian Junior College

Robert H. Piatt ---------- Department Head, Tool and Die
Master Machinist

James B. Pittman ---------- Department Head, Machinist
Master Machinist

Charles A. Stone, Jr. ---------- Machinist
Master Machinist

## LIBRARY

Betty J. Williamson ---------- Head Librarian
B.S., M.A., East Carolina

Thelma M. Harris ---------- Librarian
B.S., M.A., East Carolina

## STUDENT PERSONNEL SERVICES

Niles E. Compton ---------- Director of Student Personnel
B.S., M.Ed., University of Florida

James O. Deans ---------- Counselor
B.S., M.A., East Carolina

John G. Gay ---------- Counselor
B.S., M.Ed., University of Florida

Arthur N. Sturdivant ---------- Counselor
A.B., M.Ed., Lynchburg College, Virginia

## OFFICE AND GENERAL STAFF

| | |
|---|---|
| Wendy Billick | Switchboard Operator |
| Lynn Bledsoe | Typist, Business Office |
| Mary Dehmer | Secretary to the Administrative Assistant to the President |
| Herman Dunn | Maintenance Supervisor |
| Louise Griffin | Bookkeeper |
| Nell Hudson | Cashier |
| Ann Ivey | Secretary to the Director of Adult Basic Education and Director of Extension |
| Kathy Miller | Secretary to the President |
| Shirley Moore | Secretary to the Director of Instruction |
| Diane Nance | Secretary, Student Personnel Office |
| Sandra Ross | Secretary, Business Office |
| Peggy Shaler | Secretary to the Director of Student Personnel |

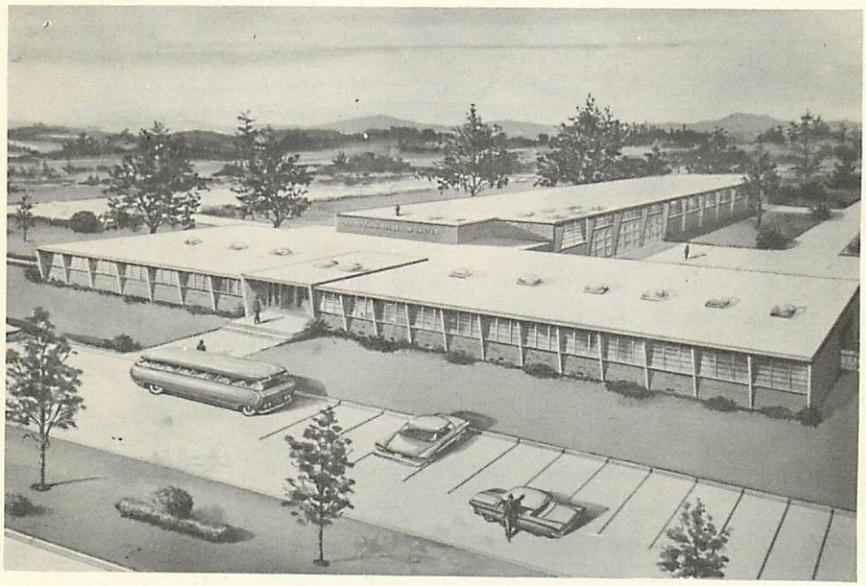
# HISTORY OF THE INSTITUTION

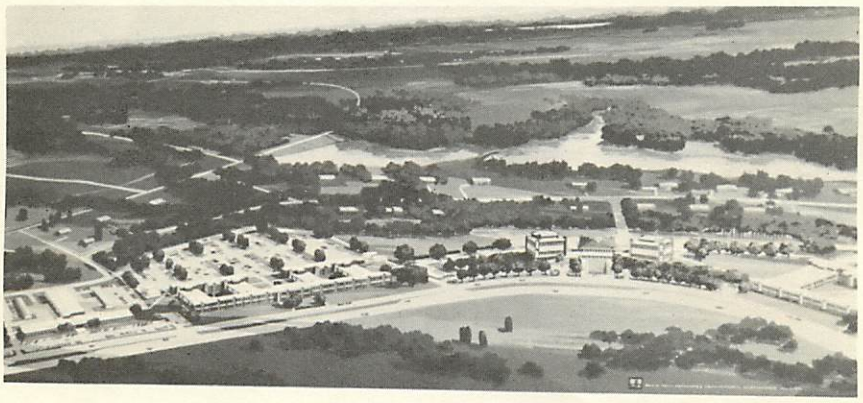
The Fayetteville Technical Institute began in 1961 as the Fayetteville Area Industrial Education Center as a result of action taken by the North Carolina State Legislature to increase technical training. Under a new law passed in 1963 by the Legislature, the center was placed under the administration of the newly created Department of Community Colleges, to be directed by a Local Board of Trustees.

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

The present enlarged facilities are only a part of the master plan which, when completed, will utilize the 53-acre campus. The classroom and laboratory areas are air conditioned and the shop areas are well-ventilated for maximum comfort of the students. The design of the building is considered to be one of the best of its kind in the nation.

The Institute is a part of the Department of Community Colleges which functions under the North Carolina Board of Education. The Department of Community Colleges was established in 1963, under the General Statutes of the State of North Carolina. The Fayetteville Technical Institute is classified as one of the top schools in North Carolina under the Department of Community Colleges.





# PURPOSE

The purpose of the Fayetteville Technical Institute is to provide specialized occupational education to fill the manpower needs in our society and to provide for the fullest possible development of the potential of each student so that he may attain effective citizenship in his society.

To attain this purpose, offerings and programs are designed to meet the various interests and aptitudes of all prospective students. Curricula programs are designed to produce highly-skilled, technical and semi-professional personnel to meet the needs of the expanding advances in industry and business and to strengthen the general educational base of our society.

The following major areas of specialized occupational education are provided:

A. **Engineering Technician Education**—Highly specialized training for effective entrance into specialized areas of business and industry. Elements of training common to all technician occupations are included such as basic science, mathematics, oral and written communications, engineering and industrial terminology, engineering and industrial drafting and similar technical skills.

B. **Business Education**—Specialized training for entry into positions such as (a) management and sales, (b) accounting, and (c) secretarial in the legal, medical, technical, and executive fields. Elements of training common to all business occupations such as communicative skills, economics and business law, are included plus such specialized business subjects as accounting, business management and business finance.

C. **Vocational Education**—Specialized training to provide depth in manipulative skills in a restricted range of activities and to develop a strong basic background of such related subjects as mathematics, science, and communicative skills.

D. **Health Occupations Education**—Both technical and trade occupations. This area provides the special technical knowledge and skills plus elements of training common to all occupations where state licensing is required. Dexterous manipulative skills and a strong basic background in science,

mathematics, and communicative skills are emphasized in the training for those health occupations where such skills are paramount.

**E. Preparatory Studies Education** — The Preparatory Studies Program is planned especially for the high school graduate and adult who has been accepted into regular curriculum programs but who has weaknesses and deficiencies in certain basic subject matter areas. Many such students need remedial study in only one subject area, others in several or all basic subject matter areas. Courses are provided at two or more levels in reading, English, grammar, composition, mathematics, physical science, and social science. Preparatory Studies are especially needed in an "open door" educational institution. Under the open door policy, students are admitted who have a wide variety of abilities and backgrounds. Some are deficient in the general education understandings and learning skills which are needed for success in post-secondary educational programs.

**F. Non-Curricular Education** — This provides training in four major areas as follows:

(1) **Adult Basic Education.** This is training in primary and secondary education from pre-literacy through Grade 12, including high school equivalency programs.

(2) **Extension Education.** This is training in the skills of trade and industrial occupations for the purpose of upgrading and retraining employees.

(3) **General Adult Education.** This is training in the knowledge, skills, and related background subjects such as sciences, mathematics, and communicative skills associated with courses promoting the recreational, vocational, and cultural interests of the adult population.

(4) **MDTA Education.** This is training in the skills of vocational or trade occupations under the Manpower Development Training Act for the purpose of entering employment.

# ACCREDITATION & PROFESSIONAL ORGANIZATIONS

## Department of Community Colleges

The Fayetteville Technical Institute is accredited by the North Carolina State Department of Community Colleges under the State Board of Education, as specified in Chapter 115 A of the General Statutes of North Carolina.

The Department of Community Colleges and the State Board of Education has granted the Institute Board of Trustees the authority to award the Associate of Applied Science Degree for the completion of the two-year engineering technology curriculum and the two-year business curricula and the awarding of the Diploma for all vocational curricula.

## Southern Association of Colleges and Schools

Fayetteville Technical Institute is fully accredited by the Commission on Colleges of the Southern Association of Colleges and Schools as a special purpose institution. The Southern Association of Colleges and Schools is a regional accrediting agency for the purpose of identifying and accrediting institutions which meet the standards for quality and scope of higher education.

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

## Engineers' Council for Professional Development

The following curricula offered by Fayetteville Technical Institute have been accredited by Engineers' Council for Professional Development.

1. Civil Engineering Technology
2. Electronics Engineering Technology
3. Sanitary Engineering Technology

The Engineering Technology Committee, a standing committee of the Engineers' Council for Professional Development, operates the accrediting program for engineering technology curricula. The purpose of the accrediting committee is to identify those curricula which qualify for recognition as engineering technology curricula and to identify the institutions which offer them.

Institutions which offer accredited engineering technology curricula must demonstrably maintain a high standard of ethics in its educational program and in all of its dealings with students and prospective students. In its correspondence, published materials and other public announcements, the statements must be frank and factual and must not be misleading. Engineering technology curricula are evaluated on the basis of both qualitative and quantitive criteria which include requirements for maintaining acceptable depth and scope usually found in college level training.

## PROFESSIONAL ORGANIZATIONS

The Institute has membership in several educational associations that carry on a variety of programs and services which provide the institution with informational services, research, consultants, and workshops pertinent to the varied problems and issues in which we are engaged in technical and trade education on a national and state level.

1. **American Association of Junior Colleges**
2. **Southern Associaton of Junior Colleges**
3. **North Carolina Association of Junior Colleges**
4. **American Society of Engineering Education**
5. **American Technical Education Association**

# GENERAL INFORMATION

## ADMISSION REQUIREMENTS

### Statement of Policy

Fayetteville Technical Institute as a technical, state-supported institution, adheres to an "open-door" admissions policy. High school graduates or persons possessing a high school equivalency certificate may be admitted to credit courses which are appropriate to his or her educational potential. Successful implementation of an "open-door" admission policy requires emphasis on admissions counseling services. These services are provided to assure reasonable potential for success in the particular program pursued by the student. As part of the admissions counseling process, Fayetteville Technical Institute utilizes an initial aptitude and achievement test battery, personal interview, and evaluation of the applicant's prior school record.

### Steps in Admission Procedures

Application and Activity Fee

The applicant should submit an application form properly completed and accompanied by a $15 activity fee to the Director of Student Personnel Services. This fee is refundable only when the student is not accepted by the Institution into a regular curriculum. Seniors in high school should submit application early in their senior year.

Transcripts - Beginning Students

Applicants who have never before attended a post-secondary institution should request their high school to forward to the Fayetteville Technical Institute a transcript of their work.

Transcripts - Transfer Students

An applicant who has previously attended or enrolled in any other institute or college is considered a transfer student. Transfer students should request official transcripts of all work attempted from each of the institutes or colleges previously attended. Such transcripts must be sent directly to Fayetteville Technical Institute.

Entrance Test Battery

Each applicant is required to complete a series of aptitude and achievement tests as an entrance requirement. This test battery is administered by the Student Personnel Office at Fayetteville Technical Institute, and each applicant will be assigned a specific date on which to take the tests. There is no cost involved in taking the test.

Pre-Admission Counseling

Each applicant must come for an individual interview to discuss with trained personnel his educational plans. High school records and results of the Entrance Test Battery will be used in conjunction with the student's personal aspirations to help him plan a workable educational goal.

Health Status

The applicant will be required in all curricula, to furnish evidence of satisfactory health. All applicants should be in reasonably good health with no physical defects that would interfere with his progress in his particular field of work.

**Entrance Requirements** (Associate Degree Curricula)

The minimum entrance requirements for admission to the regular two-year Associate of Applied Science Degree curricula are as follows:

1. High School graduate or
2. Eighteen years of age and State-approved equivalent education.
3. A minimum of two units in algebra for engineering technology curricula (plus chemistry for Sanitary Engineering Technology, Associate Degree, Nursing and Dental Hygiene); one math unit for agricultural or business curricula. Those who do not meet the accepted standards for math may elect to take a preparatory curricula to fulfill the necessary requirements.
4. Transcripts of high school and post-high school education which should include test scores on any intelligence, ability, or aptitude test taken while in high school.
5. Acceptable scores on the initial general aptitude test battery administered by Fayetteville Technical Institute.
6. Acceptable physical and mental health.
7. Personal interview with a designated member of the Student Personnel Staff.

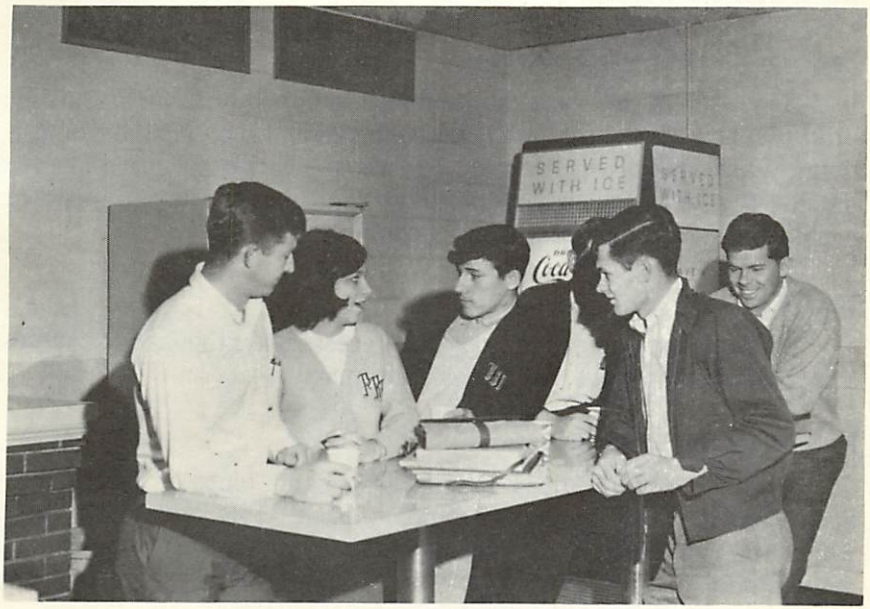
**Entrance Requirements** (Diploma Curricula)

The minimum entrance requirements for the admission to the trade curricula are as follows:

1. High school graduate or
2. Eighteen years of age and approved equivalent education.
3. Transcript of high school education or equivalent proof.
4. Acceptable scores on the initial general aptitude test battery administered by Fayetteville Technical Institute.
5. Acceptable physical and mental health.
6. Personal interview with a designated member of the Student Personnel Staff.

**Admission with Advanced Standing**

Students may be admitted with advance standing by transfer from other technical institutes, colleges, or universities. All credits to be transferred must be equated with the curricula offerings at Fayetteville Technical Institute and be at least a grade of "C".



# EXPENSES & FEES

## Tuition

Tuition is $32 per quarter and must be paid in the Business Office at the beginning of each quarter. Students with financial difficulties must make arrangements through the Student Personnel office at least one week prior to registration.

## Activity Fee

An activity fee of $15 must accompany each application for admission. This fee will be applied to the student's total activity cost which includes insurance, student publications, and other student activities as prescribed by the Board of Trustees. This fee is refundable only when the student is not approved by the Institute for a regular curriculum.

## Late Registration Fee

A late registration fee of $5 will be charged to all students, without exception, who register after the regular registration dates on the school calendar.

## Fees for Out-of-State Students

Any student whose legal residence is outside of North Carolina or students who are under 21 years of age and who are boarding or living with relatives in the state but whose parents or guardians live outside the state, will pay tuition fees 2½ times the in-state rate except where state or Federal law prohibits.

## Book Cost

Students are required to buy the necessary textbooks for courses. The estimated average cost is $45 per quarter.

## Hand Tools and Instruments

Students are required to purchase hand tools or instruments each quarter until he has assembled basic tools and instruments which he will need upon accepted employment. This requirement applies only to those curricula which require the use of such tools. The average cost is approximately $35 per quarter.

# ACADEMIC STANDING

## Credits

A. Full-time students will receive quarter-hours credit for courses in the curriculum in which they are enrolled.

B. The Fayetteville Technical Institute has been authorized by the North Carolina State Board of Education to award the Associate of Applied Science Degree to those students who successfully complete one of the Technology Curriculums or Business Curricula.

C. A Diploma is awarded by the Board of Trustees to those students who successfully complete vocational curriculums.

D. It is a policy of this institution to permit students to enroll in additional subjects and laboratory work beyond those shown in the catalog. The instructional hours shown in the curriculums are minimal. When in any quarter the total weekly contact hours listed are fewer than twenty-five hours 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.

E. Students with academic deficiencies who require remedial work as background material may enroll for a maximum of 30 instructional hours per week in courses designed to meet entrance requirements of a specific curriculum. These deficiency courses carry credit hours toward entrance requirements but are not counted as credit hours toward graduation in any of the curricula. Students enrolled in deficiency courses who carry the number of instructional hours required for full-time student classification are classified as full-time institutional students.

## Requirements for Graduation

To be eligible for graduation the student must:

1. Successfully complete his course of study as listed in this catalog.
2. Have sufficient quality points to average 2.0 in his total program.

3. Have no failing grade in any major subject area course (courses failed must be repeated).
4. Must have taken care of all financial obligations owed to Fayetteville Technical Institute.

Only one formal graduation is held - at the end of the Spring Quarter.

### Grading Procedures

Each grade is assigned a "grade point equivalent" in quality points for each quarter credit hour scheduled. The scholastic point average is determined by dividing the total quality points earned by the number of quarter hours scheduled.

| Numerical Grade | Grade | Grade Point Equivalent |
|---|---|---|
| 93 - 100 | A=Excellent | 4 quality points for each qtr. hr. |
| 85 - 92 | B=Good | 3 quality points for each qtr. hr. |
| 77 - 84 | C=Average | 2 quality points for each qtr. hr. |
| 70 - 76 | D=Below Average | 1 quality point for each qtr. hr. |

A. Inc. - Incomplete (An incomplete signifies that the student has passed final examination but is incomplete in some report or other work assigned by his instructor). An incomplete must be completed satisfactorily during the first six weeks of the next term, or it automatically becomes an "F".

B. WD - No Grade. A student may withdraw from a course anytime within the first 15 school days with no grade penalty.

C. WD-P or WD-F. Students who drop a course after the first 15 school days of the course must have his instructor's consent if he is to be withdrawn passing; otherwise, he will receive a failing grade. No credit is given for withdrawn passing.

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

All students must have at least a 2.0 quality point average to be eligible for graduation. Students who fail a course will be required to repeat the course. Both grades will be used in the determination of the total quality point average.

## Withdrawals

Students who transfer or withdraw from the Institute during the school year must first consult with the Director of Student Personnel.

Requests to withdraw must be in writing. Written requests are necessary in order to protect the student's school record, his right to re-enroll, and the right to transfer to another institution. No student's record will be released until his financial record is cleared.

## Re-admittance

When a student withdraws from school due to hardship or illness, he may be permitted to re-enter at the beginning of the quarter in which those courses will be taught again.

A student dismissed from school by the Administration may re-enter the following September and will be placed on probation for a period of six weeks.

## Refunds

Tuition refunds 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 (2/3) 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 catalog; otherwise, tuition refunds will not be considered unless a course or curriculum fails to materialize.

**Veterans.** The following refund policy will be applicable to veterans under Public Law 550, 82nd Congress: "The institution has and maintains the following policy for refund of the unused portion of tuition, fees, and other charges in the event the veteran fails to enter the course or withdraws or is discontinued therefrom at any time prior to completion.

The amount charged the veteran for tuition, fees, and other charges for a portion of the course will not exceed the approximate pro rata portion of the tuition, fees and other charges that the length of the completed portion of the course bears to its total length."

## Attendance

The following regulations are used to govern absenteeism:

1. Emergency Absence - A student may be absent from a class one time for each quarter credit hour of the course for emergency reasons. He will be responsible, however, for making up any class assignment missed due to absence.

A student who accumulates more class absences than credit quarter hours given for a course will be automatically dropped and must present a written request to the Registrar for consideration of reinstatement. Reinstatement cases are appraised by the Faculty Reinstatement Committee for the following emergency reasons.

1. Illness or injury to the student.
2. Illness or death in the immediate family.
3. Inclement weather (hurricane, ice, etc.)

A student who has been absent excessively will be subject to failure and/or dismissal from school without credit.

## Academic Deficiency

A student whose quality point average for any given quarter's work falls below the minimum as stated in the Student Handbook will be placed on Academic Probation. If his subsequent quarter's work should also fail to meet this minimum, he may be requested to withdraw from school, drop certain courses and/or take remedial work.

## Honors

Any student who has earned a quality point average of 3.5 during his work at Fayetteville Technical Institute will be granted a degree with honors.

**Scholastic Award - One-Year Vocational Curriculum.** This award is given to the student in a one-year vocational curriculum who has obtained the highest grade average in all class work taken at Fayetteville Technical Institute leading to a diploma.

**Scholastic Award - Two-Year Vocational Curriculum.** This award is given to the student in a two-year vocational curriculum who has obtained the highest grade average in all class work taken at Fayetteville Technical Institute.

**Scholastic Award - Two-Year Degree Curriculum.** This award is given to the student who has obtained the highest grade average in a two-year degree curriculum leading to the Associate of Applied Science Degree.

### Citizenship Award

The criteria used by the faculty in the selection of the Citizenship Award includes all of the characteristics mentioned above plus the following:

1. Shows respect for faculty, administrators and fellow students.
2. Shows willingness to follow others leadership.
3. Exhibits good sportsmanship and respects public property.
4. Conforms to general rules and regulations of the college.
5. Exhibits a high degree of integrity and general loyalty to the school.
6. Does a thorough job of assigned tasks and elected responsibility and supports all college activities.

### Outstanding Student Award

The criteria used by the faculty in the selection of the Outstanding Student Award includes all of the characteristics mentioned above plus the following:

1. Respects faculty, administrators, and fellow students.
2. Demonstrates definite leadership ability.
3. Completes assigned tasks with thoroughness.

# STUDENT PERSONNEL SERVICES

## Counseling Services

The Student Personnel Services include counseling services provided by trained personnel. These services are available to every full-time curriculum student from pre-admission through graduation including transfer or placement. There is no cost for these services.

Every student is assigned a faculty advisor who serves to assist the student with specific course planning and registration.

Students may come to the counselor's office at any time when a personal problem arises which could affect his progress in school. Faculty members are asked to encourage students to use this service if needed. Appointments are set up to discuss the student's educational course of study and school progress at intervals throughout the year.

## Testing

Each applicant will be given a series of aptitude and achievement tests which constitute both an entrance requirement and a counseling tool for placement. There is no cost for these tests and each applicant will be notified of the date he is to be tested. These tests are given to all applicants enrolling for the first time at Fayetteville Technical Institute as curriculum students.

## Orientation

All new full-time students are required to participate in the orientation program. The purpose of the program is to acquaint the student with the administrative personnel, faculty and student leaders. The rules, policies, and privileges of the college are discussed as contained in the Student Handbook. Informal, social activities with fellow students and faculty members are included in the program of orientation.

## Student Housing

The Student Personnel Office maintains a list of approved housing for students who find it necessary or desirable to reside in Fayetteville while attending school.

This is a selected list from local residents who will rent rooms or apartments to students of Fayetteville Technical Institute. Financial arrangements for rooms or apartments are on an individual basis between student and landlord.

## Placement of Students

The Student Personnel Office provides a job placement service for all curricula students who successfully complete a program of study at the Fayetteville Technical Institute.

The Admissions and Placement Office maintains an active file of prospective employers and provides these employers with personal data sheets on students from the curriculum meeting the job demands. Employers from all geographical areas of North Carolina and from the majority of other states come to the campus each Spring to interview prospective graduates.

Although the Placement Office cannot guarantee anyone a job, to date, the placement service of Fayetteville Technical Institute has operated with 100 per cent effectiveness.

## Draft Deferment

Fayetteville Technical Institute holds the same draft deferment status accorded other college students throughout the state. The student's local selective service board is notified at the time of registration of the student's enrollment. The present draft law, as amended, effective for the 1967-68 school year states that a student must request deferment in writing. Forms for this request may be obtained from the Student Personnel Office.

## Financial Assistance

**Work Study.** This form of financial aid is administered under the "Work Study Program ,Vocational Education Act of 1963." This allows a student to be employed by the school as an aide, lab assistant, or in any capacity not covered by a regular employee. Maximum earnings for a student is $45 per month (within a 30-mile residence area) and $60 per month (beyond the 30-mile residence area); this earning is rated at $1.25 per hour.

**Student Loans.** Loans are available to students under any of the three following plans:

1. Through the College Foundation, Inc., a student who has been approved for admission may borrow up to $1,000 per year as provided by the Higher Education Act of 1965, Section IV B. The Student Aid Committee gives institution approval and the College Foundation, Inc., gives final approval and awards the loan through the Institute's Business Office. Application must be made prior to July 1 of the school year.

2. The Department of Community Colleges administers a loan fund in the maximum amount of $300. A student who has enrolled in a regular curriculum may apply through the Student-Aid Officer after he has registered for the first quarter in a regular curriculum.

3. The Fayetteville Technical Institute Emergency Loan Fund is local and is administered by the Student Financial Aid Committee. Application is made at any time during the course of a student's attendance in a regular curriculum program. The maximum single loan in this fund is $300 annually. All loans made from this fund are subject to the regulations covering student loans as outlined by the Student Financial Aid Committee. As a general rule, these loans are interest-free. The following businesses, firms, or groups have contributed to the Local Loan Fund:

   A. A $250 annual loan contributed by Bass Air Conditioning Company, Inc., of 1332 Bragg Blvd. This loan to be administered by the Student Financial Aid Committee for students enrolled in Air Conditioning and Refrigeration.

   B. A $500 annual loan contributed by the Cape Fear Engineers Society for students entering an engineering curriculum. This loan is limited to students whose residence is in one of the following counties:

| | |
|---|---|
| Bladen | Harnett |
| Columbus | Robeson |
| Cumberland | Sampson |

## Scholarships

The following scholarships have been made available to the Fayetteville Technical Institute to be administered by the Student Aid Committee to those students who qualify as to need and ability to successfully complete the curriculum. Application for these scholarships should be submitted to the Student Aid Officer no later than March 31 for the following school year.

1. A $250 scholarship contributed by the Branch Banking & Trust Company of Fayetteville without restriction as to curriculum of study.

2. A $250 scholarship contributed by C & I Bank of Fayetteville without restriction as to curriculum of study.

3. A $250 scholarship contributed by Henry A. Rankin, Jr., of Rankin Brothers Company, Fayetteville, to a student studying Electronics Engineering Technology.
4. A $250 scholarship contributed by Paul H. Thompson of Thompson-McLean Realty Company without restriction as to curriculum of study.
5. A $250 scholarship contributed by H. G. Stiles of AAA Storage Company of Fayetteville, without restriction as to curriculum of study.
6. A $250 scholarship contributed by Sol C. Rose, Registered Surveyor of Fayetteville, without restriction as to curriculum of study.
7. A $250 scholarship contributed by Tom McLean of Thompson-McLean Realty Company of Fayetteville without restriction as to curriculum of study.
8. A $250 scholarship contributed by "A Friend of the Institution" without restriction as to curriculum of study.
9. Three scholarships of $500 each to cover a two-year course for students in the Sanitary Engineering Technology curriculum. These scholarships are made possible by the N. C. Section of American Water Works and Water Pollution Control Federation. Applications for these scholarships may be made either to the Student Aid Officer or directly to Robert L. Carlson, Education Chairman, N. C. Section of A.W.W.A.—W.P.C.F., P. O. Box 11031, Charlotte, North Carolina, 28209.

## SPECIAL SERVICES

### Library

A technical library is maintained for use of the students and faculty. The library has a carefully selected collection of catalogued books and pamphlets, and receives many periodicals in the technical field. Students are encouraged to use the library for reference and study. The librarian will be happy to assist the student in locating any research materials.

The student schedule requires 25 to 30 hours per week of classroom and laboratory work. On the average, 18 to 20 hours per week must be devoted to outside study. A student should plan an overall time committment of approximately 45 hours per week to his studies.

The library will be open from 8:00 AM to 10:00 PM.

### Book Store

The Book and Supply Store is operated by the Institute for the service of students and instructors. All textbooks, tools, instruments and other supplies required by students attending the institute are available and are sold through the book store below list price. Other distinctive school items usually found in a college bookstore are available. The store operates under the direction of the Business Manager and hours of operation are posted at the book store entrance.

### Snack Bar

A snack bar is provided for the use of all students. It is operated on a concession basis and is open for business between the hours of 7:00 AM and 9:00 PM during the Fall, Winter and Spring quarters. It also operates on a reduced time schedule during the summer quarter. Good food at a nominal cost may be obtained at the snack bar.

### Student Lounge

The Fayetteville Technical Institute provides a student lounge for the comfort and relaxation of its student body. The lounge is equipped with lounging chairs, tables, and a T. V. It is open all day for the student's convenience and the students may relax in a "home-away-from-home" atmosphere.

### Student Activities

Student activities are an integral part of total development of students at Fayetteville Technical Institute. Through these activities students will receive practical experience in the responsibility of citizenship through participation in these programs. Students are encouraged to join and participate in all student activities.

### Student Government

The Student Government Association was organized in 1961, under a Student Government Constitution. The purpose of this organization is to promote the welfare of the student and the school in all matters and to provide for a close-working relationship between all school personnel. A copy of the Student Government Constitution will be given to each new student by the Student Personnel Office. Through the Student Government Association, each student has voice in school affairs.

The structure of the Student Government Association includes the President, Vice-President, Secretary and Treasurer. Students

from each curriculum, both first and second year, are considered a part of the Student Government Executive Council. The activities of the Student Government Association are coordinated by faculty sponsors through the Student Personnel Office.

### Student Publications

Through the coordinated efforts of members of the Student Body on a voluntary basis, the Institute produces two publications.

**Technikos,** is the year book of Fayetteville Technical Institute. It is designed to give a pictorial view of students in the various curricula offered here at the Institute as well as extra-curricula activities in which the student body has participated.

**Technician,** the student newspaper, is published quarterly by the student body. Its main purpose is to inform the student body on the activities that students are involved in as well as their accomplishments.

### Social Activities

Social events, such as formal and informal dances, are planned and sponsored by the Student Government Association in cooperation with school policies.

Clubs and professional organizations may be a part of the students' total cultural and professional development. Such organizations operate under faculty and Student Government Association sponsorship working through the Student Activity Office.

### Intramural Sports

The Student Personnel Services Office sponsors, within the framework of institutional policies, a scheduled program of intramural sports. Such sports include basketball, baseball, volleyball, touch football, tennis, bowling, and other sports. Each curriculum is encouraged to enter a team or teams in the schedule to compete for the trophies which are awarded.

### Area Activities

Students may join the local Y.M.C.A., which is adjacent to the campus, for special student rates. This permits the use of the facilities available to regular members.

Fayetteville provides opportunities for many cultural and recreational activities which are available to the student body. These activities include golfing facilities, bowling centers, movie theatres, arts and crafts, and karate clubs. Special student rates permit the same use of the facilities as available to the regular members.

# GENERAL STUDENT REGULATIONS

Students are responsible for the observance of regulations and policies contained in the Student Handbook and announcements which are made through the student bulletin or other official publications of the institute.

## Student Conduct

Students are expected to display the qualities of courtesy and integrity that characterizes the behavior of ladies and gentlemen. The institute does not permit the use or possession of alcoholic beverages on the campus or at social functions sponsored by the institute.

## Student Dress

Fayetteville Technical Institute students dress informally. Some students wear suits, others find denim and khaki trousers and matching shirts appropriate and acceptable. In all cases, neatness of dress is encouraged. Neatness and personal appearance is a strong characteristic of Fayetteville Technical Institute students.

## Dismissal

The Fayetteville Technical Institute reserves the right to suspend or dismiss any student when it believes such action is in the best interest of the institute or the student.

# THE ASSOCIATE DEGREE

The first Associate Degree conferred in the United States was granted, in 1900, by the University of Chicago. At that time, President William Rainey Harper, the man most instrumental in its initiation, listed among his reasons for this action: 1) that many students would not be able to continue beyond the sophomore year because of personal or financial difficulties and 2) that two years of college would appeal to students whose interest would wane in a four-year program. These reasons are still of significance today, but perhaps not so important as easing a manpower gap created by the mushrooming technology of the past half century.

## History

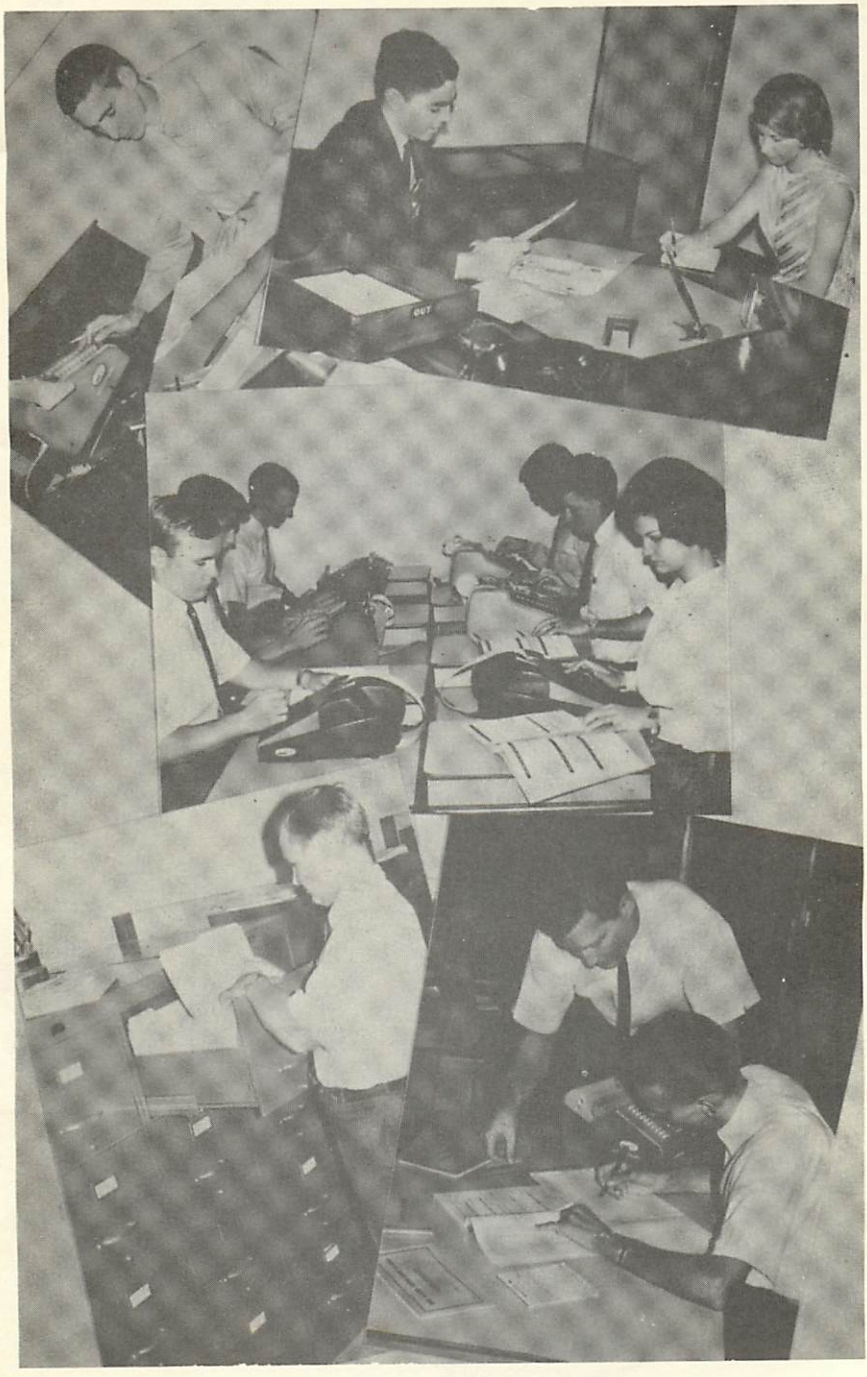
Recognizing the critical nature of the problem and that the Associate Degree was one answer to it, the North Carolina State Board of Education authorized a number of two-year training programs which helped answer the needs of North Carolina.

Approval to offer these programs was granted by the North Carolina State Board of Education and the North Carolina Department of Community Colleges in 1963. Fayetteville Technical Institute is one of the many colleges and universities across the country which have, in the past decade, prepared literally thousands of graduates for the labor market.

## Definition

An Associate Degree is usually granted after the successful culmination of a two-year college program which is either of a technical or general nature. Though a variety of degree titles are used by granting institutions throughout, Fayetteville Technical Institute will award the Associate in Applied Science. This degree represents the major areas of concentration and provides focalized instruction in the critical areas of business, industry and technical fields.

# BUSINESS DIVISION


OUT

# PURPOSE OF BUSINESS EDUCATION TRAINING AT FAYETTEVILLE TECHNICAL INSTITUTE

Tremendous business and industrial expansion has created a growing need for trained people in the areas of accounting, management and sales, and secretarial science. Marketable skills in these areas are obtained through specialized curriculums such as accounting, business administration, secretarial science, and agricultural business.

These curriculums are designed to prepare students for employment in one of many occupations. Students in each curriculum will develop the following competencies: specific skills and knowledges of the curriculum, also particular emphasis is placed on related courses in economics, communicative skills, and human relations.

# ACCOUNTING

## Purpose of Curriculum

Accounting is one of the fastest growing employment fields in America today, and the job outlook for good accountants seems bright for many years to come. These opportunities result from the tremendous business and industrial expansion in all parts of the country. Because of this emphasis, there is a growing need for trained people in the area of accounting to help managers keep track of a firm's operation. The Accounting Curriculum is designed to fill this need by offering students the necessary accounting theories and skills for entry into the accounting profession.

The specific objectives of the Accounting Curriculum are to develop the following competencies:

1. Understanding of the principles of organization and management in business operations.
2. Understanding of the fundamentals of accounting and analysis of financial statements.
3. Understanding and skill in effective communications for business.

## Job Description

The duties and responsibilities of an accountant vary somewhat in different firms. Some of the things an accountant might do are: record transactions, render periodic reports, maintain cost records, make special reports, complete tax returns, audit the books, and advise management in areas of financial affairs.

The graduates of the Accounting Curriculum may qualify for various jobs in business and industry leading to any of the following accounting positions: accounting clerk, payroll clerk, accounting machine operator, auditor, and cost accountant. This training plus further experience should prepare them to become office managers, accounting supervisors, and to fill other responsible positions in a business firm.

# ACCOUNTING CURRICULUM

## SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| First Quarter | | | C — L —CH |
|---|---|---|---|
| T-ENG | 101 | Grammar | 3— 0 — 3 |
| T-BUS | 102 | Typewriting | 2— 3*— 3 |
| T-BUS | 120 | Accounting | 5— 3 — 6 |
| T-BUS | 101 | Introduction to Business | 5— 0 — 5 |
| T-ECO | 102 | Economics | 3— 2 — 4 |
| | | | 18— 8 —21 |

| Second Quarter | | | C — L —CH |
|---|---|---|---|
| T-ENG | 102 | Composition | 3— 0 — 3 |
| T-BUS | 121 | Accounting | 5— 3 — 6 |
| T-ECO | 104 | Economics | 3— 2 — 4 |
| T-BUS | 115 | Business Law | 2— 2 — 3 |
| T-BUS | 123 | Business Finance | 2— 2 — 3 |
| | | | 15— 9 —19 |

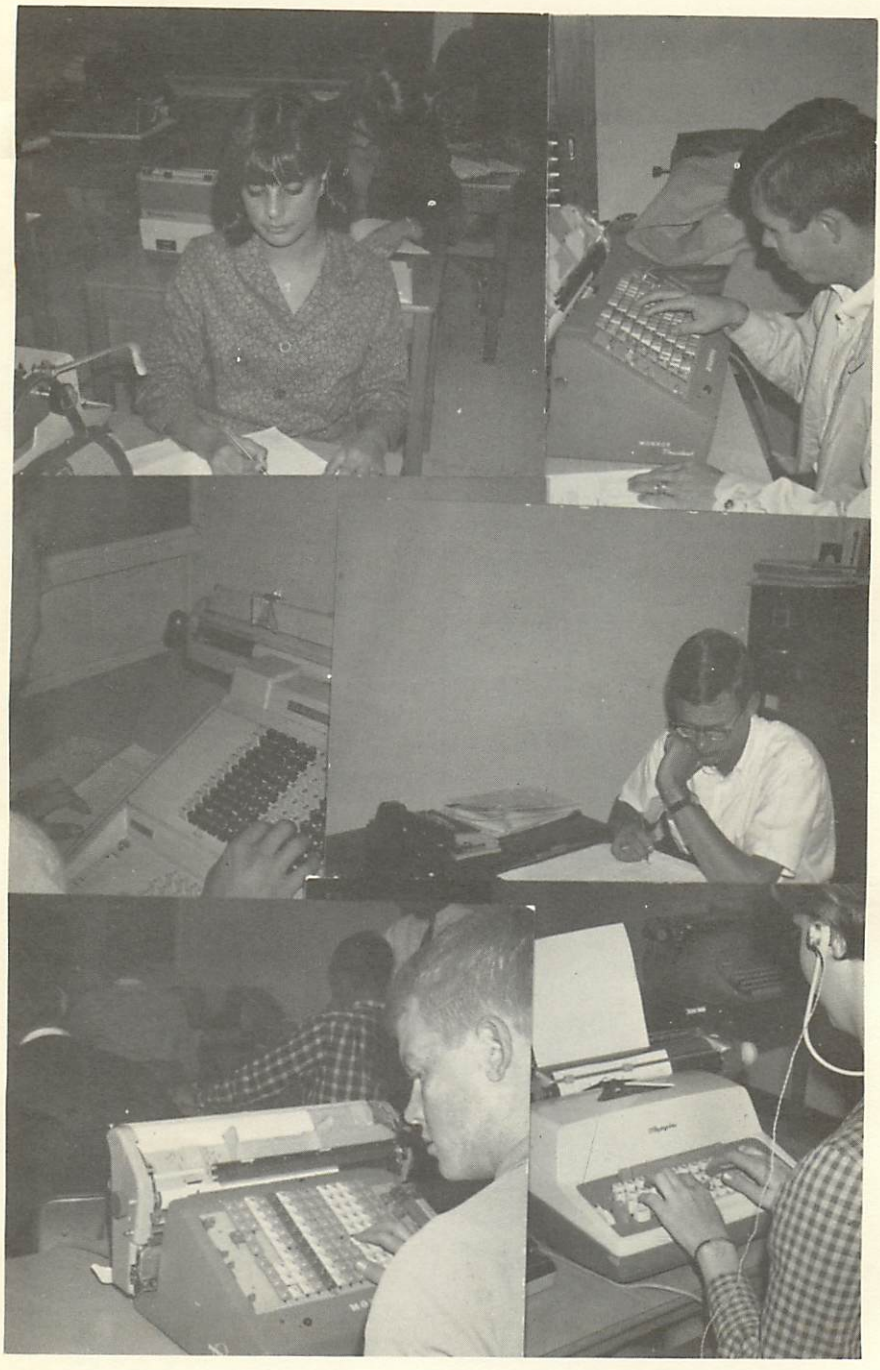
| Third Quarter | | | C — L —CH |
|---|---|---|---|
| T-ENG | 103 | Report Writing | 3— 0 — 3 |
| T-BUS | 124 | Business Finance | 2— 2 — 3 |
| T-BUS | 110 | Office Machines | 2— 3 — 3 |
| T-BUS | 222 | Accounting | 5— 3 — 6 |
| T-BUS | 116 | Business Law | 2— 2 — 3 |
| | | | 14—10 —18 |

| Fourth Quarter | | | C — L —CH |
|---|---|---|---|
| T-ENG | 204 | Oral Communications | 3— 0 — 3 |
| T-EDP | 104 | Introduction to Data Processing Systems | 3— 2 — 4 |
| T-BUS | 223 | Accounting | 5— 3 — 6 |
| T-BUS | 219 | Credit Procedures and Problems | 2— 2 — 3 |
| T-BUS | 235 | Business Management | 3— 0 — 3 |
| | | | 16— 7 —19 |

| Fifth Quarter | | | C — L —CH |
|---|---|---|---|
| T-ENG | 206 | Business Communications | 3— 0 — 3 |
| T-SSC | 205 | American Institutions | 2— 2 — 3 |
| T-BUS | 224 | Advanced Accounting | 5— 3 — 6 |
| T-BUS | 229 | Taxes | 3— 4 — 5 |
| T-BUS | 247 | Business Insurance I | 3— 0 — 3 |
| | | | 16— 9 —20 |

| Sixth Quarter | | | C — L —CH |
|---|---|---|---|
| T-BUS | 257 | Business Insurance II | 3— 0 — 3 |
| T-PSY | 206 | Applied Psychology | 3— 0 — 3 |
| T-BUS | 225 | Cost Accounting | 3— 4 — 5 |
| T-BUS | 269 | Auditing | 3— 2 — 4 |
| T-BUS | 233 | Personnel Management | 3— 0 — 3 |
| T-BUS | 258 | Machine Accounting | 1— 4 — 3 |
| | | | 16—10 —21 |

*Manipulative Laboratory



# AGRICULTURAL BUSINESS

## Purpose of Curriculum

Rapid technological changes in farming and related agricultural businesses have given rise to the need for more technically trained people. A variety of agricultural businesses and industries employ persons to assist in marketing, processing, and distributing of farm products and providing services to the farmer. Many responsible positions in agricultural businesses and industries require technical training not available in high schools or in four-year colleges.

Agricultural production is undergoing tremendous changes. The trends are to larger, highly merchanized and specialized farms with huge capital investments. This means that there will be an increasing demand for capable farm managers to coordinate the purchasing, production and marketing of these larger agricultural production operations.

Farm managers of the future must possess greater technical competence to remain in the highly competitive production phase of agriculture. They must be able to cope with present production problems and adapt to rapid technological changes.

It is anticipated that changes in agriculture and the general economic environment will occur at a faster rate in the future. Profitable management of agricultural operations will demand successful adjustment to these changes. Decisions involved in these adjustments will require an individual with more training, knowledge, and ability.

The Agricultural Business Curriculum is designed to help students acquire knowledge, understanding, and ability in the broad field of agricultural business, including agricultural production. It combines knowledge of agriculture with business training to prepare the graduate for many of the varied employment opportunities in agriculture. The specific objectives of the Agricultural Business Curriculum are to develop the following student competencies:

1. Understanding of the principles of organization and management in agricultural businesses and industries.
2. Understanding of the application of the principles of business management to agricultural production, and the abilities essential to the management of an efficient well-organized farming operation.

3. Understanding of the basic principles of our economic system, marketing, credit, price concepts, and governmental policies and programs relating to agriculture.
4. Understanding of the agricultural sciences most essential to the production and marketing of agricultural products, including knowledge of the animal, plant, and soil sciences and their relationships with ability to apply these educational experiences to practical problems of agricultural business and industry.

## Job Description

As agricultural business and industry firms expand in size and number, they are experiencing rapid changes in technologies of production, sales, and management, in an increasingly competitive environment. Future employees of such firms must be prepared to understand these changes and adapt themselves accordingly. Successful completion of this curriculum should enable a person to assume responsibilities in an agricultural firm and should enable him to advance within such a business.

Upon graduation from this curriculum, an individual should qualify for various jobs in agricultural business and industry such as salesman or store manager in farm supply stores; agricultural field serviceman, salesman, demonstrator or plant manager of feed and food companies; farm products inspector; salesman, or office managers of farm products marketing firms.

The trend towards larger farming operations with increased nonfarm control of production means there will be greater employment opportunities for well-trained individuals who can efficiently and profitably supervise the production and marketing of agricultural products.

# AGRICULTURAL BUSINESS TECHNOLOGY CURRICULUM

## SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| Course No. and Title | | | |
|---|---|---|---|
| **First Quarter** | | | **C — L —CH** |
| T-ENG | 101 | Grammar | 3— 0 — 3 |
| T-CHEM | 101 | Chemistry | 4— 2 — 5 |
| T-MAT | 110 | Business Mathematics | 5— 0 — 5 |
| T-AGR | 125 | Animal Science | 5— 2 — 6 |
| | | | 17— 4 —19 |
| **Second Quarter** | | | **C — L —CH** |
| T-ENG | 102 | Composition | 3— 0 — 3 |
| T-BUS | 101 | Introduction to Business | 5— 0 — 5 |
| T-BUS | 120 | Accounting | 5— 3 — 6 |
| T-AGR | 170 | Plant Science | 5— 2 — 6 |
| | | | 18— 5 —20 |
| **Third Quarter** | | | **C — L —CH** |
| T-ENG | 103 | Report Writing | 3— 0 — 3 |
| T-BUS | 121 | Accounting | 5— 3 — 6 |
| T-AGR | 185 | Soil Science & Fertilizers | 5— 2 — 6 |
| T-AGR | 104 | Introduction to Agriculture Economics | 3— 2 — 4 |
| | | | 16— 7 —19 |
| **Fourth Quarter** | | | **C — L —CH** |
| T-ENG | 204 | Oral Communications | 3— 0 — 3 |
| T-BUS | 123 | Business Finance | 2— 2 — 3 |
| T-AGR | 204 | Farm Business Management | 4— 4 — 6 |
| T-AGR | 218 | Agricultural Mechanization | 3— 2 — 4 |
| T-AGR | 228 | Livestock Diseases Parasites | 3— 2 — 4 |
| | | | 15—10 —20 |
| **Fifth Quarter** | | | **C — L —CH** |
| T-BUS | 232 | Sales Development | 3— 0 — 3 |
| T-AGR | 205 | Agricultural Marketing | 5— 0 — 5 |
| T-AGR | 201 | Agricultural Chemicals | 4— 2 — 5 |
| T-SSC | 205 | American Institutions | 3— 0 — 3 |
| T-BUS | 115 | Business Law | 2— 2 — 3 |
| T-BUS | 110 | Office Machines | 2— 2 — 3 |
| | | | 19— 6 —22 |
| **Sixth Quarter** | | | **C — L —CH** |
| T-AGR | 256 | Crop Production | 4— 2 — 5 |
| T-AGR | 257 | Animal Production | 4— 2 — 5 |
| T-SOC | 207 | Rural Sociology | 3— 0 — 3 |
| T-BUS | 272 | Supervision | 3— 0 — 3 |
| T-BUS | 229 | Taxes | 3— 4 — 5 |
| | | | 17— 8 —21 |

# BUSINESS ADMINISTRATION

## Purpose of Curriculum

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 the following competencies:

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.
5. Knowledge of human relations as they apply to successful business operations in a rapidly expanding economy.

## Job Description

The graduate of the Business Administration Curriculum may enter a variety of career opportunities from beginning sales person or office clerk to manager trainee. The duties and responsibilities of this graduate vary in different firms. These encompassments 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 supervising. Positions are available in businesses such as advertising, banking, credit, finance, retailing, wholesaling, hotel, tourist and travel industry, insurance, transporation, and communications.

# BUSINESS ADMINISTRATION CURRICULUM

## SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| Course No. and Title | | | |
|---|---|---|---|
| **First Quarter** | | | **C — L —CH** |
| T-ENG | 101 | Grammar | 3— 0 — 3 |
| T-BUS | 102 | Typewriting | 2— 3*— 3 |
| T-MAT | 110 | Business Mathematics | 5— 0 — 5 |
| T-BUS | 101 | Introduction to Business | 5— 0 — 5 |
| T-ECO | 102 | Economics | 3— 2 — 4 |
| | | | 18— 5 —20 |

| | | | |
|---|---|---|---|
| **Second Quarter** | | | **C — L —CH** |
| T-ENG | 102 | Composition | 3— 0 — 3 |
| T-BUS | 120 | Accounting | 5— 3 — 6 |
| T-ECO | 104 | Economics | 3— 2 — 4 |
| T-BUS | 115 | Business Law | 2— 2 — 3 |
| T-BUS | 123 | Business Finance | 2— 2 — 3 |
| | | | 15— 9 —19 |

| | | | |
|---|---|---|---|
| **Third Quarter** | | | **C — L —CH** |
| T-ENG | 103 | Report Writing | 3— 0 — 3 |
| T-BUS | 124 | Business Finance | 2— 2 — 3 |
| T-BUS | 110 | Office Machines | 2— 3 — 3 |
| T-BUS | 121 | Accounting | 5— 3 — 6 |
| T-BUS | 116 | Business Law | 2— 2 — 3 |
| | | | 14—10 —18 |

| Course No. and Title | | | |
|---|---|---|---|
| **Fourth Quarter** | | | **C — L —CH** |
| T-ENG | 204 | Oral Communications | 3— 0 — 3 |
| T-BUS | 235 | Business Management | 3— 0 — 3 |
| T-EDP | 104 | Introduction to Data Processing | 3— 2 — 4 |
| T-BUS | 239 | Marketing | 5— 0 — 5 |
| T-BUS | 259 | Business Law | 2— 2 — 3 |
| T-BUS | 219 | Credit Procedures & Problems | 2— 2 — 3 |
| | | | 18— 6 —21 |

| | | | |
|---|---|---|---|
| **Fifth Quarter** | | | **C — L —CH** |
| T-ENG | 206 | Business Communications | 3— 0 — 3 |
| T-SCC | 205 | American Institution | 2— 2 — 3 |
| T-BUS | 243 | Advertising | 5— 0 — 5 |
| T-BUS | 232 | Sales Development | 3— 0 — 3 |
| T-BUS | 247 | Business Insurance I | 3— 0 — 3 |
| T-BUS | 260 | Government and Business | 2— 2 — 3 |
| | | | 18— 4 —20 |

| | | | |
|---|---|---|---|
| **Sixth Quarter** | | | **C — L —CH** |
| T-PSY | 206 | Applied Psychology | 3— 0 — 3 |
| T-BUS | 229 | Taxes | 3— 4 — 5 |
| T-BUS | 272 | Principles of Supervision | 3— 0 — 3 |
| T-BUS | 271 | Office Management | 2— 2 — 3 |
| T-BUS | 261 | Sales Promotion Management | 3— 0 — 3 |
| T-BUS | 257 | Business Insurance II | 3— 0 — 3 |
| T-BUS | 263 | Payroll Taxes | 3— 2 — 4 |
| | | | 20— 8 —24 |

*Manipulative Laboratory

# SECRETARIAL SCIENCE
## (MEDICAL, EXECUTIVE, LEGAL AND TECHNICAL)

### Purpose

The demand for better qualified secretaries in our ever-expanding business world is becoming more acute.

The secretarial curriculum is designed to offer the students the necessary secretarial skills in typing, dictation, transcription, and terminology for employment. The special training in secretarial subjects is supplemented by related courses in mathematics, accounting, business law, and personality development, to provide training in the accepted procedures required by the business world and to enable a person to become proficient soon after accepting employment in the business office.

### Job Description

The graduate of the secretarial curriculum should have a knowledge of business terminology, skill in dictation and accurate transcription of business letters and reports. The graduate may be employed as a stenographer or a secretary in a variety of offices in businesses such as insurance companies, banks, marketing institutions, financial firms, doctors' office, medical and health institutions, government agencies, and law offices.

The curriculum is designed so each student will elect an option in Medical, Legal, Executive or Technical fields. A minimum of twelve hours credit must be taken in one of these option areas to get the requirements of the curriculum.

# SECRETARIAL SCIENCE CURRICULUM

## SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| Course No. and Title | | | First Quarter | C — L —CH |
|---|---|---|---|---|
| T-ENG | 101 | Grammar | | 3— 0 — 3 |
| T-BUS | 102 | Typewriting | | 2— 3*— 3 |
| T-MAT | 110 | Business Mathematics | | 5— 0 — 5 |
| T-BUS | 101 | Introduction to Business | | 5— 0 — 5 |
| T-BUS | 106 | Shorthand | | 3— 2 — 4 |
| | | | | 18— 5 —20 |

| | | | Second Quarter | C — L —CH |
|---|---|---|---|---|
| T-ENG | 102 | Composition | | 3— 0 — 3 |
| T-BUS | 103 | Typewriting | | 2— 3*— 3 |
| T-BUS | 107 | Shorthand | | 3— 2 — 4 |
| T-BUS | 120 | Accounting | | 5— 3 — 6 |
| T-BUS | 115 | Business Law | | 2— 3 — 3 |
| | | | | 15—11 —19 |

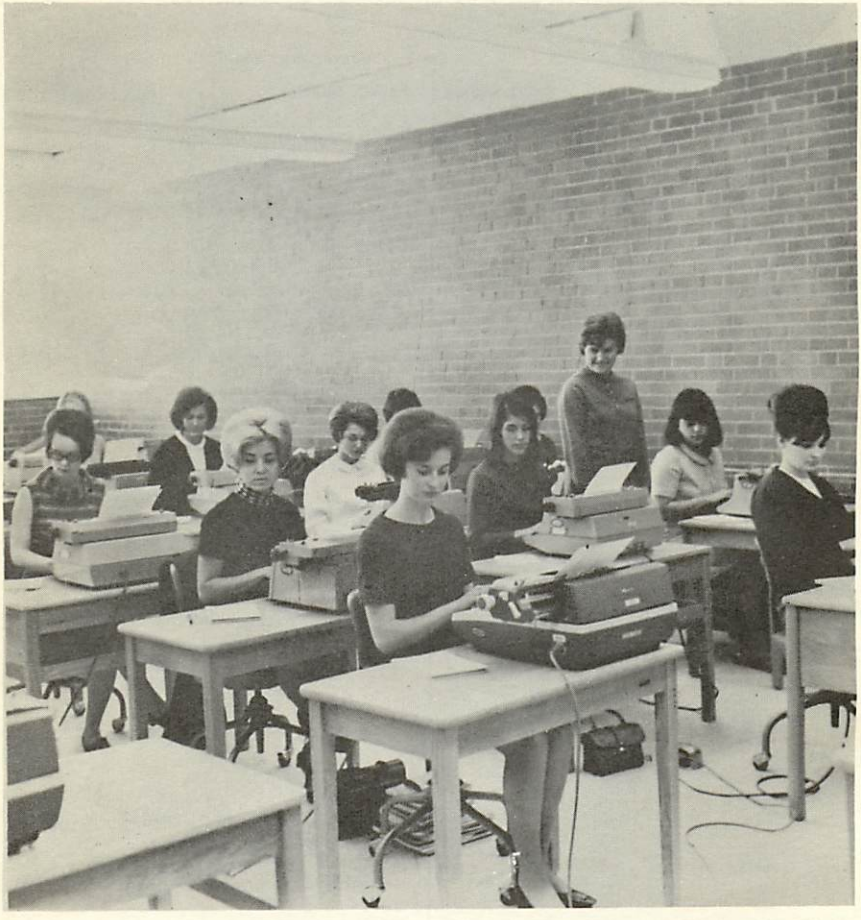
| | | | Third Quarter | C — L —CH |
|---|---|---|---|---|
| T-ENG | 103 | Report Writing | | 3— 0 — 3 |
| T-BUS | 104 | Typewriting | | 2— 3*— 3 |
| T-BUS | 108 | Shorthand | | 3— 2 — 4 |
| T-BUS | 110 | Office Machines | | 2— 3 — 3 |
| T-BUS | 121 | Accounting | | 5— 3 — 6 |
| | | | | 15—11 —19 |

| Course No. and Title | | | Fourth Quarter | C — L —CH |
|---|---|---|---|---|
| T-ENG | 204 | Oral Communication | | 3— 0 — 3 |
| T-BUS | 206 | Dictation and Transcription | | 3— 2 — 4 |
| T-BUS | 205 | Advanced Typewriting | | 2— 3*— 3 |
| T-BUS | 211 | Office Machines | | 2— 2 — 3 |
| T-EDP | 104 | Introduction to Data Processing Systems | | 3— 2 — 4 |
| T-BUS | 256 | Office Practice | | 3— 2 — 4 |
| | | | | 16—11 —21 |

| | | | Fifth Quarter | C — L —CH |
|---|---|---|---|---|
| T-ENG | 206 | Business Communication | | 3— 0 — 3 |
| T-BUS | 207 | Dictation and Transcription | | 3— 2 — 4 |
| T-BUS | 214 | Secretarial Procedures | | 3— 2 — 4 |
| T-ECO | 205 | Applied Economics | | 3— 0 — 3 |
| T-BUS | 262 | Machine Transcription | | 1— 4 — 3 |
| T-BUS | 183 | Terminology and Vocabulary (Executive, Legal, Medical, & Technical) | | 3— 2 — 4 |
| | | | | 16—10 —21 |

| | | | Sixth Quarter | C — L —CH |
|---|---|---|---|---|
| T-PSY | 206 | Applied Psychology | | 3— 0 — 3 |
| T-BUS | 208 | Dictation and Transcription | | 3— 2 — 4 |
| T-BUS | 271 | Office Management | | 2— 2 — 3 |
| T-BUS | 112 | Filing | | 3— 0 — 3 |
| T-BUS | 263 | Payroll Taxes | | 3— 2 — 4 |
| T-BUS | 184 | Terminology and Vocabulary (Executive, Legal, Medical, & Technical) | | 3— 2 — 4 |
| | | | | 17— 8 —21 |

*Manipulative Laboratory



# AGRICULTURE

C - L-CH

**T-AGR 104 Introduction to Agricultural Economics** 3—2—4

An introduction to economics, the function of the economic system and agriculture's role in the economy. A review of the functions of the manager and an introduction to the principles he uses in making decisions to adjust to changing conditions. Analysis of the main sources of change which affect agricultural firms.

**T-AGR 125 Animal Science** 5—2—6

An introductory animal science course covering the fundamental principles of livestock production. A study of the animal body and the basic principles of reproduction, genetics, growth, fattening, digestion, along with the selection, feeding, improvement, processing and marketing of livestock.

**T-AGR 145 Entomology** 2—2—3

A study of the major insects of the area, their identification, harmful effects, and life history.

**T-AGR 165 Plant Pathology** 3—2—4

A course dealing with nature and symptoms of diseases in plants; the characteristics of plant disease, caused agents, cause, identification and control of the major plant diseases of the area.

**T-AGR 170 Plant Science** 5—2—6

An introductory general botany and a study of fundamental principles in crop production. The application of these principles to the major and minor field crops in North Carolina. The elements of plant identification, crop grading and judging.

**T-AGR 185 Soil Science and Fertilizers** 5—2—6

A course dealing with basic principles of efficient classification, evaluation, and management of soils; care, cultivation, and fertilization of the soil, and conservation of soil fertility.

**T-AGR 187 Fertilizers and Lime** 3—2—4

A review of the source, function, and the use of the major and minor plant food elements; commercial fertilizer ingredients; soil acidity, liming materials, and application of fertilizer.

**T-AGR 201 Agricultural Chemicals** 4—2—5

A study of farm chemical pesticides, their ingredients, formulation, and farm application, with emphasis on the effective and safe use of chemicals in agricultural pest control.
Prerequisite: T-CHEM 101.

**T-AGR 203 Pesticide Application** 2—2—3

A study of the correct application of pesticides. Economics of custom application; equipment, precautions, and legal aspects of application. Prerequisites: T-AGR 145, T-AGR 165.

**T-AGR 204 Farm Business Management** **4—4—6**

A review of the functions of the manager of a business firm and the problems he faces. Development of the concept of planning by both partial and complete budgeting. Review of the concepts of costs and the length of run in production. Practice in preparing enterprise budgets as an aid in choosing what to produce. Use of partial budgeting to find the least cost production procedure. Analysis of production data to select the level of production that yields the most net revenue. Relationship between size, efficiency and income of a farm. Review of procedures for evaluating the efficiency of the manager. Prerequisite: T-AGR 104.

**T-AGR 205 Agricultural Marketing** **5—0—5**

An analysis of the functions of marketing in the economy and a survey of the problems marketing faces. A review of the market structure and the relationship of local, terminal, wholesale, retail and foreign markets. Problems in the operations of marketing firms including buying and selling, processing, standardization and grading, risk taking and storage, financing, efficiency, and cooperation. Discussion of procedures of marketing such commodities as grain, cotton, livestock and tobacco. Prerequisite: T-AGR 104.

**T-AGR 218 Farm Mechanization** **3—2—4**

A study of farm machinery management and labor-saving devices. The economics of selection and operation of farm machinery. Study and evaluation of feed grinders and mixers, storage facilities, materials handling systems and other labor-saving devices.

**T-AGR 228 Livestock Diseases and Parasite** **3—2—4**

A course dealing with the common diseases and parasites of livestock; sanitation practices and procedures with emphasis on the cause, damage, symptoms, prevention and treatment of parasites and diseases, and management factors relating to disease and parasite prevention and control. Prerequisite: T-AGR 125.

**T-AGR 245 Crop Insects** **3—2—4**

A study of common local crop pests, their economic importance, identification, life cycle and host. Prerequisite: T-AGR 145.

**T-AGR 247 Garden, Fruit, and Household Pests** **3—2—4**

Recognition, life history, and control of common garden, fruit and household pests. Prerequisite: T-AGR 145.

**T-AGR 256 Crop Production** **4—2—5**

A course dealing with the production of agricultural crops. A study of the characteristics, adaptability and productivity of individual crops and how soil management, fertilization, cultivation and other practices affects yields and profitability of the crop. Prerequisite: T-AGR 170.

**T-AGR 257 Animal Production** 4—2—5

A course dealing with the feeding, breeding and management of beef and dairy cattle, swine and poultry with specific emphasis on the application of sound principles and practices which make for profitable production in each type of livestock operation. Prerequisite: T-AGR 125.

**T-AGR 278 Weed Identification and Control** 3—0—3

A study of the identification and control of the annual and perennial weeds of economic importance in North Carolina.

**T-AGR 285 Soil Fertility** 3—2—4

A course dealing with soil fertility principles. The application of these principles to the North Carolina soils, soil fertility evaluation and soil conservation practices. Prerequisite: T-AGR 185.

## BUSINESS

C - L-CH

**T-BUS 101 Introduction to Business** 5—0—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.

**T-BUS 102 Typewriting** 2—3* -3

Introduction to the touch typewriting system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation, and manuscripts. Minimum speed of 30 net words per minute for five minutes.

**T-BUS 103 Typewriting** 2—3* -3

Instruction emphasized 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 requirement, 30 words per minute for five minutes.

**T-BUS 104 Typewriting** 2—3* -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.

**T-BUS 106 Shorthand** 3—2—4

A beginning course in the theory and practice of reading and writing shorthand. Emphasis on phonetics, penmanship, word families, brief forms, and phrases.

**T-BUS 107 Shorthand** **3—2—4**

Continued study of theory with greater emphasis on dictation and elementary transcription. Prerequisite: T-BUS 106 or the equivalent.

**T-BUS 108 Shorthand** **3—2—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** **2—2—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.

**T-BUS 112 Filing**

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, Sounds, and Dewey Decimal filing.

**T-BUS 115 Business Law** **2—2—3**

A general course designed to acquaint the student with certain fundamentals and principles of business law, including contracts, negotiable instruments, and agencies.

**T-BUS 116 Business Law** **2—2—3**

Includes the study of laws pertaining to bailments, sales, risk-bearing, partnership, corporations, mortgages, and property rights. Prerequisite: T-BUS 115.

**T-BUS 120 Accounting** **5—3—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.

**T-BUS 121 Accounting** **5—3—6**

Partnership and corporation accounting including a study of payrolls, federal and state taxes. Emphasis is placed on the recording, 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** **2—2—3**

Financing of business units, as individuals, partnerships, corporations, and trusts. A detailed study is made of short-term, long-term, and consumer financing.

**T-BUS 124 Business Finance** **2—2—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 183 Terminology and Vocabulary** **3—2—4**

To develop an understanding of the terminology and vocabulary appropiate to the course of study, as it is used in business, technical, and professional offices. Prerequisite: T-BUS 107.

**T-BUS 184 Terminology and Vocabulary** **3—2—4**

A course designed to develop an understanding of terminology and vocabulary related to business and professional offices. It develops the skill of taking dictation and transcribing materials appropriate to the course of study—Legal, Medical, Technical or Executive. Prerequisite: T-BUS 108.

**BUS 194 Bookkeeping I** **3—2—4**

A study of the basic bookkeeping cycle. Begins with the starting of a bookkeeping system, covers the basic elements, the bookkeeping equation, the journalizing of transactions, the ledger, worksheet, financial statements, and the closing of the ledger.

**BUS 195 General Business I** **5—0—5**

A study to help students become more competent in making economic choices and using business services; to develop desirable economic attitudes; willingness to assume responsibilities, awareness of personal obligations to others, and appreciation of the role of individual, business and govenment in our economic life; to sharpen basic business skills: arithmetic computation, vocabulary, spelling, written and oral expression, and handwriting; to develop an understanding of business occupations, their advantages and disadvantages; to provide an introduction to further study in business.

**BUS 196 Bookkeeping II** **3—2—4**

Designed to give the student a working knowledge of the bookkeeping cycle with special journals and subsidiary ledgers, and the recording of special bookkeeping transactions; such as sales and purchases, payrolls, taxes, depreciation, bad debts, and the use of the cash register.

**BUS 197 Economics I** **5—0—5**

Designed to develop an understanding of how wants are satisfied, what should be considered in deciding an occupation, and how money can be used to best advantage; to determine how goods and income are produced, how production is organized and managed, how money and credit are used, and how the prices we pay are determined.

**BUS 198 Bookkeeping III** 3—2—4

Is concerned with adapting bookkeeping methods to the business. Covers such items as sales, taxes, notes and interest, accrued expenses, partnerships and corporations. Also, covers bookkeeping for special purposes; such as bookkeeping and budgeting for the family and individual, bookkeeping for a professional man, and bookkeeping for a farmer.

**BUS 199 Economics II** 5—0—5

A study to determine how the national income is shared by the individual, how the individual can use his money wisely through budgeting, investments, etc., how the individual uses government services, and how our nation works with other nations.

**T-BUS 205 Advanced Typewriting** 2—3* -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, 206L, 206M, 206T Dictation and Transcription** 3—2—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 at 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, 207L, 207M, 207T Dictation and Transcripts** 3—2—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 requirements 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, 208L, 208M, 208T Dictation and Transcription** 3—2—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 207.

**T-BUS 211 Office Machines** 2—2—3

Instructions 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** 3—2—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.

**T-BUS 219 Credit Procedures and Problems** 2—2—3

Principles and practices in the extension of credit; collections procedures; laws pertaining to credit extension and collection are included.

**T-BUS 222 Accounting** 5—3—6

Thorough treatment of the field of general accounting, providing the necessary foundation for specialized studies that follow. The course includes, among other aspects, the balance sheet, income and surplus statements, fundamental processes of recording, cash and temporary investments, and analysis of working capital. Prerequisite: T-BUS 121.

**T-BUS 223 Accounting** 5—3—6

Additional study of intermediate accounting with emphasis on investment, plant and equipment, intangible assets and deferred charges, long-term liabilities, paid-in capital, retained earnings, and special analytical processes. Prerequisite: T-BUS 222.

**T-BUS 224 Advanced Accounting** 5—3—6

Advanced accounting theory and principles as applied to special accounting problems, bankruptcy proceedings, estates and trusts, consolidation of statements, parent, and subsidiary accounting. Prerequisite: T-BUS 223.

**T-BUS 225 Cost Accounting** 3—4—5

Nature and purposes of cost accounting; accounting for direct labor, materials, and factory burden; job cost, and standard cost principles and procedures; selling and distribution cost; budgets, and executive use of cost figures. Prerequisite: T-BUS 222.

**T-BUS 229 Taxes** 3—4—5

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—0—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.

**T-BUS 233 Personnel Management** 3—0—3

Principles and practices of organization and management of personnel, procurement, placement, training, performance checking, supervision, renumeration, labor relations, fringe benefits and security.

**T-BUS 235 Business Management** 3—0—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.

**T-BUS 237 Wholesaling** 3—0—3

The development of wholesaling and present-day trends in the United States. A study of the functions of wholesaling.

**T-BUS 239 Marketing** 5—0—5

A study of the marketing structure within the framework of the U. S. economic system. It includes the study of the movement of goods from producer to consumer through various channels of distribution, the functions of marketing, the social and economic implications.

**T-BUS 243 Advertising** 5—0—5

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.

**T-BUS 245 Retailing** 3—0—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.

**T-BUS 247 Business Insurance I** 3—0—3

A presentation of the basic principles of risk insurance and their application. A survey of the various types of insurance is included.

**T-BUS 256E, 256L, 256M, 256T Office Practice** 3—2—4

Designed to aid in the development of proper attitudes, personality, work habits, and good office procedures.

**T-BUS 257 Business Insurance II** 3—0—3

A presentation of the basic principles of life, death and accident insurance and their application. Also included are the principle topics on which state examinations as life and/or death and accident agents will be based.

**T-BUS 258 Machine Accounting** 1—4—3

Designed to provide a reasonable skill in the use of each of the office machines. Each student shall develop a fair degree of efficiency in the basic operations of each machine through the application of procedures learned to actual problem solving in the accounting field. Prerequisite: T-BUS 121.

**T-BUS 259 Business Law** 2—2—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. Prerequisites: T-BUS 115; T-BUS 116.

**T-BUS 260 Government and Business** 2—2—3

A discussion of the extent to which government regulates business and the economy along with the implications and problems with which students, as citizens and voters, must be familiar. Covered are such regulations as the Interstate Commerce Act, Sherman Act, Clayton Act, Pure Food and Drug Act, Federal Fair Labor Standards Act and the National Labor Relations Act.

**T-BUS 261 Sales Promotion Management** 3—0—3

The scope and activities of sales promotion with emphasis on the coordination of advertising display, special events, and publicity. External and internal methods of promoting business; budgeting, planning and implementing the plan. Prerequisite: T-BUS 243.

**T-BUS 262 Machine Transcription** 1—4—3

Develops the skill or direct transcription from oral dictation to mailable typewritten form, which involves correct punctuation, spelling and typing styles.

**T-BUS 263 Payroll Taxes** 3—2—4

Designed to (1) acquaint students with the various phases of the Social Security Act and other laws relating to the payment of wages and salaries, (2) show students the basic payroll systems and accounting methods used in computing wages and the time-keeping systems that are often used to record time worked, (3) develop payroll records that provide information required by laws (4) provide practice in all payroll operations and (5) introduce various types of automatic equipment that eliminates many of the repetitive operations that are common in payroll taxes and the accounting therefore.

**T-BUS 269 Auditing** 3—2—4

Principles of conducting audits and investigations; setting up accounts based upon audits; collecting data on working papers; arranging and systemizing the audit; and writing the audit report. Emphasis is placed on the role of office management; office automation control. Prerequisite: T-BUS 223.

**T-BUS 271 Office Management** 2—2—3

Presents the fundamental principles of office management. Emphasis is placed on the role of office management; office automation; planning, controlling, organizing and actuating in office management.

**T-BUS 272 Principles of Supervision** 3—0—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.

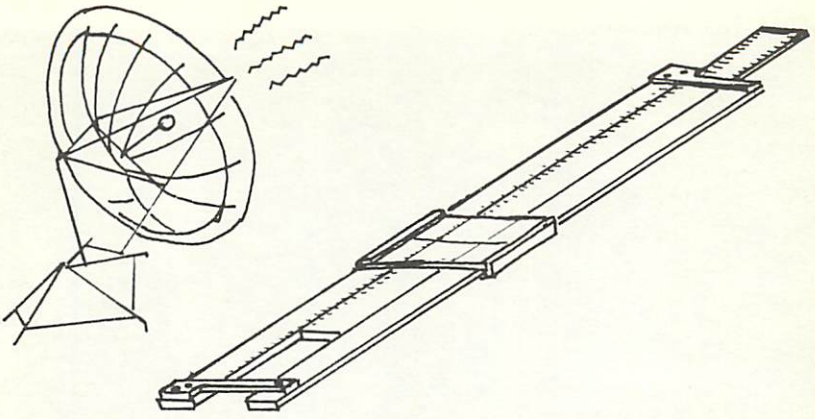
**T-BUS 299 Cooperative Training** 0—15—5

Provides the student with an opportunity to pursue, under staff supervision, work experience in a specialized field. Periodic conferences will be held with each student and employer while the student is receiving training. This course offers valuable experience and training which is incorporated into the student's education from the standpoint of ON-THE-JOB EXPERIENCE, and gives realism and motivation to his academic and technical program of studies.

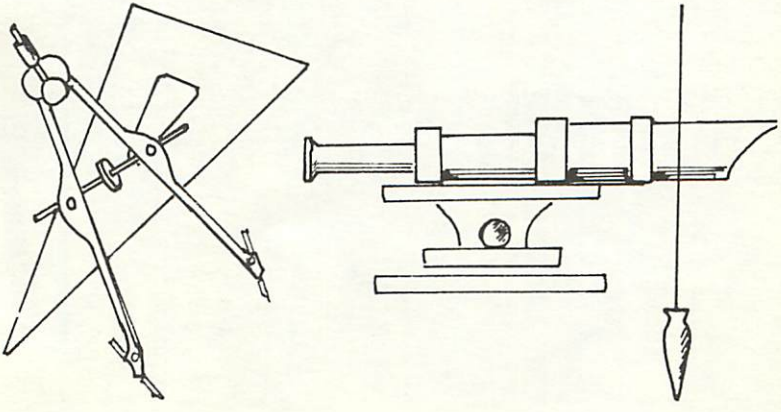
## DATA PROCESSING

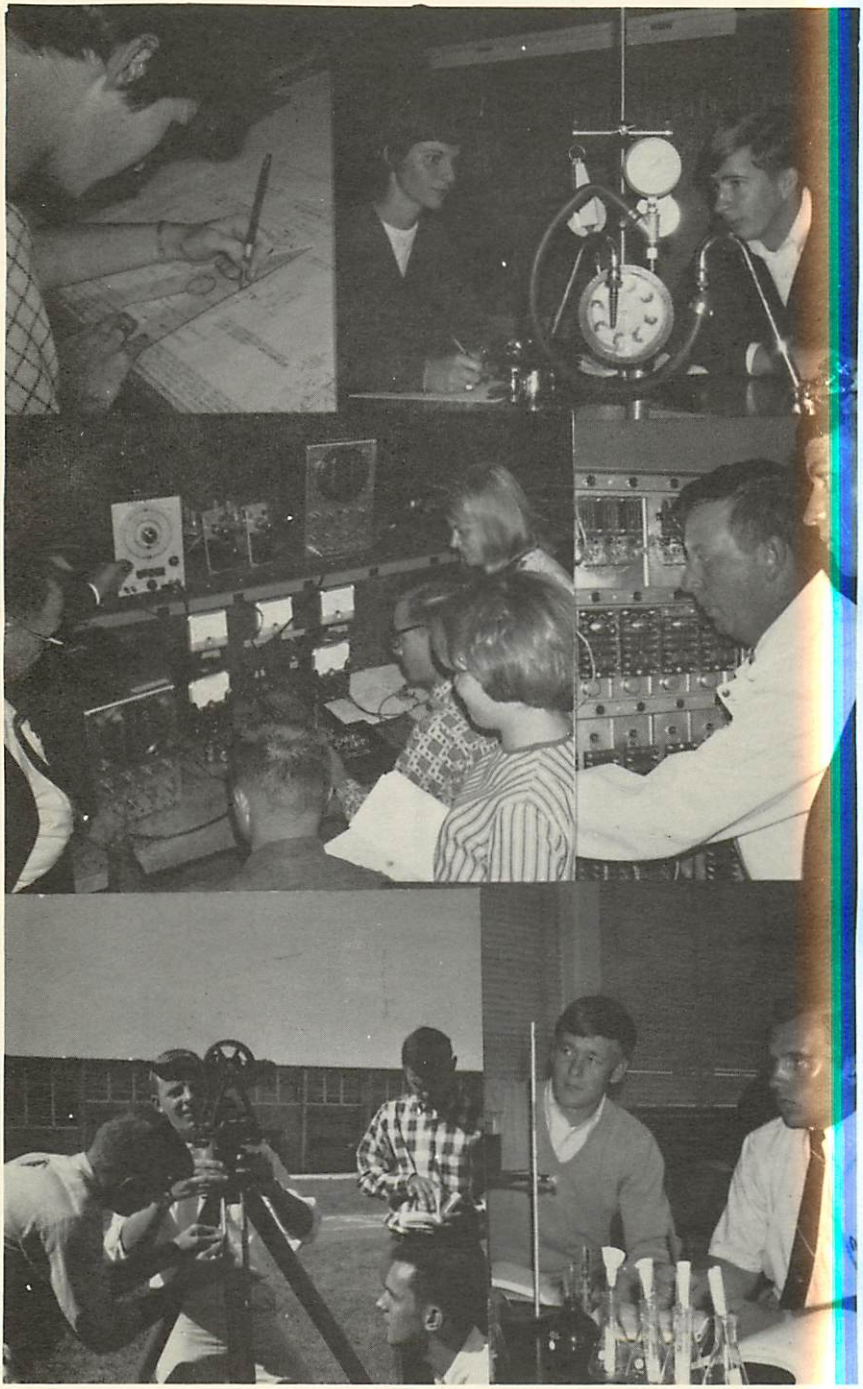
**T-EDP Introduction to Data Processing Systems** 3—2—4

Fundamental concepts and operational principles of data processing systems, as an aid in developing knowledge of computers, prerequisite to the detail study of particular computer problems. This course is a prerequisite for all programming courses. Prerequisite: None.



# TECHNICAL DIVISION





# PURPOSE OF ENGINEERING TECHNICIAN TRAINING AT FAYETTEVILLE TECHNICAL INSTITUTE

Technician training is highly specialized training for effective entrance into specialized areas of occupations. However, there is a core of knowledge and skills which all persons need who work at the level of technician occupations, irrespective of the specific occupational fields in which these persons are employed. Important elements which are common to all technician occupations include basic science, mathematics, industrial terminology, industrial drafting and similar technical skills. Thus, the technician needs a broad post secondary education with emphasis of applied technology which will prepare him to assist engineers ,scientists or other professionals in his field.

Our curriculums are designed to build in the first year that degree of competency within the student which will enable him to effectively communicate orally and in writing and which will broaden his outlook and make him a more effective and productive member of society. By adding to this core of fundamentals, in the first year, certain basic skill courses in the major area, the student is given a thorough foundation on which to build his second year of intensive training. The second year is spent in a major subject area of highly specialized technician training needed to produce a qualified technician in his chosen specialization.

# AGRI-CHEMICALS TECHNOLOGY

The curriculum in Agricultural Chemicals Technology will prepare students for entry into the rapidly growing field of agricultural chemicals, involving the development, testing, production, sales, and application of pesticides and fertilizers. The industry supplies thousands of dusts, sprays, and granules to the agricultural producer to control pests and a huge variety of fertilizer materials to produce his crops. Agricultural chemicals are utilized in all crops and livestock production.

Each phase of the agricultural chemicals industry offers employment opportunities for technically trained individuals in sales, research, production and manufacturing, management and custom farm application. Positions are available in the larger companies as well as in the smaller farm supply businesses. New uses for agricultural chemicals are developing rapidly, creating challenging and well-paying jobs.

The Agricultural Chemicals Technology Curriculum will give the student a functional understanding of: the basic agricultural sciences relating to the agricultural chemicals industry applied chemistry; business organization, procedures, and management of firms producing, marketing and applying agricultural chemicals; formulation and use of farm chemicals and their relation to profitable agricultural production, including safety procedures.

A broad base of general technical courses is combined with selected courses in entomology, pathology and chemistry and their application to agricultural production.

# AGRI-CHEMICALS TECHNOLOGY CURRICULUM

## SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| Course No. and Title | | | |
|---|---|---|---|
| **First Quarter** | | | **C — L —CH** |
| T-ENG | 101 | Grammar | 3— 0 — 3 |
| T-BUS | 101 | Introduction to Business | 5— 0 — 5 |
| T-MAT | 101 | Technical Mathematics | 5— 0 — 5 |
| T-AGR | 125 | Animal Science | 5— 2 — 6 |
| | | | 18— 2 —19 |

| Course No. and Title | | | |
|---|---|---|---|
| **Second Quarter** | | | **C — L —CH** |
| T-ENG | 102 | Composition | 3— 0 — 3 |
| T-CHEM | 101 | Chemistry | 4— 2 — 5 |
| T-AGR | 104 | Introduction to Agricultural Economics | 3— 2 — 4 |
| T-AGR | 185 | Soil Science and Fertilizers | 5— 2 — 6 |
| | | | 15— 6 —18 |

| Course No. and Title | | | |
|---|---|---|---|
| **Third Quarter** | | | **C — L —CH** |
| T-ENG | 103 | Report Writing | 3— 0 — 3 |
| T-AGR | 145 | Entomology | 2— 2 — 3 |
| T-CHEM | 105 | Chemistry | 4— 2 — 5 |
| T-AGR | 170 | Plant Science | 5— 2 — 6 |
| | | | 14— 6 —17 |

| Course No. and Title | | | |
|---|---|---|---|
| **Fourth Quarter** | | | **C — L —CH** |
| T-ENG | 204 | Oral Communication | 3— 0 — 3 |
| T-CHEM | 106 | Chemistry | 4— 2 — 5 |
| T-AGR | 165 | Plant Pathology | 3— 2 — 4 |
| T-AGR | 278 | Weed Identification and Control | 3— 0 — 3 |
| T-AGR | 245 | Crop Insects | 3— 2 — 4 |
| | | | 16— 6 —19 |

| Course No. and Title | | | |
|---|---|---|---|
| **Fifth Quarter** | | | **C — L —CH** |
| T-AGR | 187 | Fertilizers and Lime | 3— 2 — 4 |
| T-BUS | 232 | Sales Development | 3— 0 — 3 |
| T-CHEM | 107 | Agricultural Chemistry | 4— 2 — 5 |
| T-PSY | 206 | Applied Psychology | 3— 0 — 3 |
| | | Elective | 3— 0 — 3 |
| | | | 13— 4 —18 |

| Course No. and Title | | | |
|---|---|---|---|
| **Sixth Quarter** | | | **C — L —CH** |
| T-AGR | 228 | Livestock Diseases and Parasites | 3— 2 — 4 |
| T-AGR | 203 | Pesticide Application | 2— 2 — 3 |
| T-AGR | 247 | Garden, Fruit, and Household Pests | 3— 2 — 4 |
| T-ECO | 205 | Applied Economics | 3— 0 — 3 |
| | | Elective | 3— 0 — 3 |
| | | | 11— 6 —17 |

# AIR CONDITIONING AND REFRIGERATION TECHNOLOGY

## Purpose of Curriculum

In recent years, the use of air-conditioning and refrigeration equipment has increased tremendously. Practically all new building construction for business and commercial use have "year-round" air-conditioning systems. Many homes now have air conditioning and the trend is toward greater use of "year-round" systems for cooling and heating. Transporation systems and good industries are requiring greater use of refrigeration systems for transit, storage and display of products. With this great upswing in the use of air-conditioning and refrigeration equipment, a greater demand is made on trained personnel to plan and supervise installations and to supervise the operation and maintenance of this equipment.

The curriculum is designed to prepare the student to assist in planning, installing, operating, and maintaining air conditioning equipment. The required technical information is presented and related skills are developed which will enable the graduate to function efficiently when working with engineers, systems designers, skilled craftsmen, salesmen, and others in the field. Considerable emphasis is placed on self-development in an effort to encourage the graduate to continue to study and grow as the industry advances.

## Job Decsription

The air conditioning and refrigeration technician may be employed in areas of sales, installation, maintenance, production drafting, systems design, or as a research engineering assistant. He is involved with equipment for regulating temperature and humidity. He works with control systems, ducts and piping for distribution of air, water, steam, and refrigerants. His duties may be concerned with any or all of these systems and components.

# AIR CONDITIONING & REFRIGERATION TECHNOLOGY CURRICULUM

## SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| Course No. and Title | | | C — L —CH |
|---|---|---|---|
| **First Quarter** | | | |
| 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-AHR | 101 | Fundamentals of Refrigeration I | 4— 3*— 5 |
| | | | 15—11 —19 |
| **Second Quarter** | | | |
| 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-AHR | 102 | Fundamentals of Refrigeration II | 3— 6*— 5 |
| | | | 14—14—19 |
| **Third Quarter** | | | |
| T-ENG | 103 | Report Writing | 3— 0 — 3 |
| T-MAT | 103 | Technical Mathematics | 5— 0 — 5 |
| T-PHY | 103 | Physics: Electricity | 3— 2 — 4 |
| T-AHR | 103 | Commercial Refrigeration Systems Designs | 3— 6*— 5 |
| | | | 14— 8 —17 |

| Course No. and Title | | | C — L —CH |
|---|---|---|---|
| **Fourth Quarter** | | | |
| T-ENG | 204 | Oral Communication | 3— 0 — 3 |
| T-DFT | 204 | Descriptive Geometry | 2— 4 — 4 |
| T-PHY | 231 | Fluid Mechanics | 3— 2 — 4 |
| T-AHR | 201 | Heating Principles | 3— 4 — 5 |
| T-AHR | 216 | Circuits & Controls I | 3— 3*— 4 |
| | | | 14—13 —20 |
| **Fifth Quarter** | | | |
| T-ECO | 205 | Applied Economics | 3— 0 — 3 |
| T-AHR | 203 | Air Conditioning Principles | 5 — — 7 |
| T-DFT | 226 | Air Conditioning Systems Drawing | 0— 6*— 2 |
| T-AHR | 217 | Circuits & Controls II | 3— 3 — 4 |
| | | | 11—15 —16 |
| **Sixth Quarter** | | | |
| T-PSY | 206 | Applied Psychology | 3— 0 — 3 |
| T-AHR | 209 | Air Conditioning Systems Design | 5— 6*— 7 |
| T-AHR | 227 | Estimating & Contracts | 3— 6*— 5 |
| T-AHR | 256 | Installation & Servicing Problems | 0— 4 — 2 |
| | | | 11—16 —17 |

*Manipulative Laboratory

# ASSOCIATE DEGREE NURSING PROGRAM

One of the great needs of this community in the field of health is the same found in communities across the nation, that being for registered nurses who are prepared to function at the bedside. It is the purpose of the Associate Degree Nursing Program of the Fayetteville Technical Institute to prepare nurses to help meet this need through a well balanced curriculum of general education and nursing education.

The formal classroom teaching is conducted at Fayetteville Technical Institute. Clinical laboratory experience is obtained in the hospitals and health agencies in the Fayetteville area where learning experiences are selected to meet the objectives of the curriculum. Graduates of the program are granted an associate degree and are eligible to write the State Board Examination for licensure in the state of North Carolina.

The registered nurse with an associate degree licensed for the practice of nursing carries out nursing and other therapeutic measures with a high degree of skill, using principles from an ever-expanding body of science.

# ASSOCIATE DEGREE NURSING PROGRAM CURRICULUM

## SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| Course No. and Title | | C—L—CH |
|---|---|---|
| **First Quarter** | | |
| ENG 101 | English I | 3— 0— 3 |
| BIO 106 | Intergrated Science I | 4— 3— 5 |
| PSY 101 | Introduction to Psychology | 5— 0— 5 |
| NUR 101 | Nursing I | 3— 6— 5 |
| | | 15— 9—18 |
| **Second Quarter** | | |
| ENG 102 | English II | 3— 0— 3 |
| BIO 107 | Integrated Science II | 4— 3— 5 |
| NUR 102 | Nursing II | 4— 6— 6 |
| SOC 101 | Introduction to Sociology | 3— 0— 3 |
| | | 14— 9—17 |
| **Third Quarter** | | |
| ENG 104 | English III | 3— 0— 3 |
| BIO 108 | Integrated Science III | 4— 3— 5 |
| SOC 102 | Sociology II (Marriage & Family | 3— 0— 3 |
| NUR 103 | Nursing III | 4— 9— 7 |
| | | 14—12—18 |
| **Fourth Quarter** | | |
| NUR 204 | Nursing IV | 5— 9— 8 |
| ENG 204 | Speech (Oral Communication) | 3— 0— 3 |
| PSY 202 | Psychology (Human Growth & Development | 3— 0— 3 |
| | Elective — Humanities | 3— 0— 3 |
| | | 14— 9—17 |
| **Fifth Quarter** | | |
| NUR 205 | Nursing V | 3— 0— 3 |
| HIS 103 | World Civilization | 3— 0— 3 |
| NUR 206 | Nursing VI | 5— 9— 8 |
| | Elective — Humanities | 3— 0— 3 |
| | | 14— 9—17 |
| **Sixth Quarter** | | |
| NUR 207 | Nursing VII | 5— 9— 8 |
| NUR 208 | Nursing VIII | 3— 3— 4 |
| SSC 205 | American Institutions | 3— 0— 3 |
| | | 11—12—15 |

# CIVIL ENGINEERING TECHNOLOGY

## AN ECPD ACCREDITED ENGINEERING TECHNOLOGY CURRICULUM

### Purpose of Curriculum

Construction technicians perform many of the planning and supervisory tasks necessary in the construction of highways, bridges, power plants, dams, missile sites, airfields, water and sewer treatment plants, industrial buildings and utilities. In the planning stages of construction, they may be engaged in estimating costs, ordering materials, interpreting specifications, computing earthwork cuts and fills and storm drainage requirements, surveying or drafting. Once the actual construction work has begun, many technicians perform supervisory functions. Some may be responsible for seeing that construction activities are performed in proper sequence, and for inspecting the work as it progresses for conformance with blueprints and specifications.

The expanding construction industry needs up-to-date technically trained personnel. The objective of the Civil Engineering Technology program is to train technicians who will work with skilled craftsmen and engineers in performing the various functions included in the broad field of construction. The curriculum provides the necessary basic background and related theory with specific skills supplemented by courses in Communicative Skills, Economics, Industrial Organization and Management, and Human Relations.

### Job Description

The large and varied construction industry provides excellent opportunities for the individual with ability and training. Depending on the organization and the size of the construction project, the technician may work directly with an engineer or with skilled craftsmen or he may function as a liaison between them.

An individual, upon graduating from this program, should qualify for various jobs such as Instrument Man, Party Chief, Quantity Survey Man, Material Tester (Laboratory Testing), Expediter, Field Clerk, Materials Man, Construction Equipment and Materials Salesman, and Field Draftsman. Upon gaining sufficient construction experience, the technician has the opportunity of advancing into positions such as Contractor, Construction Superintendent, Engineering Aide, Surveyor, Estimator, Inspector on Construction Jobs, and City Building Inspector.

# CIVIL ENGINEERING TECHNOLOGY CURRICULUM

## An ECPD Accredited Engineering Technology Curriculum

### SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| Course No. and Title | | | First Quarter | C — L —CH |
|---|---|---|---|---|
| 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-CIV | 101 | Surveying | | 2— 6*— 4 |
| | | | | 13—14 —18 |

| | | | Second Quarter | C — L —CH |
|---|---|---|---|---|
| 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-CIV | 114 | Statics | | 5— 0 — 5 |
| | | | | 16— 8 —19 |

| | | | Third Quarter | C — L —CH |
|---|---|---|---|---|
| T-ENG | 103 | Report Writing | | 3— 0 — 3 |
| T-MAT | 103 | Technical Mathematics | | 5— 0 — 5 |
| T-PHY | 103 | Physics: Electricity | | 3— 2 — 4 |
| T-CIV | 102 | Surveying | | 2— 6*— 4 |
| T-CIV | 216 | Strength of Materials | | 3— 2 — 4 |
| | | | | 16—10 —20 |

| Course No. and Title | | | Fourth Quarter | C — L —CH |
|---|---|---|---|---|
| T-ENG | 204 | Oral Communication | | 3— 0 — 3 |
| T-CIV | 201 | Properties of Engineering Materials | | 2— 3*— 3 |
| T-CIV | 103 | Surveying | | 2— 6*— 4 |
| T-CIV | 218 | Plain Concrete | | 3— 3*— 4 |
| T-CIV | 217 | Construction Methods & Equipment | | 3— 2 — 4 |
| T-MAT | 285 | Applied Mathematics | | 3— 0 — 3 |
| | | | | 16—14 —21 |

| | | | Fifth Quarter | C — L —CH |
|---|---|---|---|---|
| T-ECO | 205 | Applied Economics | | 3— 0 — 3 |
| T-CIV | 220 | Construction Planning | | 2— 3*— 3 |
| T-CIV | 202 | Properties of Soils | | 2— 3 — 2 |
| T-CIV | 223 | Codes, Contracts, & Specifications | | 2— 0 — 2 |
| T-CIV | 285 | Drafting | | 0— 6 — 2 |
| T-CIV | 221 | Reinforced Concrete | | 3— 2 — 4 |
| | | | | 12—14 —17 |

| | | | Sixth Quarter | C — L —CH |
|---|---|---|---|---|
| T-PSY | 206 | Applied Psychology | | 3— 0 — 3 |
| T-CIV | 225 | Construction Estimates & Costs | | 3— 6*— 5 |
| T-CIV | 227 | Construction of Roads & Pavements | | 3— 2 — 4 |
| T-CIV | 204 | Surveying IV | | 0— 6 — 2 |
| T-SAN | 103 | Introduction to Sanitation | | 2— 4 — 4 |
| | | | | 11—18 —18 |

*Manipulative Laboratory

# ELECTRONICS ENGINEERING TECHNOLOGY

## AN ECPD ACCREDITED ENGINEERING TECHNOLOGY CURRICULUM

### Purpose of Curriculum

The field of electronics has developed at a rapid pace since the turn of the century. For many years, the major concern of electronics was in the area of communications. Developments during World War II and in the period since have revolutionized production techniques. New industries have been established to supplement the need and demand for electronics equipment.

Many opportunities exist for men and women with a technical education in electronics. This curriculum provides a basic background in electronic related theory with practical applications of electronics for business and industry. Courses are designed to develop competent electronics technicians who may take their place as an assistant to an engineer, or as a liaison between the engineer and the skilled craftsman.

### Job Description

The electronics technician may start in one or more of the following areas: research, design, development, production, maintenance, or sales. He may be an assistant to an engineer, an engineering aide, laboratory technician supervisor or equipment specialist. His training is similar to that of an engineer, but in less depth and more practical in application.

# ELECTRONICS ENGINEERING TECHNOLOGY CURRICULUM

## An ECPD Accredited Engineering Technology Curriculum

### SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| Course No. and Title | | | |
|---|---|---|---|
| **First Quarter** | | | **C — L —CH** |
| 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 I | 4— 6*— 6 |
| | | | 15—14 —20 |
| **Second Quarter** | | | **C — L —CH** |
| 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 II | 4— 6 — 6 |
| | | | 15—14 —20 |
| **Third Quarter** | | | **C — L —CH** |
| T-ENG | 103 | Report Writing | 3— 0 — 3 |
| T-MAT | 103 | Technical Mathematics | 5— 0 — 5 |
| T-PHY | 104 | Physics: Light and Sound | 3— 2 — 4 |
| T-ELN | 101 | Electronic Instruments and Measurements | 1— 4 — 3 |
| T-ELN | 105 | Control Devices | 5— 6 — 7 |
| | | | 17—12 —22 |

| Course No. and Title | | | |
|---|---|---|---|
| **Fourth Quarter** | | | **C — L —CH** |
| T-ENG | 204 | Oral Communications | 3— 0 — 3 |
| T-MAT | 286 | Technical Mathematics | 3— 0 — 3 |
| T-CHEM | 185 | Chemistry | 3— 0 — 3 |
| T-ELN | 205 | Application of Vacuum Tubes and Transistors | 5— 8 — 8 |
| | | | 14— 8 —17 |
| **Fifth Quarter** | | | **C — L —CH** |
| T-ECO | 205 | Applied Economics | 3— 0 — 3 |
| T-ELN | 210 | Semiconductor Circuit Analysis | 5— 2 — 6 |
| T-ELN | 214 | Wave Shaping and Pulse Circuits I | 2— 2 — 3 |
| T-ELN | 235 | Industrial Mechanisms and Instrumentation | 4— 9 — 8 |
| | | | 14—13 —20 |
| **Sixth Quarter** | | | **C — L —CH** |
| T-PSY | 206 | Applied Psychology | 3— 0 — 3 |
| T-ELN | 215 | Wave Shaping and Pulse Circuits II | 2— 3 — 3 |
| T-ELN | 220 | Electronic Systems | 5— 6 — 7 |
| T-ELN | 240 | Digital Computers | 3— 2 — 4 |
| T-ELN | 245 | Electronic Design Project | 0— 4 — 2 |
| | | | 13—15 —19 |

*Manipulative Laboratory

# MECHANICAL ENGINEERING TECHNOLOGY

## Purpose of Curriculum

This curriculum guide was prepared for the purpose of outlining a training program for students of drafting and design technology. There are certain identifiable duties which are common to all technicians of this general classification and which comprise the basic areas of technical knowledge they need. This curriculum has been designed for training persons in the accepted performance of these basic duties that will be assigned, and to enable the individual student to become proficient in a short time after he becomes employed in the industry.

Courses in general education have been included to give a student the assurance that comes with education upon a broad base. The technician associates with many levels of thought and expression — administrative personnel, scientists, engineers, skilled workmen — and must be able to communicate effectively with all levels. Courses in the skills of communication, human relations, economics and the field of industrial organization and management have been provided to assist the student to develop understanding and confidence. Courses containing essential information from related subject areas, such as mathematics, physics, and mechanics have been included in order to provide the student a better academic base for his training.

## Job Description

Mechanical drafting and design technicians are concerned with the preparation of drawings for design proposals, for experimental models and items for production use.

These technicians perform many aspects of design in a specialized field, such as the developing of the design of a section, subassembly or major component. Investigating design factors and availability of material and equipment, production methods and facilities are frequent assignments. They also design units and controls from specifications by utilizing drawings of existing units and reports on functional performance or design components in industrial fields based on engineers' original design concepts or specific ideas. They are assigned as coordinators for the execution of related work of other design, production, tooling, material and planning groups. Technicians in this classification will often supervise the preparation of working drawings.

# MECHANICAL ENGINEERING TECHNOLOGY CURRICULUM

## SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| Course No. and Title | | | |
|---|---|---|---|
| **First Quarter** | | | **C — L —CH** |
| 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-F | Technical Drafting | 2— 6 — 4 |
| T-MEC | 101 | Machine Processes | 2— 4 — 4 |
| | | | 15—12 —20 |
| **Second Quarter** | | | **C — L —CH** |
| 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-F | Technical Drafting | 2— 6 — 4 |
| T-MED | 102 | Machine Processes | 2— 4 — 4 |
| | | | 15—12 —20 |
| **Third Quarter** | | | **C — L —CH** |
| T-ENG | 103 | Report Writing | 3— 0 — 3 |
| T-MAT | 103 | Technical Mathematics | 5— 0 — 5 |
| T-PHY | 103 | Physics: Electricity | 3— 2 — 4 |
| T-MEC | 199 | Applied Mechanics | 5— 0 — 5 |
| T-DFT | 103 | Technical Drafting | 2— 6 — 4 |
| | | | 18— 8 —21 |

| Course No. and Title | | | |
|---|---|---|---|
| **Fourth Quarter** | | | **C — L —CH** |
| T-ENG | 204 | Oral Communications | 3— 0 — 3 |
| T-DFT | 201 | Technical Drafting | 2— 6 — 4 |
| T-DFT | 204 | Descriptive Geometry | 2— 4 — 4 |
| T-MEC | 205 | Strength of Materials | 3— 2 — 4 |
| T-MEC | 210 | Physical Metallurgy | 3— 3 — 4 |
| | | | 13—15 —19 |
| **Fifth Quarter** | | | **C — L —CH** |
| T-ECO | 205 | Applied Economics | 3— 0 — 3 |
| T-DFT | 205 | Design Drafting I | 2— 6 — 4 |
| T-MEC | 290 | Mechanisms | 3— 2 — 4 |
| T-MEC | 211 | Physical Metallurgy | 3— 3 — 4 |
| T-CIV | 287 | Surveying & Topographic | 2— 4 — 4 |
| | | | 13—15 —19 |
| **Sixth Quarter** | | | **C — L —CH** |
| T-PSY | 206 | Applied Psychology | 3— 0 — 3 |
| T-DFT | 206 | Design Drafting II | 3— 6 — 5 |
| T-MEC | 235 | Hydraulics & Pneumatics | 3— 3 — 4 |
| T-DFT | 212 | Jig & Fixture Design | 2— 6 — 4 |
| | | | 11—15 —20 |

# SANITARY ENGINEERING TECHNOLOGY

## AN ECPD ACCREDITED ENGINEERING TECHNOLOGY CURRICULUM

### Purpose of Curriculum

Our ever-increasing population and industrial expansion carries with it the demand for many services; one of the most vital of these services is the production and safeguarding of our water supply. The production and protection of our water supply represents an economic investment in which North Carolina alone is spending over 20 million dollars per year for the construction and reconstruction of water and waste treatment facilities. Our industries use tremendous amounts of water daily in industrial processes and are spending thousands of dollars each year in research on treatment of liquid waste before it is returned to the streams and rivers.

These activities require increasing numbers of highly-skilled technical personnel to perform the many specialized tasks involved.

These technicians are also being utilized for inspecton and safe operation of milk production and processing, meat packing, food processing and service, together with housing and allied health problems, and the control of diseases.

This curriculum was designed to train technicians to work in areas related to Sanitary Engineering and Public Health. The student will receive related courses in mathematics, science, drawing and surveying in addition to specialized technical courses such as water and waste treatment, sanitation, and control systems.

### Job Description

The graduate of this curriculum will have a knowledge of laboratory procedures and skill in performing many types of tests on liquid and solid wastes, foods, and water to determine bacteriological characteristics, acidity, etc. He will be qualified for entry into a variety of positions such as public health engineering aide, sanitarian aide, treatment plant operators, stream sanitation technicians, industrial waste technicians, technical sales and services of equipment and chemicals, water plant operators and engineering technician positions with federal, state, and local governments and municipalities.

# SANITARY ENGINEERING TECHNOLOGY CURRICULUM

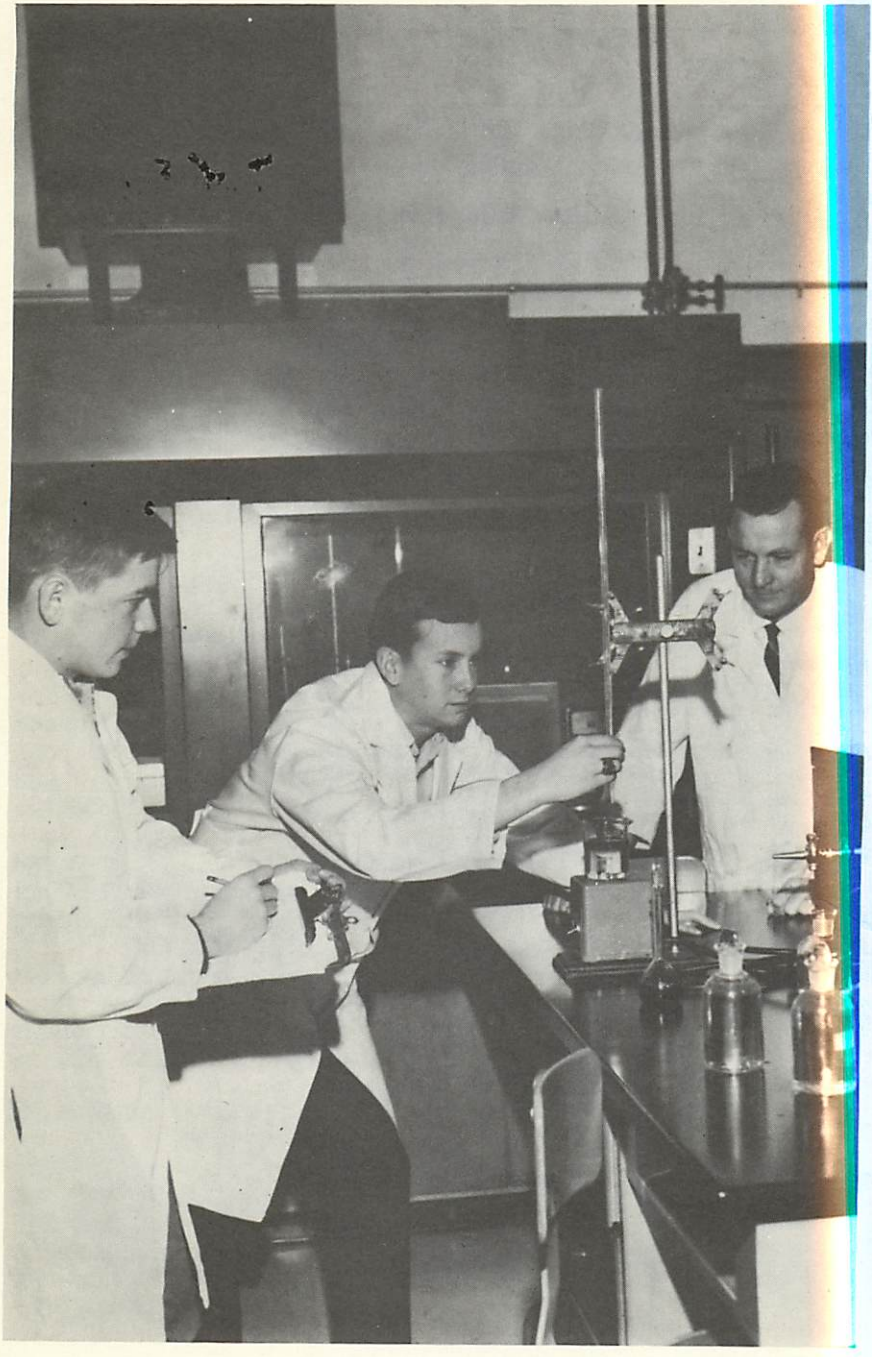
## An ECPD Accredited Engineering Technology Curriculum

### SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| Course No. and Title | | | C — L — CH |
|---|---|---|---|
| **Fourth Quarter** | | | |
| 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-SAN | 103 | Introduction to Sanitation | 2 — 4 — 4 |
| | | | 13 — 12 — 18 |
| **Fifth Quarter** | | | C — L — CH |
| 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-CIV | 101 | Surveying | 2 — 6* — 4 |
| T-BIO | 110 | Applied Biology | 3 — 2 — 4 |
| | | | 16 — 10 — 20 |
| **Sixth Quarter** | | | C — L — CH |
| T-ENG | 103 | Report Writing | 3 — 0 — 3 |
| T-MAT | 103 | Technical Mathematics | 5 — 0 — 5 |
| T-BIO | 111 | Basic Microbiology | 3 — 2 — 4 |
| T-CIV | 108 | Basic Hydraulics: Principles of Flow | 2 — 4 — 4 |
| T-DFT | 102 | Technical Drafting | 0 — 6 — 2 |
| | | | 13 — 12 — 18 |

| | | | C — L — CH |
|---|---|---|---|
| **First Quarter** | | | |
| T-ENG | 204 | Oral Communication | 3 — 0 — 3 |
| T-SAN | 204 | Sanitary Chemistry and Biology | 2 — 4 — 4 |
| T-SAN | 215 | Water Supply and Liquid Waste | 3 — 2 — 4 |
| T-SAN | 216 | Water Purification | 4 — 3 — 5 |
| T-ELC | 205 | Applied Electricity | 2 — 4 — 4 |
| | | | 14 — 13 — 20 |
| **Second Quarter** | | | C — L — CH |
| T-ECO | 205 | Applied Economics | 3 — 0 — 3 |
| T-SAN | 205 | Sanitary Chemistry and Biology | 2 — 4 — 4 |
| T-SAN | 217 | Liquid Waste Treatment | 3 — 4 — 5 |
| T-MEC | 237 | Control Systems | 2 — 4 — 4 |
| T-SAN | 285 | Drafting | 0 — 6 — 2 |
| | | | 10 — 18 — 18 |
| **Third Quarter** | | | C — L — CH |
| T-PSY | 206 | Applied Psychology | 3 — 0 — 3 |
| T-SAN | 206 | Sanitary Chemistry and Biology | 2 — 4 — 4 |
| T-SAN | 218 | Liquid Waste Treatment | 3 — 4 — 5 |
| T-SAN | 223 | Codes, Contracts, Specifications, and Estimates | 2 — 3 — 3 |
| T-CIV | 286 | Field Surveying | 0 — 6 — 2 |
| | | | 10 — 17 — 17 |

*Manipulative Laboratory



# AIR CONDITIONING AND REFRIGERATION TECHNOLOGY

C L CH

**T-AHR 101 Fundamentals of Refrigeration I** 4—3*—5

Terminology, laws of refrigeration, absolute pressure and absolute temperature, energy conversion units; specific heat, latent heat and sensible heat; measurement of heat in quantity and intensity; tone of refrigeration, pressure temperature relationships, transfer of heat by conduction, convection and radiation; elementary refrigeration cycle and refrigerant controls. Tools, materials and methods applicable to air conditioning and refrigeration.

**T-AHR 102 Fundamentals of Refrigeration II** 3—6*—5

Refrigerants and their application in commercial refrigeration; system components, accessories, installation procedures and techniques; diagnosing service problems of mechanical difficulties; methods of defrosting; making sketches of designs for high, medium, and low temperature installation. Symbols for refrigeration and piping equipment will be used in making sketches. Prerequisites: T-AHR 101, T-PHY 101.

**T-AHR 103 Commercial Refrigeration Systems Design** 3—6*—5

Procedures of load calculating used in commercial refrigeration. Various types of installations are studied with emphasis on the product to be cooled, the desired temperatures to be maintained, and humidity conditions. Problems involving system balance and component capacity. Use of heat load charts, pipe sizing tables, manufactured data, and specification sheets. Prerequisite: T-AHR 102.

**T-AHR 201 Heating Principles** 3—4 —5

Warm air systems, heat emitters, electric heating, forced hot water and steam heating systems including selection and sizing of equipment — registers, grills, furnaces, boilers, radiators, baseboards, piping, and ducts. Fuels and burners used in supplying heat for various types of heating systems — coal, oil, natural gas, manufactured gas, liquified petroleum gas, and electricity. Experiments equipment selection, installation, adjusting, and servicing will be conducted. Heating layout and specifications for an existing structure or one in blueprint stage will be prepared. Prerequisites: T-PHY 101, T-DFT 102.

**T-AHR 203 Air-Conditioning Principles** 5—6*—7

An introduction to air distribution. Humidity, saturated and unsaturated mixtures; psychrometric charts and graphs; specific heat and air flow calculations, heat load calculations, the state of mixture of two air streams, bypass factor and dehumidification. Prerequisite: T-AHR 103.

**T-AHR 209 Air Conditioning Systems Design** **5—6*—7**

Self-contained units, remote units, unitary systems and control systems. Chilled water units, air duct units ,high velocity duct units. Air and/or water-cooled systems, centrifugal pressure systems, conventional systems, absorption systems, air-handling and filtering systems. Prerequisites: T-AHR 203, T AHR 201.

**T-AHR 216 Circuits and Controls I** **3—3*—4**

Electric, electronic and pneumatic controls as related to ventilation, refrigeration, and air-conditioning systems. Practice in layouts, including symbols and schematic diagrams. Laboratory work in installations of control systems. Test instruments and their use. System adjustments for proper operation. Prerequisites: T-AHR 103, T-AHR 201, T-PHY 103.

**T-AHR 217 Circuits & Controls II** **3—3 —4**

Practice in layouts, selection, installation and trouble-shooting of conventional refrigeration and air conditioning control systems. Class and laboratory work includes control of residential and commercial heating and air conditioning systems. Control problems of mechanical refrigeration, zone and central-fan systems, unit heaters and ventilators, peripheral air conditioning units and radiant-panel heating are studied. Prerequisites: T-AHR 103, T-AHR 201, T-PHY 103, T-AHR 216.

**T-DFT 226 Air-Conditioning Systems Drawing** **0—6*—2**

Drawing of air-conditioning systems and study of related architectural and structural elements. Sheet metal intersections and developments and types of duct installation. Air-conditioning and refrigeration layouts, diagrams, and schematics. Prerequisites: T-DFT 102, T-AHR 103, A-AHR 216.

**T-AHR 227 Estimating and Contracts** **3—6*—5**

Cost estimation, plans and specifications, equipment take-off, materials take-off, labor take-off, sub-contractors' estimates, overhead cost, and bid and contract procedures. Prerequisites: T-AHR 203, T-DFT 226.

**T-AHR 256 Installation and Servicing Problems** **0—4 —2**

Instruments, capacity calculations, air mix conditions, component location, refrigerant requirement, pipe and accessories. Prerequisites: T-AHR 203, T-AHR 217.

*Manipulative laboratory

# CIVIL ENGINEERING TECHNOLOGY

## AN ECPD ACCREDITED ENGINEERING TECHNOLOGY CURRICULUM

C L CH

**T-CIV 101 Surveying** 2—6*—4

Theory and practice of plane surveying including taping, differential and profile leveling, cross sections, earthwork computations, transit, stadia and transit-tape surveys. Corequisites: T-MAT 101; T-DFT 101.

**T-CIV 102 Surveying** 2—6*—4

Route surveys by ground and aerial methods; simple, compound reverse, parabolic and spiral curves; geometric design of highways; highway surveys and plans, including mass diagrams. Corequisite: T-MAT 103. Prerequisite T-CIV 102.

**T-CIV 108 Basic Hydraulics: Principles of Flow** 2—4 —4

A basic study of closed conduit and open channel flow, subterranean flow, runoff, pump head and wave action. Prerequisite: T-MAT 102; T-PHY 102.

**T-CIV 114 Statics** 5—0 —5

Forces, resultants, and types of force systems; moments, equilibrium of coplanar forces by analytical and graphic methods; stresses and reactions in simple structures; equilibrium of forces in space; static and kinetic friction; center of gravity, centroids, and normal of inertia. Corequisite: T-MAT 102.

**T-CIV 193 Introduction to Technology** 2—2 —4

A course designed to acquaint the student with various technologies. This survey course will help the student to understand the role of the technician in these fields of engineering. The instruction time will be divided with class and lab time spent in the major subject areas of Air Conditioning & Refrigeration Technology, Civil Engineering Technology, Electronics Engineering Technology, Mechanical Engineering Technology and Sanitary Engineering Technology.

**T-CIV 201 Properties of Engineering Materials** 2—3*—3

Study and testing of the properties of ferrous and nonferrous metals, timber, stone, clay products, bituminous cementing materials; load and strain measurements; behavior of materials under load; qualities other than strength; control of the properties of the materials; nondestructive tests. Prerequisite: T-PHY 101. Corequisite: T-CIV 216.

**T-CIV 202 Properties of Soils** 2—3*—3

Study of soil types and their physical properties; mechanical analysis and tests of soils; techniques of subsurface investigation; earth pressure theories; bearing capacity; stability of slopes; hydrostatics of ground water; methods of compaction and consolidation. Prerequisite: T-CIV 216.

**T-CIV 204 Surveying VI** 0—6 —2

Aerial photogrammetry; applications of aerial surveys; building and road construction, surveying; lines and grades for foundation layout, building construction, bridge layout, sewer and pipe line surveys and astronomical observations. Prerequisite: T-CIV 103.

**T-CIV 216 Strength of Materials** 3—2 —4

Fundamental stress and strain relationship; torsion; shear and bending moments; stresses and deflections in beams; introduction to statically indeterminate beams; columns; combines stresses. Prerequisite: T-CIV 114. Corequisite: T-MAT 103.

**T-CIV 217 Construction Methods and Equipment** 3—2 —4

Excavating methods and equipment used in building and highway construction; pile driving; construction techniques and equipment used in reinforced concrete buildings, bridges, lift-slabs, thinshells and folded plates, erection methods and equipment of structural steel buildings and bridges; carpentry in house and heavy timber construction; construction safety. Field inspection trips. Prerequisites T-DFT 102; T-CIV 102.

**T-CIV 218 Plain Concrete** 3—3*—4

Study and testing of the composition and properties of concrete including cementing agents, aggregates, admixtures, and air-entrainment; design and proportioning of concrete mixes to obtain pre-determined strengths and properties; methods of placing and curing concrete; standard control tests of concrete. Corequisite: T-CIV 201.

**T-CIV 220 Construction Planning** 2—3*—3

Analysis of construction plant layout requirements and contractor's organization for building and highway projects. Construction scheduling; project control and supervision; co-ordinating trades on building construction. Operations, charts, and practical application of Critical Path Method (CPM) for construction planning, scheduling, and "timecost" determination. Prerequisites: T-CIV 217; T-CIV 218, T-CIV 219. Corequisite: T-CIV 223.

**T-CIV 221 Reinforced Concrete** 3—2 —4

Analysis and design of reinforced concrete beams, floor systems, and columns by working the stress method. Use of CRSI Design Handbook and ACI Building Code. Principles of precast concrete. Field inspection trips. Prerequisite: T-CIV 216.

**T-CIV 223 Codes, Contracts and Specifications** **2—0 —2**

Basic principles and methods most significant in contract relationships; appreciation of the legal considerations in construction work; study of the North Carolina Building Code and local building codes, interpreting and outlining specifications.

**T-CIV 225 Construction Estimates and Costs** **3—6*—5**

Interpretation of working drawings of timber, structural steel, and reinforced concrete structures and highways; preparation of material and labor quantity surveys from plans and specifications; approximate and detailed estimates of costs, building procedures and preparation of bids. Prerequisite: T-CIV 220. Corequisite: T-CIV 227. *Manipulative laboratory

**T-CIV 227 Construction of Roads and Pavements** **3—2 —4**

Construction practices for various types of road building, including soil properties, grading, subgrading, base courses, drainage, embankments, compaction, and formwork. Design, construction, and testing of rigid Portland-cement concrete and flexible bituminous pavements. Field inspection trips. Prerequisites: T-CIV 217; T-CIV 218; T-CIV 202.

**T-CIV 285 Drafting** **0—6 —2**

Interpretation of field notes, comprehensive study of state mapping laws, basic site construction layout, working plans for highways and airports, reinforced concrete structure details, structural steel detailing. Prerequisite: T-DFT 102.

**T-CIV 286 Field Surveying** **0—6 —2**

Route surveys for ground control; simple and parabolic curves; relation of the cross sectional and profile; earthwork computations; calculations of areas of land by D.M.D. Method and areas of miscellaneous shapes of land; building and pipeline staking. Prerequisite: T-CIV 101.

**T-CIV 287 Surveying & Topographic** **2—4 —4**

Basic instrumentation and topography will be studied together with field trip sand drafting room application of site surveying. Prerequisite: None.

## DRAFTING AND DESIGN

**C L CH**

**T-DFT 101 Technical Drafting** **0—6 —2**

The engineering technology student begins study of drawing principles and practices for print reading and describing objects in the 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 principle views, and standards and practices of dimensioning. The principles of isometric, oblique, and perspective are introduced.

**T-DFT 101-F Technical Drafting** 2—6*—4

The field of drafting is introduced as the student begins study of drawing principles and practices for print reading and describing objects in the 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.

**T-DFT 102 Technical Drafting** 0—6*—2

A study of primary and secondary auxiliary views, simple and successive revolutions, and sections and conventions. 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 will be studied. Dimensioning practices for "details" and "working drawings," approved by the American Standards Association will also be included. Prerequisite: T-DFT 101.

**T-DFT 102-F Technical Drafting** 2—6 —4

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 will be studied. Dimensioning practices for "details" and "working drawings," approved by the American Standards Association will also be included. Introduction is given to intersections and developments of various types of geometrical objects. Prerequisite: T-DFT 101-F.

**T-DFT 103 Technical Drafting** 2—6 —4

Intersection and developments and their practical solutions. Where applicable, model solutions accompany the problems. The various techniques employed to produce and render isometric and oblique drawings, isometric, dimetric and trimetric projections will be included. Prerequisite: T-DFT 102.

**DFT 190 Mechanical Drawing I** 2—2 —3

Fundamental principles of orthographic projection, working drawings and sections, with emphasis on visualizing. This course includes further study in orthographic projection, sectioning, dimensioning and various other phases of working drawings. Also included is an introduction to isometric drawings, oblique projection, and blueprinting.

**T-DFT 201 Technical Drafting** 2—6 —4

Applications and constructions of charts, graphs, and nomographs in engineering and technical data. Screw threads, spring, keys, rivets, piping, and welding symbols, methods of representing and specifying will be covered. Basic mechanisms of motion transfer, gears and cams, will be studied and drawn with emphasis on methods of specifying calculating, dimensions, and delineating. Prerequisite: T-DFT 103.

**T-DFT 204 Descriptive Geometry** 2—4 —4

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. Prerequisite: T-DFT 102; T-MAT 102.

**T-DFT 205 Design Drafting I** 2—6 —4

Basic design is introduced in the study of motion transfer mechanisms as they relate to power trains. Principles of design, sketching, design drawing, layout drafting, detailing from layouts, production drawings and simplified drafting practices constitute areas of study. Types and methods of specifying materials and workmanship are an integral part of the course. Prerequisites: T-DFT 204, T-MAT 102. T-PHY 102.

**T-DFT 206 Design Drafting II** 3—6 —5

Research to solve a problem in design by consulting various manuals, periodicals, and through laboratory experiments. A written technical report, preliminary design sketches, layout drawings, detail drawings, assembly and sub-assembly drawings, pictorial drawings, exploded pictorial assembly, patent drawings and specifications are required as a part of the problem. Prerequisites: T-DFT 205, T-DFT 210.

**T-DFT 212 Jig & Fixture Design** 2—6 —4

Commercial standards, principles, practice and tools of Jig and Fixture design. Individual project and design work to acquaint students with the types of jigs and fixtures and their design. Prerequisites: T-DFT 205, T-MEC 290.

## ELECTRONICS ENGINEERING TECHNOLOGY

### AN ECPD ACCREDITED ENGINEERING TECHNOLOGY CURRICULUM

C L CH

**T-ELN 101 Electronic Instruments and Measurements** 1—4—3

A study of basic electronic instruments, their theory of operation, function, tolerances, and calibration. Both service and labora-

tory instruments will be studied. Laboratory experience will provide application of each type instrument studied. Prerequisite: T-ELC 102.

**T-ELN 105 Control Devices** 5—6—7

A study in depth of the electrical characteristics of vacuum tubes and transistors. 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** 5—8—8

Practical applications of vacuum tubes and transistors to basic audio amplifiers, radio frequency amplifiers, detectors, modulators and oscillators. Prerequisite: T-ELN 105.

**T-ELN 210 Semiconductor Circuit Analysis** 5—2—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 I** 2—2—3

Broadband amplifiers, magnetic amplifiers, multivibrators, wave shaping techniques, clapper amplifier, clipper and clamper circuits. Prerequisites: T-ELN 105, T-MAT 103.

**T-ELN 215 Wave Shaping and Pulse Circuits II** 3—0—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** 5—6—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 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. Prerequisite: T-ELN 215.

**T-ELN 235 Industrial Mechanisms and Instrumentation** 4—9—8

Broad introduction to the industrial application of pneumatical electro-mechanical and electronic circuits and equipment. Included are mechanical cams, cables, gear trains, screws, belts and levers; synchros and servo-mechanisms; AC and DC motors and generators; sensing devices for detecting changes in pressure, temperature, humidity, sound, light, the associated circuitry and indicating and recording devices; introduction to pneumatical control devices. Prerequisites: T-PHY 101, 102, 104, and T-ELC 101, 102.

**T-ELN 240 Digital Computers** **3—2—4**

An exploration into the methodology of counting and computing. Various computer techniques will be investigated including: Non-sinusodial waveforms, binary and decade counters, industrial counters, readout devices, logic circuits, arithmetic circuits, storage devices, input-output devices, computer control, analog and digital converters. Prerequisite: T-ELN 214.

**T-ELN 245 Electronic Design Project** **0—4—2**

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. Prerequisite: T-ELN 205.

## ENGINEERING

**C - L-CH**

**T-EGR 299 Cooperative Training** **0—15 -5**

Provides the student with an opportunity to pursue, under staff supervision, work experience in a specialized field. Periodic conferences will be held with each student and employer while the student is receiving training. This course offers valuable experience and training which is incorporated into the student's education from the standpoint of ON-THE-JOB EXPERIENCE, and gives realism and motivation to his academic and technical program of studies.

## MECHANICAL

**C - L-CH**

**T-MEC 101 Machine Processes** **2—4—4**

An introductory course designed to acquaint the student with basic tools, safety procedures and machine processes of our modern industry. It will include a study of measuring instruments, characteristics of metals and cutting tools. The student will become familiar with the lathe family of machine tools by performing selected operations such as turning, facing, threading, drilling, boring, and reaming.

**T-MEC 102 Machine Processes** **2—4—4**

Advanced operations on lathe, drilling, boring and reaming machines. Milling machine theory and practice. Thorough study of the types of milling machines, cutters, jig and fixture devices, and the accessories used in a modern industrial plant. Safety in the operational shop is stressed. Prerequisite: T-MEC 101.

**T-MEC 199 Applied Mechanics** **5—0—5**

Concepts and principles of statics and dynamics. Parallel concurrent and noncurrent force systems in coplanar and noncoplanar

situations. Concepts of centroids and center of gravity, moments of inertia, fundamentals of kinetics, and kinematics of velocity and motion. Prerequisites: T-MAT 103, T-PHY 102.

**T-MEC 205 Strength of Materials** 3—2—4

Study of principles and analysis of stresses which occur within machine and structure elements subjected to various types of loads such as static, impact, varying and dynamic. Analysis of these stresses are made as applied to thin-walled cylinders and spheres, riveted and welded joints, beams, columns and machine components. Prerequisites: T-PHY 106, T-MAT 103.

**T-MEC 210 Physical Metallurgy** 3—3—4

Introductory course in metallurgy, a basic study of the properties of metals and alloys. Analysis of the structure of metals and alloys, atomic structure, nuclear structure, and nuclear reactions. Solid (crystalline) structures, methods of designating crystal planes; liquid and vapor phases; phase diagrams, and alloy systems. Prerequisite: T-PHY 101.

**T-MEC 211 Physical Metallurgy** 3—3—4

Properties of metals and alloys, the reactions of metals, diffusion, carburizing, metal bonding and homogenization; recrystallization and grain growth; age hardening, nitriding, internal oxidation; heat treatment of steel; laboratory experiments and demonstrations. Prerequisite: T-MEC 210.

**T-MEC 235 Hydraulics & Pneumatics** 3—3—4

The basic theories of hydraulic and pneumatic systems. Combinations of systems in various circuits. Basic designs and functions of circuits and motors, controls, electrohydraulic servomechanisms, plumbing, filtration, accumulators and reservoirs. Prerequisite: T-PHY 102.

**T-MEC 237 Control Systems** 2—4—4

Hydraulic, pneumatic, mechanical, electrical and electronic control systems and components. Basic description, analysis and explanation of operation. Typical performance characteristics, limitations on performance, accuracy, applications and their utilization in industrial processes. Prerequisites: T-PHY 102, T-ELC 201; T-ELC 205.

**T-MEC 290 Mechanisms** 3—2—4

Mathematical and drafting room solutions of problems involving the principles of machine elements. Study of motions of linkages, velocities and acceleration of points within a link mechanism; layout methods for designing cams, belts, pulleys, gears and gear trains. Prerequisites: T-DFT 201 & 204, T-MAT 103, T-PHY 106.

# NURSING - ASSOCIATE DEGREE

C - L-CH

**NUR 101 Nursing I** 3—6—5

Nursing I (Fundamentals) is an introduction to the role of the nurse in meeting the needs common to all patients. Opportunity is given to the student to learn knowledges, skills, and attitudes necessary to the practictioner of nursing, based on physical, biological and behavioral science principles.

**NUR 102 Nursing II** 4—6—6

Nursing II (Fundamentals) is a continuation of Nursing I integrating nutrition, pharmacology, and communication skills. The basic concepts of physical and mental nursing are introduced with social implications threaded throughout the course.

**NUR 103 Nursing III** 4—9—7

Nursing III (Maternal and Child Health) emphasized the physiological, social and spiritual factors involved in maternal and child care and health promotion. Family-centered approach is used, and the family unit serves as the framework for the nursing care of mothers during the maternity cycle and of infants and children from birth through adolescense. Normal aspects of maternal-child care are stressed. Adaptations are made to include common complications occurring during the maternity cycle, and illnesses occurring commonly in the particular age groups.

**NUR 304 Nursing IV** 5—9—8

Nursing IV is designed to provide a broad background of information which will enable the nursing student to develop knowledge and nursing skills which will enable her to provide nursing care to meet each patient's individual needs.

Through a study of the major health problems, and a consideration of the scope, preventions, diagnosis, treatment and control of each, the nursing student will be able to recognize and meet nursing care problems.

Deviations from normal growth and development which predispose to illness are presented, as well as the phychological, social, cultural and socio-economic factors which may cause, complicate or affect the treatment. Consideration is also given to the rehabilitative aspects of nursing care.

**NUR 205 Nursing V** 3—0—3

A study of the organizational structure of nursing. It is concerned with the origins of nursing, trends, legal status, and professional opportunities.

**NUR 206 Nursing VI** 5—9—8

Nursing VI is a continuation of Nursing IV. It is primarily concerned with the health problems caused by locomotor and neurological disorders, and the patient who is mentally ill.

**NUR 207 Nursing VII** 5—9—8

Nursing VII is a continuation of Nursing VI. It is concerned with developing greater skill in coping with nursing problems in physical and mental illness.

**NUR 208 Nursing VIII** 3—3—4

Nursing VIII provides an opportnuity to further learning and synthesize knowledge in determining appropriate nursing intervention in familiar, unfamiliar and more complex nursing situations. The team approach will be emphasized. The role of the team leader will be studied and the use of the members of the team.

## SANITARY ENGINEERING TECHNOLOGY

### AN ECPD ACCREDITED ENGINEERING TECHNOLOGY CURRICULUM

C - L-CH

**T-SAN 103 Introduction to Sanitation** 2—4—4

Methods of disease transmission, hygienic excreta disposal, municipal and industrial liquid waste disposal methods, characteristics of water, water treatment, protection of ground water, insect and rodent control, solid waste collection and disposal, milk and food sanitation, swimming pool sanitation and industrial hygiene.

**T-SAN 204 Sanitary Chemistry and Biology** 2—4—4

Theory and laboratory technique for all control tests of water purification including: bacteriology, color, turbidity, pH, alkalinity, hardness, coagulation, chlorides, fluorides, iron, manganese, detergents, bactericides, and nitrates. Basic inplant studies at nearby plants. Prerequisite: T-BIO 110; T-BIO 111; T-SAN 103.

**T-SAN 205 Sanitary Chemistry and Biology** 2—4—4

Theory and laboratory technique for the determination of solids, dissolved oxygen, oxygen consumed, relative stability, water and sewage bacteria. Prerequisite: T-SAN 204.

**T-SAN 206 Sanitary Chemistry and Biology** 2—4—4

Theory and laboratory technique on biochemical oxygen demand, organic nitrogen, volatile acids, toxic metals, stream studies, in-plant studies at nearby plants. Prerequisite: T-SAN 205.

**T-SAN 215 Water Supply and Liquid Waste** 3—2—4

Water sources, quantity required, effect of storage on quality, quantity of storage, transportation, protection from pollution, methods of evaluating water quality, the ability of a water course to assimilate waste, stream sampling procedure and distribution design. Prerequisite: T-CIV 108.

**T-SAN 216 Water Purfication** 4—3* -5

Basic principles of water purification including: aeration, sedimentation, rapid sand filtration, chlorination, treatment chemicals, taste and odor control, bacteriological control, mineral control, design criteria and operational problems. New processes and recent developments. Rules, regulations, forms and records. Prerequisite: T-CIV 108; T-BIO 110; T-BIO 111.

**T-SAN 217 Liquid Waste Treatment** 3—4—5

Composition of sewage, nitrogen cycle, carbon cycle, sulphur cycle, aerobic and anacrobic decomposition, dillution, screening, degritting, measuring, sedimentation, aeration, digestion, filtration, air drying, biological purification, grease and oil removal, disinfection, chemical precipitation, sand filters, filter flies, field studies, in-plant studies, industrial waste. Rules, regulations, forms and records. Prerequisite: T-SAN 204; T-CIV 108.

**T-SAN 218 Liquid Waste Treatment** 3—4—5

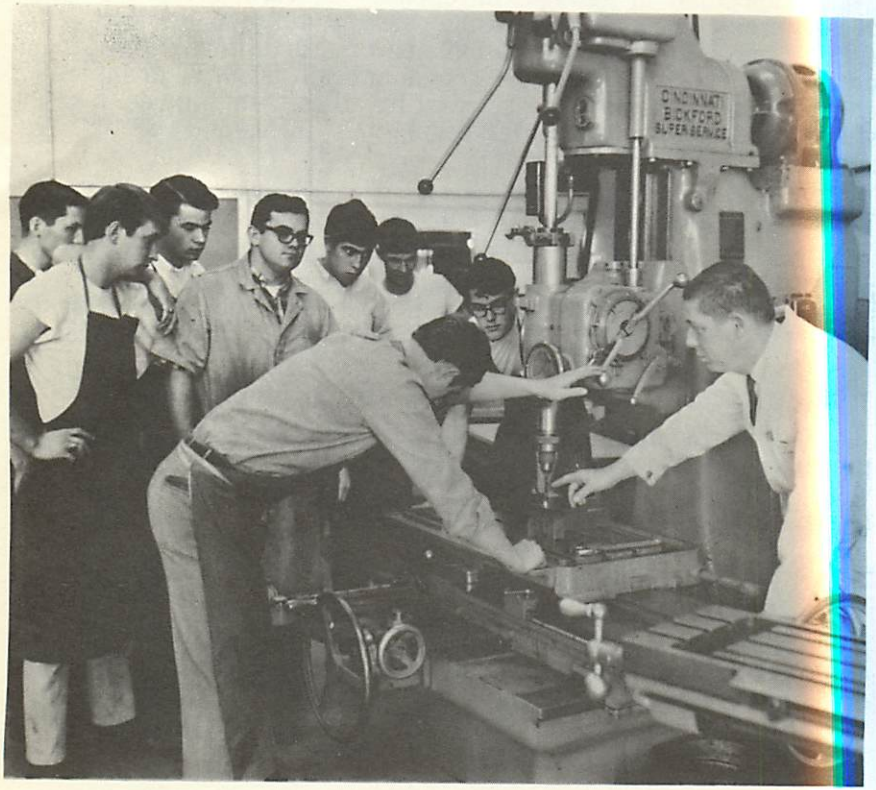
Methods of treatment, detailed study of at least two types of plants, basic design parameters of all units, quantity expected from population, application of package plants and application of septic tanks. Rules, regulations, forms and records. Prerequisite: T-SAN 217.

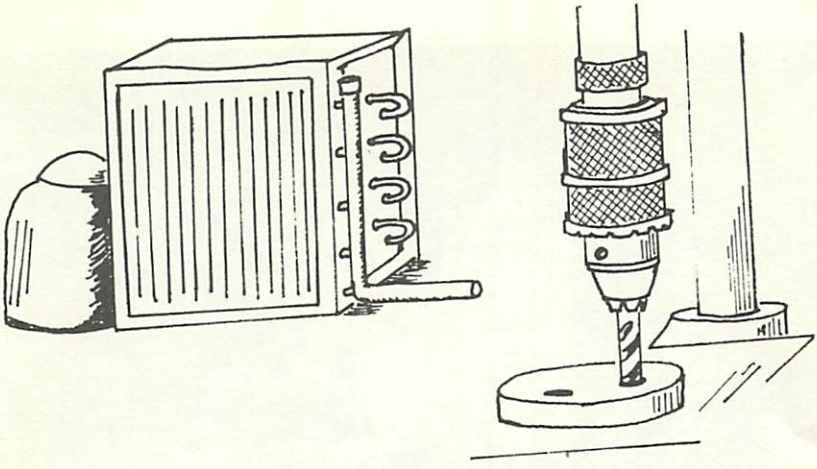
**T-SAN 223 Codes, Contracts, Specifications and Estimates** 2—3—3

Basic principles and methods most significant in contract relationships; appreciation of the legal considerations in construction work; study of the National Building Code and local building codes, interpreting and outlining specifications.

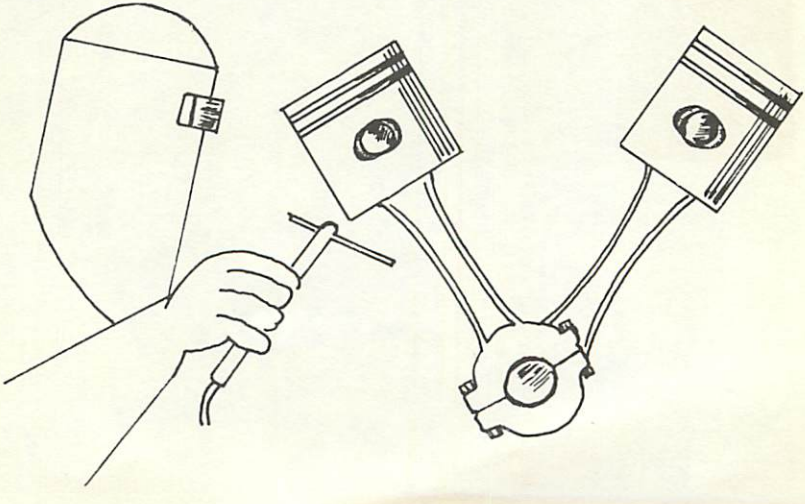
**T-SAN 285 Drafting** 0—6—2

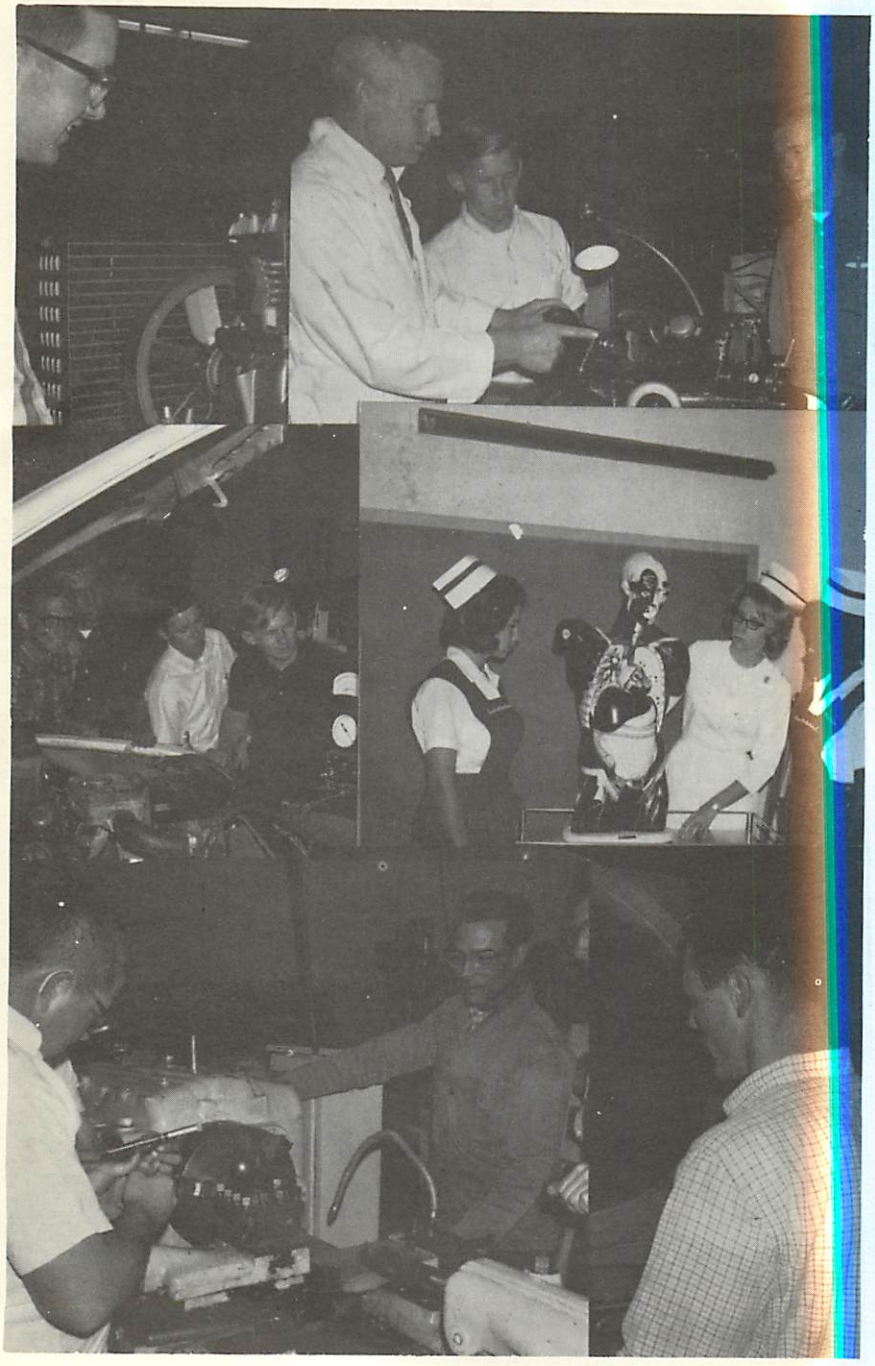
Interpretation of field notes, comprehensive study of state mapping laws, basic site construction layout, working plans for highways and airports, reinforced concrete structure details, structural steel detailing. Prerequisite: T-DFT 102.


CINCINNATI
BICKFORD
SUPERSERVICE



# VOCATIONAL DIVISION





# PURPOSE OF THE TRADE TRAINING PROGRAMS AT FAYETTEVILLE TECHNICAL INSTITUTE

The rapid expansion of industry with its technological advancement has created a demand for skilled workers who can enter an occupation with a competent knowledge of the manipulative skills required and the capacity to perform these skills. These occupations require some knowledge of mathematics, the sciences and communicative skills, but to a greater degree a depth in manipulative skills in a more restricted range of activities.

The craftsman works closely with the technician, thus he needs a workable background of the related subjects materials in order to communicate intelligently with every member of the work team.

Our trade curriculums are designed to give the tradesman, in the first year, a strong basic background of related subjects especially geared to his capabilities. Added to this are certain courses which place emphasis on an understanding of the American economic system and develop interest in the betterment of our society. The degree of competency which a skilled worker must have to effectively enter a trade occupation is gained through depth courses in specific skills in the second year. These courses are taught in laboratory and shop situations with maximum industrial equipment.

# AIR CONDITIONING AND REFRIGERATION MECHANICS

## Purpose of Curriculum

Today there is a greater demand from industry for qualified mechanical experts in all areas of the field of Air Conditioning and Refrigeration. This curriculum is designed to help equip young men who plan for a vocation in this broad sphere of activity.

A comprehensive study of theory and fundamentals of refrigeration, heating and air conditioning is completed and the student is enabled to understand rather than merely accept the functions of the mechanical equipment involved. Great emphasis is placed on manipulative skills, installation and service procedures, exercise and training in practical thinking. The related subject phase of the program provides for a better rounded individual through work in the areas of Math, English, and Social Studies.

## Job Description

An abundance of job opportunities exist in the many mechanical contracting organizations in business today. Graduates may pursue one of the many lines of work that make up this great industry. They may remain entirely in the refrigeration branch following the trade of installation or service mechanic or both. Some of the larger contractors indulge in all phases and provide a vast assortment of jobs including pipe work, metal work, insulation work, control and service work. Background afforded the student often enables him to elevate himself to foreman and supervisory positions. Plant maintenance in industry and government provide attractive possibilities.

# AIR CONDITIONING AND REFRIGERATION MECHANICS CURRICULUM

## SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| Course No. and Title | | | C — L —CH |
|---|---|---|---|
| **First Quarter** | | | |
| MAT | 1101 | Mathematics: Fundamentals | 5— 0 — 5 |
| ENG | 1101 | Grammar | 3— 0 — 3 |
| PHY | 1101 | Properties of Matter | 3— 2 — 4 |
| AHR | 1121 | Fundamentals of Refrigeration I | 5— 6 — 7 |
| PSY | 1105 | Applied Economics | 3— 0 — 3 |
| | | | 19— 8 —22 |
| **Second Quarter** | | | C — L —CH |
| MAT | 1102 | Mathematics: Algebra | 5— 0 — 5 |
| PHY | 1102 | Applied Physics: Electricity | 3— 2 — 4 |
| AHR | 1122 | Fundamentals of Refrigeration II | 2— 7 — 5 |
| WLD | 1180 | Basic Welding | 2— 4 — 3 |
| ENG | 1102 | Industrial Communications | 3— 0 — 3 |
| | | | 15—13 —20 |
| **Third Quarter** | | | C — L —CH |
| PHY | 1103 | Work Energy Power | 3— 2 — 4 |
| ENG | 1103 | Report Writing | 3— 0 — 3 |
| DFT | 1180 | Trade Drafting | 0— 6 — 2 |
| AHR | 1123 | Commercial Refrigeration | 3—12 — 7 |
| | | | 9—20 —16 |

| Course No. and Title | | | C — L —CH |
|---|---|---|---|
| **Fourth Quarter** | | | |
| AHR | 1124 | Winter Air Conditioning I | 4— 6 — 4 |
| AHR | 1125 | Principles of Air Conditioning | 5— 0 — 5 |
| AHR | 1126 | Sheet Metal Layout | 2— 4 — 4 |
| PSY | 1106 | Applied Psychology | 3— 0 — 3 |
| | | | 14—10 —16 |
| **Fifth Quarter** | | | C — L —CH |
| AHR | 1134 | Sheet Metal Fabrication | 0— 6 — 2 |
| AHR | 1127 | Winter Air Conditioning II | 4— 6 — 6 |
| AHR | 1128 | Control Systems | 2— 3 — 3 |
| AHR | 1129 | Air Conditioning Shop Practice I | 3— 6 — 5 |
| | | | 9—21 —17 |
| **Sixth Quarter** | | | C — L —CH |
| AHR | 1130 | Heat Pumps | 3— 3 — 4 |
| AHR | 1131 | Absorption Systems | 3— 3 — 4 |
| AHR | 1132 | Chilled Water Systems | 3— 3 — 4 |
| AHR | 1133 | Air Conditioning Shop Practice II | 3— 6 — 5 |
| | | | 12—15 —17 |

# AUTOMOTIVE 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. This curriculum 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 vehicle 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 CURRICULUM

## SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| Course No. and Title | | | First Quarter | C — L — CH |
|---|---|---|---|---|
| MAT | 1101 | Mathematics: Fundamentals | | 5 — 0 — 5 |
| ENG | 1101 | Communication Skills: Grammar | | 3 — 0 — 3 |
| PHY | 1101 | Applied Physics I: Properties of Matter | | 3 — 2 — 4 |
| PME | 1101 | Automotive: Engines | | 3 — 9 — 6 |
| PSY | 1106 | Applied Psychology | | 3 — 0 — 3 |
| | | | | 17 — 11 — 21 |

| Course No. and Title | | | Second Quarter | C — L — CH |
|---|---|---|---|---|
| MAT | 1102 | Mathematics: Algebra | | 5 — 0 — 5 |
| PHY | 1102 | Applied Physics II: Electricity | | 3 — 2 — 4 |
| ENG | 1102 | Industrial Comm. | | 3 — 0 — 3 |
| PME | 1102 | Electrical & Fuel Systems | | 3 — 12 — 7 |
| | | | | 14 — 14 — 19 |

| Course No. and Title | | | Third Quarter | C — L — CH |
|---|---|---|---|---|
| DFT | 1180 | Drafting: Trade I | | 2 — 3 — 3 |
| ENG | 1103 | Report Writing | | 3 — 0 — 3 |
| PHY | 1103 | Applied Physics III: Work, Energy, Power | | 3 — 2 — 4 |
| PME | 1124 | Power Train Systems | | 3 — 9 — 6 |
| PME | 1180 | Automotive Electronics | | 1 — 3 — 2 |
| | | | | 12 — 17 — 18 |

| Course No. and Title | | | Fourth Quarter | C — L — CH |
|---|---|---|---|---|
| ECO | 1105 | Economics | | 3 — 0 — 3 |
| WLD | 1180 | Welding: Basic | | 2 — 4 — 3 |
| PME | 1123 | Chassis & Suspension | | 6 — 9 — 9 |
| PME | 1181 | Automotive: Tune Up | | 1 — 3 — 2 |
| | | | | 12 — 16 — 17 |

| Course No. and Title | | | Fifth Quarter | C — L — CH |
|---|---|---|---|---|
| MEC | 1100 | Machine Shop: Basic | | 2 — 6 — 4 |
| PME | 1182 | Automatic Transmission | | 6 — 6 — 8 |
| PME | 1183 | Power Accessories | | 5 — 4 — 6 |
| | | | | 13 — 16 — 18 |

| Course No. and Title | | | Sixth Quarter | C — L — CH |
|---|---|---|---|---|
| AHR | 1135 | Air Conditioning: Automotive | | 1 — 3 — 2 |
| PME | 1125 | Automotive: Servicing | | 3 — 9 — 6 |
| PME | 1121 | Front End & Brakes | | 3 — 3 — 4 |
| | | | | 7 — 15 — 12 |

# MACHINIST

## Purpose of Curriculum

This curriculum was prepared to meet a definite need for training of machinists. Surveys recently completed in North Carolina show that many of the existing industries lack time and facilities for training enough machinists to meet present and planned needs. Expanding industries already located in our State and new industries under development invariably express the need for skilled craftsmen who have the background and potential to advance.

This guide is designed to give learners the opportunity to acquire basic skills and the related technical information necessary to gain employment and build a profitable career in the machine shop industry in the State. It is comprised of the joint views of committees responsible for its development.

## Job Description

The machinist is a skilled metal worker who shapes metal parts by using machine tools and hand tools. His training and experience enable him to plan and carry through all the operations needed in turning out a machined product and to switch readily from one kind of product to another. A machinist is able to select the proper tools and material required for each job and to plan the cutting and finishing operations in their proper order so that he can complete the finished work according to blueprint or written specifications. He makes standard shop computations relating to dimensions of work, tooling, feeds, and speeds of machining. He uses precision measuring instruments such as micrometers and gages to measure the accuracy of his work to thousandths of an inch .

This skilled worker must be able to set up and operate most types of machine tools. The machinist also must know the composition of metals so that he can heat and quench cutting tools and parts to improve machinability. His wide knowledge enables him to turn a block of metal into an intricate, precise part.

# MACHINIST TRADE CURRICULUM

## SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| Course No. and Title | | | |
|---|---|---|---|
| **First Quarter** | | | **C — L —CH** |
| ENG | 1101 | Grammar | 3— 0 — 3 |
| MAT | 1101 | Mathematics: Fundamentals | 5— 0 — 5 |
| PHY | 1101 | Applied Physics I: Properties of Matter | 3— 2 — 4 |
| MEC | 1101 | Theory and Practice I | 3—12 — 7 |
| | | | 14—14 —19 |
| **Second Quarter** | | | **C — L —CH** |
| MAT | 1102 | Mathematics: Algebra | 5— 0 — 5 |
| PHY | 1102 | Applied Physics II: Electricity | 3— 2 — 4 |
| ENG | 1102 | Industrial Communications | 3— 0 — 3 |
| DFT | 1180 | Drafting: Trade I | 2— 3 — 3 |
| MEC | 1102 | Theory and Practice II | 3— 8 — 6 |
| | | | 16—13 —21 |
| **Third Quarter** | | | **C — L —CH** |
| MAT | 1123 | Mathematics: Machinist I | 5— 0 — 5 |
| DFT | 1181 | Drafting: Trade II | 2— 3 — 3 |
| ECO | 1105 | Economics | 3— 0 — 3 |
| PHY | 1103 | Applied Physics III: Work, Energy, Power | 3— 2 — 4 |
| MEC | 1103 | Theory and Practice III | 3— 8 — 6 |
| | | | 16—13 —21 |

| Course No. and Title | | | |
|---|---|---|---|
| **Fourth Quarter** | | | **C — L —CH** |
| MAT | 1180 | Mathematics: Machinist II | 5— 0 — 5 |
| MEC | 1180 | Industrial Specifications | 3— 0 — 3 |
| MEC | 1104 | Structure of Metals | 3— 2 — 4 |
| MEC | 1105 | Theory and Practice IV | 3— 9 — 6 |
| PSY | 1106 | Applied Psychology | 3— 0 — 3 |
| | | | 17—11 —21 |
| **Fifth Quarter** | | | **C — L —CH** |
| WLD | 1180 | Welding: Basic | 2— 4 — 3 |
| DFT | 1181 | Blueprint & Shop Sketching | 3— 0 — 3 |
| MEC | 1106 | Heat Treating Practices | 2— 4 — 3 |
| MEC | 1181 | Precision Machines | 3— 9 — 6 |
| | | | 10—17 —15 |
| **Sixth Quarter** | | | **C — L —CH** |
| MEC | 1182 | Jig & Fixture Making | 3— 9 — 6 |
| MEC | 1183 | Machine Repair | 2— 4 — 3 |
| MEC | 1184 | Advanced Machine Processes | 3— 6 — 5 |
| ENG | 1103 | Report Writing | 3— 0 — 3 |
| | | | 11—19 —17 |

# PRACTICAL NURSE EDUCATION

## Purpose of Curriculum

The accelerated growth of population in North Carolina and rapid advancement in medical technology demanded an increased number of well-trained personnel for health services. Realizing this need, the Fayetteville Technical Institute, in conjunction with local hospitals, public health service, nursing homes, kindergarten, administers a program of Practical Nurse Education.

The Practical Nurse is a vital and integral segment of the health team; she bridges the gap between that which the individual can provide for himself and that which requires the complexity of skills given by professional members of the health team; that her place is at the patients' bedside fulfilling needs requiring moderate nursing skills and assisting with activities dependent upon more complex skills always under the guidance of the professional leader.

Throughout the one-year program, the student is expected to grow continuously in acquisition of knowledge and understanding related to nursing, biological sciences, the social sciences and in skills related to nursing practice, communications, inter-personal relationship and use of good judgment. She must maintain a C average in all major courses to be eligible upon graduation of an accredited program to take the licensing examination given by the North Carolina Board of Nursing. Her learning is from the simple to the complex to an assisting role in more complex nursing.

After passing the State Board, the Practical Nurse is entitled to receive a license and to use a legal title "Licensed Practical Nurse." Her license must be renewed biannually. She may apply for licensing in other states on the basis of a satisfactory examination score, without repeating the examination.

# PRACTICAL NURSE EDUCATION CURRICULUM

## SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| Course No. and Title | | | C—L—Cl—CH |
|---|---|---|---|
| **First Quarter** | | | |
| PN | 1101 | Vocational Adjustments I | 30— 0— 0— 2 |
| PN | 1102 | Body Structure & Functions | 74—10— 0— 6 |
| PN | 1103 | Nursing Skills I | 65—60—60— 9 |
| ENG | 1101 | Communicative Skills: Grammar | 33— 0— 0— 3 |
| PN | 1104 | Emergency & Disaster Nursing | 22— 2— 0— 1 |
| | | Total Hours Per Quarter | 356 224—72—60—21 |
| | | Hours Per Week | 33 |
| **Second Quarter** | | | C—L—Cl—CH |
| MA | 1105 | Mathematics For Nurses | 30— 0— 0— 3 |
| PN | 1105 | Nutrition & Diet Therapy | 36—12— 0— 4 |
| PN | 1106 | Nursing Skills II | 32—24— 0— 3 |
| PN | 1107 | Medical & Surgical Nursing I | 38— 0-192— 8 |
| | | Total Hours Per Quarter | 364 136—36-192—18 |
| | | Hours Per Week | 33 |
| **Third Quarter** | | | C—L—Cl—CH |
| PN | 1108 | Nursing Care of Children | 36— 0—96— 5 |
| PN | 1109 | Nursing Care of Mother & Newborn | 36— 0—96— 5 |
| PN | 1110 | Medical & Surgical Nursing II | 46— 0— 0— 2 |
| PN | 1111 | Drugs & Administration | 30— 9— 0— 2 |
| | | Total Hours Per Quarter | 349 148— 9-192—14 |
| | | Hour Per Week | 31 |
| **Fourth Quarter** | | | C—L—Cl—CH |
| PN | 1112 | *Medical & Surgical Nursing III | 0— 0-216— 7 |
| PN | 1114 | Family Units | |
| PN | 1113 | Geriatrics | 24— 0—48— 4 |
| | | & Skills | 12— 0— 0— 1 |
| PN | 1115 | Mental Health | 24— 0— 0— 3 |
| PN | 1116 | Vocational Adjustments II | 16— 0— 0— 2 |
| PN | 1117 | Communicable Diseases | 25— 0— 0— 2 |
| | | Total Hours Per Quarter | 364 101— 0-264—19 |
| | | Hour Per Week | 33 |

*Twelfth Week—40 hours Medical & Surgical Nursing III in Clinical Area. **CURRICULUM HOURS:** Class hours, 608; Lab hours, 117; Clinical hours, 708; Total 1433. **State Requirements:** 1420 hours of Class, Laboratory and Clinical Work.

# TOOL & DIE MAKING

## Purpose of Curriculum

Year by year, the machines tools industry is faced with an increasing shortage of tool and die makers. This shortage has been brought about by the rapid expansion of industry and the retirement of the older craftsmen in this field. The purpose of this curriculum is to provide a training program that will give the student the necessary background in theory and practice to enable him to become a capable tool and die maker in far less time than would be required to obtain these skills and knowledge without formal instruction.

Complexity of new tools in industry increases each year due to new engineering, scientific discovery, and the space age need for closer tolerances. This complexity is reflected first in the tools, dies, gages, and molds that must be built by the tool and die men. This curriculum provides a basis from which the student may equip himself with the knowledge, techniques, and skills to meet this great challenge and critical need.

## Job Description

Tool and die makers are responsible for the accuracy of thousands of parts because the jigs, fixtures, dies, molds and gages which are the basic tools of mass production, are built by the tool and die men. They must be able to proficiently operate all the basic shop equipment, be able to read precision measuring instruments and interpret complicated engineering drawings, and have the know-how to reproduce these drawings in the form of finished metal parts.

Tool and die making is a term used to describe the overall job of the mechanic in this phase of industry. The journeyman tool and die maker usually has the knowledge and skill required to perform all phases of this type of work, although some may specialize in a particular phase of the trade such as progressive dies, jigs and fixtures and gage making.

# TOOL & DIE MAKING CURRICULUM*

## SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| Course No. and Title | | | |
|---|---|---|---|
| **First Quarter** | | | **C — L —CH** |
| MEC | 1151 | Tool Making: Jigs & Fixtures | 2— 9 — 5 |
| MEC | 1154 | Die Making I | 2— 6 — 4 |
| MAT | 1151 | Mathematics: Trigonometry | 3— 0 — 3 |
| MEC | 1152 | Tool Making: Gages & Special Tools | 1— 6 — 3 |
| | | | 8—21 —15 |
| **Second Quarter** | | | **C — L —CH** |
| MEC | 1155 | Die Making II | 2— 9 — 5 |
| MEC | 1158 | Introduction to Plastics Molding | 2— 9 — 4 |
| MEC | 1159 | Blue Print Reading & Inspection | 2— 2 — 3 |
| MAT | 1152 | Mathematics: Trigonometry | 3— 0 — 3 |
| | | | 9—20 —15 |

| Course No. & Title | | | |
|---|---|---|---|
| **Third Quarter** | | | **C — L —CH** |
| MEC | 1153 | Advanced Tool Making | 1—10 — 4 |
| MEC | 1160 | Special Problems | 1— 6 — 3 |
| MEC | 1156 | Die Making III | 2— 9 — 5 |
| | | | 4—25 —12 |

*The Tool and Die Program is basically a three-year curriculum with prerequisite being the completion of the two-year Machinist Program.

# WELDING

## Purpose of Curriculum

This curriculum was developed to fill the tremendous need for welders in North Carolina. The recently completed Manpower Survey shows quite 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 field and metals industry.

The field of welding offers a person prestige, 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.

## 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". Of the more than 35 different ways of welding metals, arc, gas, and resistance welding are the three most important.

The principle 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 CURRICULUM

## SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| Course No. and Title | | | First Quarter | C — L —CH |
|---|---|---|---|---|
| WLD | 1120 | Oxyacetylene Welding & Cutting | | 3— 9 — 6 |
| MAT | 1101 | Fundamentals of Mathematics | | 5— 0 — 5 |
| DFT | 1104 | Blueprint Reading: Mechanical | | 0— 3 — 1 |
| MEC | 1104 | Structure of Metals | | 3— 2 — 4 |
| ENG | 1100 | Reading Improvement | | 3— 0 — 3 |
| ECO | 1105 | Applied Economics | | 3— 0 — 3 |
| | | | | 17—14 —22 |

| Course No. and Title | | | Second Quarter | C — L —CH |
|---|---|---|---|---|
| WLD | 1121 | Arc Welding | | 3—12 — 7 |
| MAT | 1103 | Geometry | | 3— 0 — 3 |
| DFT | 1117 | Blueprint Reading: Welding | | 0— 3 — 1 |
| ELC | 1180 | Basic Electricity | | 3— 0 — 3 |
| ENG | 1102 | Communication Skills | | 3— 0 — 3 |
| | | | | 12—15 —17 |

| Course No. and Title | | | Third Quarter | C — L —CH |
|---|---|---|---|---|
| WLD | 1124 | Pipe Welding | | 4—14 — 8 |
| WLD | 1123 | Inert Gas Welding | | 1— 3 — 2 |
| WLD | 1112 | Mechanical Testing & Inspection | | 1— 3 — 2 |
| | | | | 6—23 —13 |

| Course No. and Title | | | Fourth Quarter | C — L —CH |
|---|---|---|---|---|
| WLD | 1122 | Commercial & Industrial Practice | | 3— 9 — 6 |
| WLD | 1125 | Certification Practices | | 3— 6 — 5 |
| MEC | 1112 | Machine Shop Processes | | 0— 6 — 2 |
| PSY | 1106 | Applied Psychology | | 3— 0 — 3 |
| | | | | 9—21 —16 |

# PREPARATORY STUDIES PROGRAM

The Preparatory Studies Program provides an opportunity for inadequately prepared students to obtain special help in overcoming academic deficiencies likely to lead to academic failure in curriculum programs. In addition, the Preparatory Studies Program provides a curriculum program. Preparatory Studies courses combine classroom teaching and programmed instruction techniques. Students are assigned to courses depending upon the extent of their deficiencies and the entry requirements of the curriculum course they wish to complete. Students may spend one quarter to one full school year (three quarters) in Preparatory Studies courses. All academic regulations are applicable to this phase of college study. Courses are provided at two or more levels in reading, English, grammar, composition, mathematics, physical science, and social science.

**Reading** — is designed to promote interest in reading and to assist deficient students to improve reading comprehension, speed, word attack skills, vocabulary, and dictionary skills.

**Composition** — reviews the elements of English grammar, but focuses on the writing of good sentences and paragraphs. In addition, various forms of communications including literature, are studied.

**Speech** — is needed by some students who have dificulty in communicating orally with others. Through this course the student improves his enunciation, pronunciation, and language useage. Vocabulary is expanded and various means of oral communications are explored.

**Mathematics** — Level I, introduces the student to algebra and geometry and builds the concepts needed in dealing with equations and geometrical problems. This level will also deal with more advanced algebraic equations and geometrical problems.

**Mathematics** — Level II, introduces basic operation of the number system, kinds of numbers, addition, subtraction, and multiplication to develop accuracy and speed through drill and problem solv-

ing. A review of the fundamentals of division. Fractions, mixed numbers, decimals and per cent. Emphasis will be placed on application to practical problem solving. Is designed for elementary and practical to fundamentals of ratio and proportion, direct measurement, line, angles, permetrics areas, volumes, indirect measurement, triangles and polygrams. Emphasis will be placed on their use and application to industry today. Designed to building skills through skills and practices.

**Physical Science** — covers the basic elements of physical science and laboratory procedure. It is especially designed for students who have had little or no laboratory experience at the high school level, but such courses are also beneficial to many who have had such experiences but who lack sufficient understanding of scientific method. Developmental Physical Science acquaints the student with laboratory equipment and practices, scientific terminology, and the scientific method. Many opportnuities are provided for conducting practical experiments.

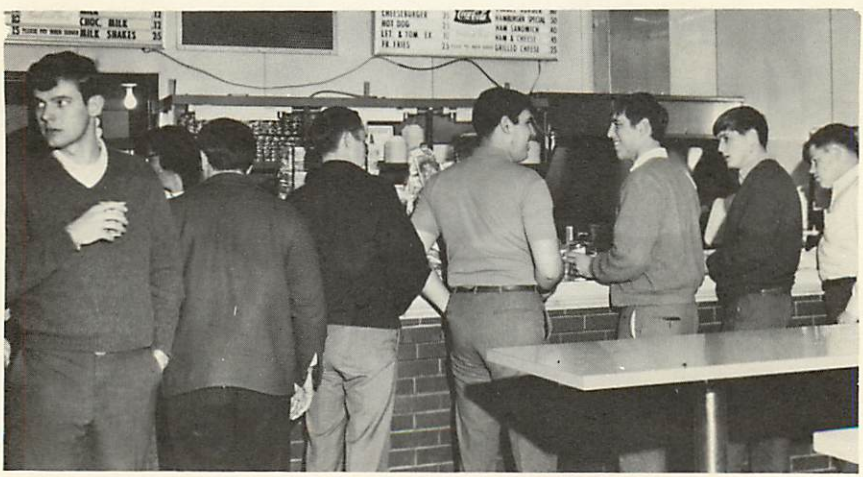
**Social Science** — provides experiences in social, economic, and political aspects of American culture. It gives the culturally immature student an opportunity to increase understanding of the forces impinging upon modern society and to develop skill in facing and dealing with change. Citizenship and interest in community are promoted.

## PREPARATORY BUSINESS CURRICULUM

### SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| Course No. & Title | | | C — L —CH |
|---|---|---|---|
| **First Quarter** | | | |
| MAT | 197 | Mathematics I | 5— 0 — 5 |
| ENG | 190 | Vocabulary and Reading I | 3— 2 — 4 |
| BUS | 194 | Bookkeeping I | 3— 2 — 4 |
| BUS | 195 | General Business I | 5— 0 — 5 |
| | | Elective | 0— 5 — 2 |
| | | | 16— 9 —20 |
| **Second Quarter** | | | |
| MAT | 198 | Mathematics II | 5— 0 — 5 |
| ENG | 192 | Vocabulary and Reading II | 3— 2 — 4 |
| BUS | 196 | Bookkeeping II | 3— 2 — 4 |
| BUS | 197 | Economics I | 5— 0 — 5 |
| | | Elective | 0— 5 — 2 |
| | | | 16— 9 —20 |

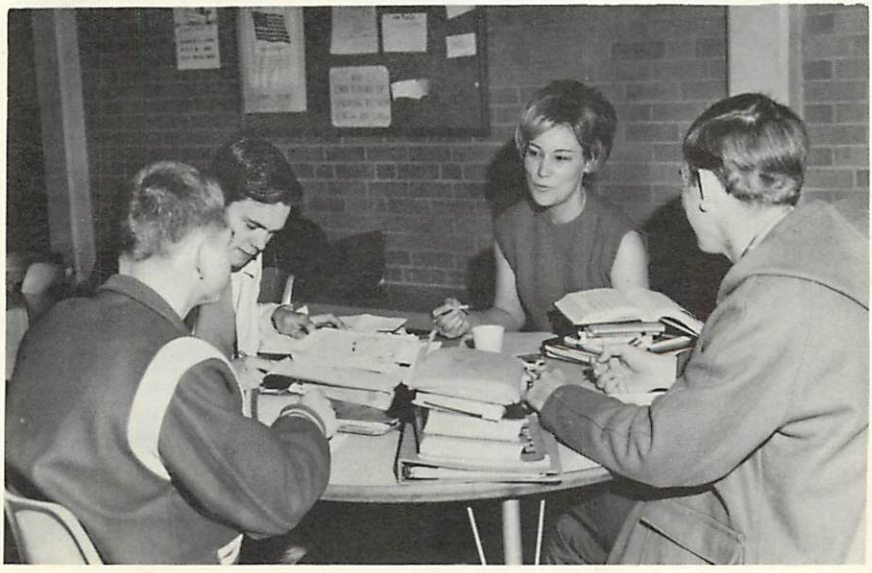
| Course No. & Title | | | C — L —CH |
|---|---|---|---|
| **Third Quarter** | | | |
| MAT | 199 | Mathematics III | 5— 0 — 5 |
| ENG | 193 | Practical English | 5— 0 — 5 |
| BUS | 198 | Bookkeeping III | 3— 2 — 4 |
| BUS | 199 | Economics II | 5— 0 — 5 |
| | | Elective | 0— 5 — 2 |
| | | | 18— 7 —21 |



# PREPARATORY TECHNICAL CURRICULUM

## SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| Course No. & Title | | | C — L —CH |
|---|---|---|---|
| **First Quarter** | | | |
| DFT | 190 | Mechanical Drawing I | 2— 2 — 3 |
| PHY | 190 | Physical Science I | 3— 2 — 5 |
| ENG | 190 | Vocabulary and Reading I | 3— 2 — 4 |
| MAT | 190 | Arithmetic—Geometry | 5— 0 — 5 |
| | | Elective | 0— 6 — 3 |
| | | | 13—12 —20 |
| **Second Quarter** | | | |
| DFT | 192 | Mechanical Drawing II | 2— 2 — 3 |
| PHY | 192 | Physical Science II | 3— 2 — 5 |
| ENG | 192 | Vocabulary and Reading II | 3— 2 — 4 |
| MAT | 192 | Algebra I | 5— 0 — 5 |
| | | Elective | 0— 6 — 3 |
| | | | 13—12 —20 |
| **Third Quarter** | | | |
| CIV | 193 | Introduction to Technology | 2— 2 — 4 |
| CHM | 193 | Chemistry | 3— 2 — 5 |
| ENG | 193 | Practical English | 5— 0 — 5 |
| MAT | 193 | Algebra II | 5— 0 — 5 |
| | | Elective | 0— 6 — 3 |
| | | | 15—10 —22 |



# PREPARATORY TRADE CURRICULUM

## SUGGESTED SEQUENCES OF COURSES BY QUARTERS

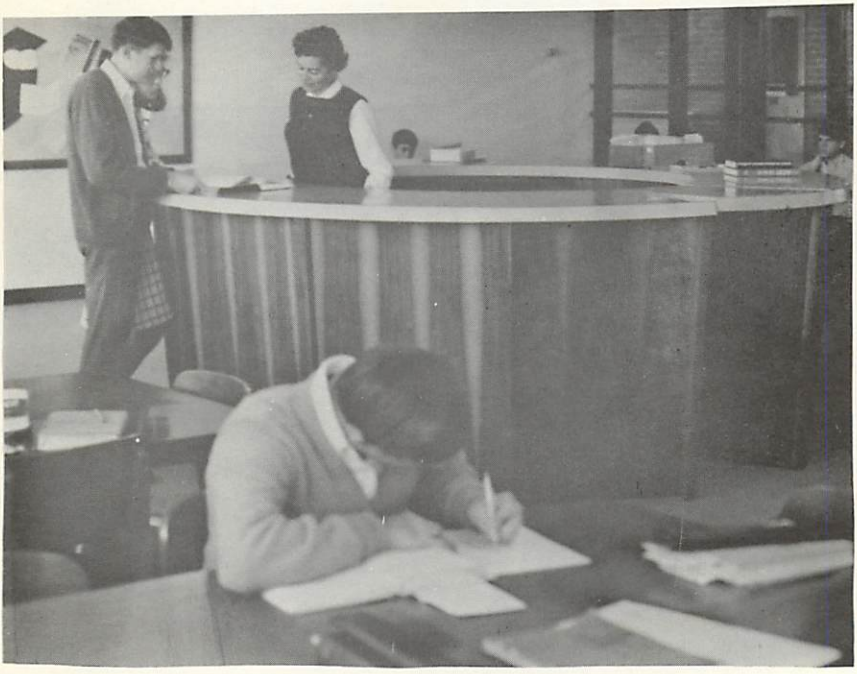
Course No. & Title

| First Quarter | | | C — L —CH |
|---|---|---|---|
| MAT | 194 | Mathematics I | 5— 0 — 5 |
| ENG | 190 | Vocabulary and Reading I | 3— 2 — 5 |
| PHY | 194 | Physical Science I | 2— 2 — 3 |
| WLD | 195 | Shop Practice (Welding) | 2— 4 — 4 |
| | | Elective | 0—10 — 3 |
| | | | 12—18 —20 |

| Second Quarter | | | C — L —CH |
|---|---|---|---|
| MAT | 195 | Mathematics II | 5— 0 — 5 |
| ENG | 192 | Vocabulary and Reading II | 3— 2 — 4 |
| PHY | 195 | Physical Science II | 2— 2 — 2 |
| MEC | 196 | Shop Practice (Machine) | 2— 4 — 4 |
| | | Elective | 0—10 — 3 |
| | | | 12—18 —18 |

Course No. and Title

| Third Quarter | | | C — L —CH |
|---|---|---|---|
| MAT | 196 | Mathematics III | 5— 0 — 5 |
| ENG | 193 | Practical English | 5— 0 — 5 |
| PHY | 196 | Physical Science II | 2— 2 — 2 |
| DFT | 193 | Elementary Drawing | 3— 3 — 4 |
| | | Elective | 0—10 — 3 |
| | | | 15—15 —19 |



# AIR CONDITIONING, HEATING, AND REFRIGERATION

C - L-CH

**AHR 1121 Fundamentals of Refrigeration I** 5—6—7

Terminology used in the trade, principles of refrigeration; identification of basic system components; introduction to and practice with tools and shop equipment found in the field today. Standard procedures and safety measures are included.

**AHR 1122 Fundamentals of Refrigeration II** 2—7—5

A follow-up course in basic refrigeration utilizing theory, procedures, tools, and equipment studied in first quarter's work. Strong emphasis is placed upon domestic refrigerators, freezers, and window air conditioning units. Machines with electrical and mechanical difficulties are brought in and repaired by the student. Refrigerant characteristics are studied. Manufacturers' service manuals are used in conjunction with text. Prerequisite: AHR 1121.

**AHR 1123 Commercial Refrigeration** 3—12 -7

Installation of common types of commercial refrigeration; problems and solutions prevalent in the commercial field, medium and low temperature units with electric, hot gas, reverse cycle and water defrost; use of manufacturers' catalogs in sizing and matching system components; system sketching and pipe symbols. Prerequisites: AHR 1122, PHY 1102.

**AHR 1124 Winter Air Conditioning I** 4—6—4

Introduction to heating systems; furnaces, boilers, steam and hot water piping; humidifiers, air movements and noise; heat loss and new terminology. Hot air and hot water systems will be installed, operated, checked and adjusted. Prerequisite: AHR 1123.

**AHR 1125 Principles of Air Conditioning** 5—0—5

Review of refrigerant cycle and characteristics of mechanical cooling equipment. Sensible and latent heat loads; air mixtures and dehumification; system capacity and air distribution; pipe schematics and component symbols. Prerequisites: AHR 1123, AHR 1124.

**AHR 1126 Sheet Metal Layout** 2—4—4

Practical duct layout and fabrication in shop; good duct fitting and system design is followed. Complete air handling systems are built, installed, checked and balanced. Metal and labor costs are reviewed and expounded. Prerequisite: AHR 1120.

**AHR 1127 Winter Air Conditioning II** **4—6—6**

Stress is placed upon the burner mechanism of the boiler or furnace. Piping and wiring; burner components and system controls both electrical and mechanical; operational problems involving diagnosis, procedure and service technique; oil and gas burner capacity and efficiency test; code and safety. Prerequisite: AHR 1124.

**AHR 1128 Control Systems** **2—3—5**

Review of basic electricity and simple circuitry for controls. System components for special applications. Electronic and pneumatic operations. Motor controllers and starters. Thermostats, solenoid pressure switches, oil failure controls. Motorized dampers and valves. Installation and service practice.

**AHR 1129 Air Conditioning Shop Practice I** **3—6—5**

A continuation of practice on all shop procedures encountered by the student to this point; work on air conditioning compressors, central installations and trouble shooting; sheet metal duct fabrication and installation; also duct insulation materials and procedures. Prerequisites: AHR 1123, AHR 1127.

**AHR 1130 Heat Pumps** **3—3—4**

Basic principles, air to air, water to air, earth to air heat pumps, coefficient of performance; reversing valves, unit controls, outdoor coil defrosting, heat capacity limits, supplementary strips, balance points and comparative cost of operation. Prerequisite: AHR 1125.

**AHR 1131 Absorption Systems** **3—3—4**

Basic absorption cycle, strong solution circuit, refrigerant circuit, system components, system controls, direct and indirect fired; advantages, disadvantages and applications. Prerequisite: AHR 1125.

**AHR 1132 Chilled Water Systems** **3—3—4**

Characteristics of water, principles of water chilling, the refrigerant circuit, the water circuit and pumps, basic motor controls, domestic and commercial applications; prevention of freezing; connections to hot water heating system; flexibility of equipment. Prerequisites: AHR 1124, AHR 1125.

**AHR 1133 Air Conditioning Shop Practice II** **3—6—5**

Emphasis on pipe work and water circuits with boilers and chillers; emphasis on control work with heat pumps, chillers and direct expansion air conditioning systems; fabrication and installation of motorized dampers automatically operated; strengthen all manipulative skills through practice. Prerequisite: AHR 1129.

**AHR 1134 Sheet Metal Fabrication** **0—6—2**

All popular types of sheet metal duct fittings are laid out, cut, formed and fabricated. Shop procedures are learned and all sheet metal equipment utilized. The trainee becomes proficient in the use of many hand tools and operations such as seaming, riveting, soldering, shearing, crimping and measuring are mastered.

**AHR 1135 Air Conditioning: Automotive** **1—3—2**

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.

## DRAFTING

**C - L-CH**

**DFT 193 Elementary Drawing** **3—3—4**

This is an introductory course in drawing and sketching for students needing a knowledge of drawing principles for reading blueprints, schematic and describing objects in the graphic language.

**DFT 1104 Blueprint Reading: Mechanical** **0—3—1**

Interpretation and reading of blueprints. Information on the basic principles of the blueprint; lines, views, dimensioning procedures and notes.

**DFT 1117 Blueprint Reading: Welding** **0—3—1**

A thorough study of trade drawings in which welding procedures are indicated. Interpretation, use and application of welding symbols, abbreviations, and specifications. Prerequisite: DFT 1104.

**DFT 1118 Pattern Development and Sketching** **0—3—1**

Continued study of welding symbols; methods used in layout of sheet steel; sketching of projects, jigs and holding devices involved in welding. Special emphasis is placed on developing pipe and angle layouts by the use of patterns and templates.

**DFT 1180 Drafting: Trade I** **2—3—3**

Fundamental drafting principles with instruction and practice in lettering, orthographic projection, working drawings. Introduction to the principles of sectioning, dimensioning, use of drawing instruments and the solution of geometrical problems are covered. This is an introductory course in drafting for students needing a knowledge of drawing principles for reading and describing objects in the graphic language.

**DFT 1181 Drafting: Trade II** **2—3—3**

The student continues the study of orthographic projection with emphasis on working drawings, detailing, isometric drawings, oblique drawings and principles of design. Study and practice is provided in elements of increased complexity. Also included is an introduction to fasteners, structures, welds, freehand sketching and schematic diagrams where applicable. Prerequisite: DFT 1180.

## MECHANICAL

**C - L-CH**

**MEC 196 Shop Practice (Machine)** **2—4—4**

Brief overview of machines that are used in the machine shop. Deals primarily with their identification, nomenclature of machine, elementary operation of the lathe, drill press, grinder, and milling machine. Simple project will be procedures using this equipment.

**MEC 1100 Machine Shop: Basic** **2—6—4**

Further develops skills in the use of basic measuring tools, acquaint the student with the procedures of layout work, correct method of using hand tools, basic fundamentals of drill press and lathe operation and hand grinding drills bits and lathe tools to meet needs common to the automotive shop.

**MEC 1101 Theory and Practice I** **3—12 -7**

An introduction to the machinist trade and the potential it holds for the craftsman. Deals primarily with the identification, care and use of basic hand tools and precision measuring instruments. Elementary layout procedures and processes of lathe, drill press, grinding (off-hand) and milling machines will be introduced both in theory and practice.

**MEC 1102 Theory and Practice II** **3—8—6**

Advanced operations in layout tools and procedures, power sawing, drill press, surface grinder, milling machine and shaper. The student will be introduced to the basic operations on the cylindrical grinder and will select projects encompassing all the operations, tools and procedures thus far used and those to be stressed throughout the course.

**MEC 1103 Theory and Practice III** **3—8—6**

Advanced work on the engine lathe, turning, boring and threading machines, grinders, milling machine and shaper. Introduction to basic indexing and terminology with additional processes on calculating, cutting and measuring of spur, helical, and worm gears and wheels. The trainee will use precision tools and measuring instruments such as vernier height gages, protractors, comparators, etc. Basic exercises will be given on the turret lathe and on the tool and cutter grinder. Prerequisites: MEC 1101, MEC 1102.

**MEC 1104 Structure of Metals** **3—2—4**

Elementary and practical approach to metals, their structure, markings, classifications and uses. Interpretation of properties and specifications of steels by use of manuals, catalogs, charts, etc. Prerequisite: PHY 1101.

**MEC 1105 Theory and Practice IV** **3—9—6**

Development of class projects using previously learned procedures in planning, blueprint reading, machine operations, final assembly and inspection. Additional processes on the turret lathe, tool and cutter grinder, cylindrical and surface grinder, advanced milling machine operations, etc. Special procedures faithfully and establishing of good work habits and attitudes acceptable to the industry. Prerequisites: MEC 1101, MEC 1102, MEC 1103.

**MEC 1106 Heat Treating Practices** **2—4—3**

Working knowledge of the methods of treating ferrous and nonferrous metals. The effects of hardening, tempering, and annealing upon the structure and physical properties of metals. Trainees will be given the opportunity to acquaint themselves with the equipment and processes of heat treating. Prerequisite: MEC 1104.

**MEC 1112 Machine Shop Processes** **0—6—2**

To acquaint the student with the procedures of layout work and the correct use of hand and machine tools. Experiences in the basic fundamentals of drill press and lathe operation; hand grinding of drill bits and lathe tools; set-up work applied to the trade.

**MEC 1151 Tool Making: Jigs & Fixtures** **2—9—5**

This course is designed to help the student become more proficient in working to very close tolerances. The student will learn the best methods of fastening parts together, clamping, and locating methods and the application of jigs and fixtures to production machining. Emphasis is stressed throughout on the quality of workmanship and precision tolerances.

**MEC 1152 Tool Making: Gages and Special Tools** **1—6—3**

A study of precision gages will be made. Special tools and their application to production studied. The student will have practice in making plug gages, ring gages, snap gages, etc. The student will also have project work in the making of special slide tools, form tools, and fly cutters.

**MEC 1153 Advanced Tool Making** **1—10-4**

A continuation of tool making practices. Project work consisting of complicated jigs and fixtures, including pneumatic operated fixtures and power clamping methods. Further instructions given in form grinding and form dressing procedures, surface, finishes, precision tolerances, and general tool making practices.

**MEC 1154 Die Making I** **2—6—4**

This course is designed to introduce the student to the principles of Dies and Die Making. Simple piercing and blanking dies will be studied and the student acquainted with terminology common to the trade. Accuracy, surface finish, importance of clearances, radiuses and the press cycle will be studied. Student will build and set up for production a simple die, working from blueprints and maintaining specified accuracy.

**MEC 1155 Die Making II** **2—9—5**

A continuation of the study of dies, the dangers of insufficient and excessive cutting clearances, and methods of providing angular clearances. Factors affecting stripping forces will be discussed along with bending stresses, deformation due to bending and the bend allowance curve. Student will build a form and bending die. Development of correct working habits and close tolerance machining is stressed.

**MEC 1156 Die Making III** **2—9—5**

The theory and design of progressive dies will be studied. The student will be given instruction in the location of pilots, the progressive cam stages, grinding operations, and blank development. The student will machine, assemble, and set up a coventional progressive die involving three or more stages. Further theory and practice is given in plastics molds.

**MEC 1158 Introduction to Plastic Molding** **2—9—4**

Due to the expanding use of plastics, the need for mold making has greatly increased. This course is designed to acquaint the student with the design and construction of simple molds, differences between molds and dies, surface finishes, closures, gates and runners, and ejection methods. Methods of cooling will also be discussed and the student will build a simple mold to prescribed accuracy and finish.

**MEC 1159 Blueprint Reading and Inspection** **2—2—3**

This course is to enable the tool and die student to correctly interpret the more complicated die drawings. Methods of machining complicated parts will be discussed and lab practice for inspection of die components will be held.

**MEC 1160 Special Problems** **1—6—3**

This course consists of projects that present problems as to machining methods and cost. Special projects will be presented in jig boring and duplicator work, short life jigs and welding fixtures and special angle radius and curicular problems; field trips, to acquaint the student more fully with needs for production tooling, will be a part of this course.

**MEC 1180 Industrial Specifications** 3—0—3

Organizing and studying machine tool and hand tool specifications, job sheets and procedure sheets. Catalogs, specification sheets, and manufacturer's handbooks serve as reference sources.

**MEC 1181 Precision Machines** 3—9—6

To develop skills and understanding of machining precision parts by use of cylindrical grinder, use of magnetic sine table in conjunction with surface grainer, use of optical measuring equipment and precision end rods on machines so equipped, and methods and procedures of checking and inspecting precision parts, maintaining good housekeeping and safe working habits in all phases.

**MEC 1182 Jig & Fixture Making** 3—9—6

Develop understanding of principle and work of jigs and fixtures. Fabricate simple jigs and fixtures to be used on course projects. Stimulate thinking concerning simplicity and safety features of the job and/or fixture while emphasizing accuracy of parts produced. Develop self confidence and pride in doing highly skilled work. Prerequisite: MEC 1181.

**MEC 1183 Machine Repair** 2—4—3

To acquaint the student with the basic fundamentals of repairing machine tools, emphasis being placed on the machine maintaining its original accuracy. Primary phases of this course will consist of hand scraping, of ways and use of precision straight edge, adjustment and tolerances of headstack bearing fitting and adjustment of gibs, methods of checking for squareness and correct center line distances. Good work habits and workmanship maintained throughout. Prerequisite: MEC 1181.

**MEC 1184 Advanced Machine Processes** 3—6—5

To further acquaint the student with advanced set-ups and operation of machines for mass production. Instruction will be given on the turret lathe, milling machine, cylindrical grinder and other production machines. To motivate the student to apply himself to find ways and means of improving methods of production and manufacturing processes.

## POWER MECHANICS

C - L-CH

**PME 1101 Automotive: Engines** 3—9—6

Development of a thorough knowledge and ability in using, maintaining, and storing the various hand tools and measuring devices needed in automotive repair work. Study of the construction and operation of components of automotive 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.

**PME 1102 Electrical & Fuel Systems** **3—12-7**

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 fuel, types of fuel systems, special tools, and testing equipment for the fuel and electrical system. Prerequisite: PME 1101.

**PME 1121 Front End and Brakes** **3—3—4**

This course covers in depth, steering geometry, steering linkage and front suspension systems. The braking system is studied and all phases of hydraulic and power brakes are covered. The use of special equipment such as front-end machines, brake-drum lathes and honing equipment is thoroughly studied. Much emphasis is placed on the practical aspects of service and repair procedures. Prerequisite: PME 1123.

**PME 1123 Chassis & Suspension** **6—9—9**

Principles and functions of the components of automotive chassis. Practical job instruction in adjusting and repairing of suspension, steering, and braking systems. Units to be studied will be shock absorbers, springs, steering systems, steering linkage, front end, types and servicing of brakes. Prerequisite: PME 1102.

**PME 1124 Power Train Systems** **3—9—6**

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. Prerequisites: PHY 1102, PHY 1103, PME 1123.

**PME 1125 Automotive: Servicing** **3—9—6**

Emphasis is on the shop procedures necessary in determining the nature of troubles developed in the various component systems of the automobile. Trouble shooting of automobile systems, providing a full range of testing, adjusting, repairing and replacing experiences. Prerequisite: PME 1123.

**PME 1180 Automotive Electronics** **1—3—2**

To supplement the engine electrical course for first-year students and help them develop a knowledge of transistor circuits and their application to conventional electrical components and circuitry.

**PME 1181 Automotive: Tune Up** **1—3—2**

This practical course, coming at the end of the second year, should help the student to increase his work experience with the more technical aspects of engine tune-ups and should develop his knowledge of the waveforms of the oscilloscope and other test units on the Tune-up Tester. The student should be able to put to practical use, the basic theory of electricity, storage batteries, ignition systems, cranking motors, charging circuits and engine principles which he has already learned. Prerequisite: PME 1123.

**PME 1182 Automatic Transmission** 6—6—8

In order to round out the Automotive Curriculum, a special course is incorporated here to give greater depth in the understanding of Automatic Transmissions. With the event of this type of transmission in the automotive field, a whole new area of service and repair has been opened to the Auto Mechanic. This course acquaints the student with the basic principles of all automatic transmissions and attempts to develop the student's skill in servicing and repairing most of the popular types of automatic transmissions. Prerequisite: PME 1124.

**PME 1183 Power Accessories** 5—4—6

This course is designed to acquaint the student with the operation, service and repair of power operated seats, windows, tops, windshield wipers, radio antennas, etc. It should insure the development of the student's ability to understand and trace out the circuits of the electrical accessories, to enhance his skill in diagnosing troubles and repairing damaged circuits. He will apply his knowledge in drawing and reading schematic diagrams of electrical circuits.

## PRACTICAL NURSE EDUCATION

C L Cl CH

**PN 1101 Vocational Adjustments I** 30 — 0 — 0 — 2

A study of the principles of good personal and vocational behavior of the Practical Nurse Student to enable her to work and communicate with ease and intelligence with the doctor, professional nurse, patient, and allied hospital employees. It is also designed to stimulate the interest of the student in public relations acceptable to the health of the community.

**PN 1102 Body Structure & Functions** 74 — 10 — 0 — 6

The course consists of a study of the skeletal structure, muscular construction and location, basic neural paths, functional body organs, glands, and the cooperate functions of the total human body. This course also includes a study of micro-organisms and their relationship to diseases.

**PN 1103 Nursing Skills I** 65 — 60 — 60 — 9

This course is designed to teach the Practical Nurse Student the principles involved in giving good nursing care. It is felt that if principles are understood, they can be adopted to many situations. In so far as possible, clinical nursing will coincide with classroom activity at the affiliating hospital in medical and surgical areas.

**PN 1104 Emergency & Disaster Nursing** 22 — 2 — 0 — 1

This course is designed to acquaint the Practical Nurse Student with measures of first aid and emergencies so she will be able to function efficiently until she has completed the course in Medical-Surgical Nursing.



**WLD 1112 Mechanical Testing and Inspection** 1—3—2

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, Charpgy impact, etc. Prerequisite: WLD 1121.

**WLD 1120 Oxacetylene Welding and Cutting** 3—9—6

Introduction to the history of oxyacetylene welding, the principles of welding and cutting, nomenclature of the equipment, assembly of 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 stressed throughout the program of instruction in the use of tools and equipment. Students perform mechanical testing and inspection to determine quality of the welds.

**WLD 1121 Arc Welding** 3—12-7

The operation of AC transformers and DC motor generator arc welding sets. Studies are made of welding heats, polarities, and process. After the student is capable of running beads, butt and fillet electrodes for use in joining various metal alloys by the arc welding 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.

**WLD 1122 Commercial and Industrial Practices** 3—9—6

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

**PN 1105 Nutrition & Diet Therapy** **36 — 12 — 0 — 4**

This course is designed to give the Practical Nurse Student an understanding of good nutritive and some knowledge of diet therapy. It is hoped that she will be able to apply this understanding to the dietary treatment of the more common diseases.

**PN 1106 Nursing Skills II** **32 — 24 — 0 — 3**

This course is designed as a continuation of Nursing Skills I in which the student has more practice with the skills and principles in the techniques needed in the nursing care of the patient.

**PN 1107 Medical & Surgical Nursing I** **38 — 0 —192— 8**

A course of study to help the Practical Nurse acquire a basic knowledge of medical and surgical nursing. This course deals with the cause of disease, treatment and prevention of disease, with the major emphasis on nursing care. The clinical period deals with nursing care given at the affiliating hospital in the Medical and Surgical area with continued department training.

**PN 1108 Nursing Care of Children** **36 — 0 — 96 — 5**

The purpose of this course is to consider the patterns of normal growth and development. In so far as possible, the classroom activity will center around discussions of normal growth and development and certain deviations. This course will parallel guided experiences in the care of the pediatric patient. This course is designed to help the student recognize the nursing needs of the sick child.

**PN 1109 Nursing Care of Mother & Newborn** **36 — 0 — 96 — 5**

A study of the child-bearing woman, dealing with conception, pregnancy, labor, and the puerperium, and the care of the newborn child, with nursing care experience in the obstetrical and nursery areas of the affiliation clinical areas.

**PN 1110 Medical & Surgical Nursing II** **46 — 0 — 0 — 2**

This course is designed to help the Practical Nurse Student to acquire knowledge for safely caring for the medical and surgical patient. This course deals with diseases of the skeletal, muscle, endocrine, genito-urinary, reproductive, nervous systems, conditions of the eye, ear, skin, and female breast conditions.

**PN 1111 Drugs and Administration** **30 — 9 — 0 — 2**

This course is designed to give the Practical Nurse Student a knowledge of drugs, the dangers involved in handling, laws regarding the use of drugs, side effects and skills in administering drugs intelligently and safely.

**PN 1112 Medical & Surgical Nursing III** **0 — 0 —216— 7**

This part of the training period deals with actual nursing care experiences of communicable diseases, nursing care of the aged, and to emphasize Vocational Adjustments. It is also designed to develop further skills in recognizing and meeting the needs of selected patients within the role of the Practical Nurse.



**PN 1113 Geriatrics** **24 — 0 — 48 — 4**

This course is designed to give the Practical Nurse Student a general background of information upon which she may build with her experiences. This information may be adapted for use in the home, the hospital, or other agencies.

**PN 1114 Family Units & Skills** **12 — 0 — 0 — 1**

This course is designed to acquaint the Practical Nurse Student with the skills in home management and family care in home illness, as well as her own personal home management.

**PN 1115 Mental Health** **24 — 0 — 0 — 3**

This course is designed to teach the Practical Nurse Student to understand her emotional needs in order to better understand and assist in the care of patients with psychosomatic illness.

**PN 1116 Vocational Adjustment II** **16 — 0 — 0 — 2**

This course is designed to help the Practical Nurse Student to acquire the knowledge of ethics that are appropriate to the Practical Nurse in obtaining and holding a position and to give her an added insight into the moral and legal aspects associated with her nursing activities.

**PN 1117 Communicable Diseases** **24 — 0 — 0 — 2**

This course is designed to acquaint the Practical Nurse Student with common diseases which may be transmitted from one person to another and to teach her asepsis, isolation technique, and prevention of communicable diseases.

## VOCATIONAL

**C - L-CH**

**VOC 299 Cooperative Training** **0—15 -5**

Provides the student with an opportunity to pursue, under staff supervision, work experience in a specialized field. Periodic confer-

**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. Prerequisite: WLD 1124.

**WLD 1180 Basic Welding** **2—4—3**

A short course in welding, both oxy-acetylene and electric, designed as a helping course for Automotive Mechanics, Air Conditioning and Refrigeration Trade, Drafting, Sheet Metal and Machine Shop. This course covers a minimum of technical facts, and designed to teach the student to weld in the flat position only with electric arc, and oxy-acetylene.

## PURPOSE OF GENERAL EDUCATION TRAINING AT FAYETTEVILLE TECHNICAL INSTITUTE

While Fayetteville Technical Institute curriculums are designed primarily to meet educational needs of students interested in occupational education, this person must also develop a strong general educational base in Math, Psychology, Science, English, Economics, and Literature. To meet the challenges he encounters today in a complex and changing world, all curriculums, whether they are leading to the Associate of Applied Science Degree or a Diploma, have built into them a core of general education that will meet the various interests, aptitudes, and needs of the student.

# BIOLOGY

C - L-CH

**T-BIO 101 Introduction to Biological Principles** **3—2—4**

An introduction to the biological principles; a study of the chemical and physical properties of the living cell; selected laboratory experiments to reinforce lectures.

**T-BIO 104 Anatomy & Physiology** **3—2—4**

A study of the structure of the human body and the normal functions of its system including the cells and tissues. Laboratory involves microscopic techniques, but emphasis is placed upon gross anatomy. Prerequisite: T-BIO 101.

**T-BIO 105 Anatomy and Physiology** **3—2—4**

A continuation of T-BIO 104 including a study of human excretory, reproductive and endocrine systems; special senses; metabolism; immunity. Laboratory techniques to reinforce lecture. Prerequisite: T-BIO 104.

**T-BIO 110 Applied Biology** **3—2—4**

A basic course in biology with emphasis on microorganisms and laboratory procedures for the identification and differentiation of organisms peculiar to the water and liquid waste treatment processes and stream sanitation.

**T-BIO 111 Basic Microbiology** **3—2—4**

Scope and history of microbiology, classification of microorganisms, protozoa, fungi, viruses, microscopy, bacterial physiology, saprophytic bacteria, culture media and methods, sterilization and disinfection, germicides, sources of infection, microbes and disease, skin infections. The study of several pathogenic bacteria associated with water and food, natural and acquired resistance to bacteria, and respiratory disease-producing microbes. Prerequisite: T-BIO 110.

**BIO 201 General Zoology** **5—0—5**

A comprehensive study of the animal kingdom, with special emphasis on the morphology, anatomy, physiology, genetims and ecological relationships. Co-requisite with ENG 201.

**BIO 202 General Botany** **5—0—5**

A comprehensive study of the plant kingdom with special emphasis on morphology, anatomy, physiology, taxonomy and ecology.

# CHEMISTRY

C - L-CH

**T-CHEM 101 Chemistry** 4—2—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.

**T-CHEM 105 Chemistry** 4—2—5

General course in inorganic chemistry. Properties of acids, salts, bases, and solutions. Chemical and physical properties of selected inorganic elements are studied in detail. Laboratory work will consist of various inorganic tests and experiments. Prerequisite: T-CHEM 101.

**T-CHEM 106 Chemistry** 4—2—5

General principles and theories of organic chemistry. Preparations, formulas, and properties of the most important organic compounds, with a brief description of synthetic compounds of commercial value in addition to the main vitamins, antibiotics, and hormones. Prerequisite: T-CHEM 105.

**T-CHEM 107 Agricultural Chemistry** 4—2—5

Course dealing with the application of inorganic and organic chemistry principles to fertilizers, pesticides, and soil science. Pesticides formulation, testing, and properties. Soil and fertilizer methods of analysis used in North Carolina and their interpretations. Prerequisites: T-CHEM 101, T-CHEM 105, T-CHEM 106.

**T-CHEM 110 Chemistry for Nurses** 3—2—4

A study of selected topics from inorganic chemistry, organic chemistry, and biochemistry. Selected laboratory experiments to illustrate major principles of inorganic, organic, and biochemistry.

**T-CHEM 185 Chemistry** 3—0—3

Introduction of the physical and chemical properties of substances, chemical changes, elements, compounds, gases, atomic structure, electrochemistry and nomenclature; theory of metals; acids, bases, salts, solvents, solutions and emulsions. Emphasis is placed on application to the electronics industry. Prerequisite: High School Chemistry or T-CHEM 101.

**CHEM 193 Chemistry** 3—2—5

Chemistry course covering scientific methods, metric system, properties of matter, atomic theory and weight electron, compounds, equations, gas solution, hydrogen, oxygen. All areas covered through laboratory experiments.

## ECONOMICS

C - L-CH

**T-ECO 102 Economics** 3—2—4

The fundamental principles of economics including the institution 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.

**T-ECO Economics** 3—2—4

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 economics problems. Prerequisite: T-ECO 102.

**T-ECO 108 Consumer Economics** 3—0—3

Designed to help the student use his resources of time, energy, and money to get the most out of life. Provides the student an opportunity to build useful skills in buying, managing his finances, increasing his resources, and better understanding the economy in which he lives.

**T-ECO 205 Applied Economics** 3—0—3

A practical course in applied economics as it relates to man and his efforts to make a living. These economic endeavors will include forms of money, kinds of wages, uses of purchasing power, basic types of insurance, the importance of the effects of the business cycle, and the relationship of value to price based on the laws of supply and demand. The role of government in the economy, a look at such problems as governmental services, governmental controls over such agencies as banking and credit institutions, and the justification of government spending will be undertaken. Free enterprise and its place among world economic systems will also be examined.

## ELECTRICITY

C - L-CH

**T-ELC 101 Fundamentals of Electricity** 4—6* -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, series and parallel, resonant and non-resonant transformer analysis.

**T-ELC 102 Fundamentals of Electricity II** 4—6—6

Elementary principles of electricity including: electron emission, vacuum tubes and characteristics, photo tubes, gas tubes, special-purpose tubes, basic diode power supply analysis, introduction to non-linear resistive control devices. Prerequisite: T-ELC 101.

**T-ELC 205 Applied Electricity** 2—4—4

Electrical code, interpretation of nameplate data motor characteristics and selection, motor controls and protection devices, single-phase and three-phase current applications, wire size calculations and Wye and Delta connections. Prerequisite: T-PHY 103.

## ENGLISH

C - L-CH

**ENG 101 English** 3—0—3

A brief history of the English language and review of grammar with particular emphasis on composition and expository writing.

**T-ENG 101 Grammar** 3—0—3

This course is designed to aid the student in the improvement of self-expression in English through proper grammar usage. The approach is functional with emphasis on grammar, diction, sentence structure, punctuation, and spelling. It is intended to stimulate students application of the basic principles of English grammar in their day-to-day situations in industry and social life.

**ENG 102 English** 3—0—3

A continuation of ENG 101 with special emphasis on reading, expository writing and speaking, with an introduction to poetry and the short story.

**T-ENG 102 Composition** 3—0—3

This course is designed to aid the student in the improvement of self-expression in business and technical composition. Emphasis is on the structure of the sentence, the paragraph and the whole composition. Prerequisite: T-ENG 101.

**ENG 103 English Masterpieces in the Social Sciences** 3—0—3

A continuation of ENG 101 and ENG 102 introducing the novel and with increased emphasis on writing and speaking on topics related to contemporary social problems. Corequisite with HIS 103.

**T-ENG 103 Report Writing** 3—0—3

The fundamentals of English are utilized as background for the organization and technique 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 relevant to his curriculum is required of each student at the end of the term. Prerequisite: T-ENG 102.

**ENG 190 Vocabulary Reading I** 3—2—4

This course is a remedial reading and vocabulary development course which is devoted primarily to developing good reading skills and habits. It includes dictionary skills, word attacks, reading speed and comprehension all directed toward reading ability.

**ENG 192 Vocabulary and Reading II** 3—2—4

This course is a continuation of reading and vocabulary development by carefully combining reading machine and book. These skills will transfer into a language program providing opportunity to transfer reading skills into writing areas.

**ENG 193 Practical English** 5—0—5

This course is intended to stimulate students in applying the basic principles of Engish grammar, sentence structure, punctuation and spelling in expressing themselves in writing. Practice will be given in writing, note taking, and studying. Proper use of the library for reference work will be stressed.

**ENG 201 English Masterpieces in the Natural Sciences** 3—0—3

A continuation, introducing the essay and with emphasis on writing and speaking on topics related to man in his biological and physical environment. Corequisite with BIO 201.

**ENG 202 English Masterpieces in the Humanities** 3—0—3

A continuation drawing from all literary forms with emphasis on expository writing and speaking on man and philosophy. Corequisite with PHI 202.

**ENG 203 Creative Writing** 3—0—3

Creative writing laboratory. Emphasis on imaginative writing with special emphasis on essays, short stories, and poetry.

**T-ENG 204 Oral Communication** 3—0—3

A study of basic concepts and principles of oral communications is conducted to enable the students to communicate with others. Emphasis is placed on the speaker's attitude, diction, voice, and the application of particular techniques to correct faculty speaking habits, and to produce effective oral presentation. Particular attention given to conducting meetings, conferences, and interviews. Prerequisite: T-ENG 101.

**T-ENG 206 Business Communications** 3—0—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, spot announcements for radio and television as well as letters involving credit, collections, adjustments, complaints, orders, acknowledgments, remittances, and inquiry are also included in this course.

**T-ENG 207 Introduction to Literature** 3—0—3

A continuation of T-ENG 101 including an introduction to the short story and drama; written analyses. Prerequisite: T-ENG 101.

## HISTORY

C - L-CH

**HIS 101 World Civilization** 3—0—3

A survey of the cultural beginnings of Eastern and Western civilizations, dealing with migrations, cultural diffusion, and the development of governmental and ethical structures through the fall of the Roman Empire.

**HIS 102 World Civilization** 3—0—3

A continuation of HIS 101 from the Middle Ages, through the Renaissance, the Voyages of Discovery, Colonization, the Reformation, and the Age of Enlightenment.

**HIS 103 World Civilization** 3—0—3

A continuation beginning with the Industrial Revolution, the impact of industrial imperalism, the American and French Revolutions, the rise of political democracy and modern nationalism to the present. Corequisite with ENG 103.

*Manipulative laboratory

## MATHEMATICS

C - L-CH

**MAT 101 Modern Mathematics** 5—0—5

An introduction to mathematical concepts necessary for effective citizenship. The course includes sets, the development of number systems, an introduction to probability, algebra and statistics.

**T-MAT 101 Technical Mathematics** 5—0—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 coordinate 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.

**MAT 102 Introduction to Logic** 5—0—5

Emphasis on both inductive and deductive logic with particular attention to the bases of scientific evidence, probability theory, hypothetical and categorical syllogisms, causation and common fallacies.

**T-MAT 102 Technical Mathematics** 5—0—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. Prerequisite: T-MAT 101.

**T-MAT 103 Technical Mathematics** 5—0—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. Applications of these concepts to practical situations are stressed. Prerequisite: T-MAT 102.

**T-MAT 110 Business Mathematics** 5—0—5

This course stresses the fundamental operations and their application to business problems. Topics covered include payrolls, price marking, interest and discount, commission, taxes, and pertinent uses of mathematics in the field of business.

**MAT 190 Arithmetic and Geometry** 5—0—5

A review of the basic operations of arithmetic to include fractions, decimals, percentage, and square root. Fundamental properties and definitions of geometry; theorems of the straight line, angles, triangles and circles; areas and volumes of plane and solid figures. Practical application of each concept.

**MAT 192 Algebra I** 5—0—5

Basic concepts and operations of algebra, algebraic symbols, signed numbers, equations of the first degree, special products and factoring, operations with fractions, fractional and literal equations, problem solving.

**MAT 193 Algebra II** 5—0—5

A continuation of MAT 192. Systems of first-degree equations in two and three variables; graphing equations; complex numbers; elementary theory of equations.

**MAT 197 Pre-Trade Mathematics** 5—0—5

The meaning of number and numerals. Reading numerals - operations with whole numbers: addition, subtraction, multiplication, division, basic operations with sets and subsits — prime and composite numbers, factors and multiples of numbers, common fractions, decimal fractions, relationship between whole numbers, common fractions, and decimal fractions. Practical problems illustrating each operation.

**MAT 198 Mathematics I** 5—0—5

The meaning of per cent. Relationship between per cent, fractions, and decimals. Computing percentages, principal amounts and rates, squares and square roots, numbers of various bases - expanded notation. Basic geometry of lines, measurements and scales, planes and space, right triangles, indirect measurement, numerical trigonometry of right triangles.

**MAT 199 Mathematics II** **5—0—5**

The meaning and measurements of angles. Reading and drawing angles, application of angles to navigation, measurement of areas, volumes, weight, time, and speed. Metric system.

**T-MAT 286 Technical Mathematics** **3—0—3**

A continuation of T-MAT 103 to include graphs and derivatives of the trigonometric functions, expontential and logarithmic differentiation and integration, polar and parametric equations, and mathematical series. Emphasis is placed on electronic problem solving. Prerequisite: T-MAT 103.

**T-MAT 285 Applied Mathematics** **3—0—3**

The theory of logarithms is reviewed and extensive computations are made using common logarithms. Solutions of triangles are studied in depth, using definitions of the trigonometric functions, the sine law, the cosine law, the tangent law, tangent formulas for half angles, and area formulas with emphasis on logarthmic computations. The forms for differentiation are reviewed. The integral and basic integration forms are studied and applied to areas and volumes. Various techniques of integration are investigated along with their application to physical problems. Prerequisite: T-MAT 103.

## MUSIC AND ART

**C - L-CH**

**MUS 101 Music Appreciation** **3—0—3**

Designed to give a basic orientation to music with emphasis on simple form and analysis, instrumentation, aesthetics, masterpieces and other significant works.

**ART 101 Art Appreciation** **3—0—3**

An introduction to fundamental elements and principles of creative art expression emphasizing composition, design, shape, value, styles, and movements.

## PHILOSOPHY

**C - L-CH**

**PHI 202 Introduction to Philosophy** **3—0—3**

An introduction to philosophic world frames emphasizing cosmology, ontology, epistemology, and axiology. Corequisite with ENG 202.

**PHI 203 Contemporary Issues** **3—0—3**

A culminating interdisciplinary course dealing with the basic economic, social, scientific and moral issues confronting human society.

## PHYSICAL SCIENCE

C - L-CH

**NSC 101 Physical Science** 5—0—5

A study of facts, principles, theories and basic concepts from the areas of astronomy, geology and climatology. Special emphass will be given to evaluation of landscapes, effects of glaciers, streams, wind, weather, and the geological timetable.

## PHYSICS

C - L-CH

**T-PHY 101 Physics: Properties of Matter** 3—2—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.

**T-PHY 102 Physics: Work, Energy, Power** 3—2—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-PHY 101, T-MAT 101.

**T-PHY 103 Physics: Electricity** 3—2—4

Basic theories of electricity, types of electricity, methods of production, and transmission and transforming of electricity. Electron theory, electricity by chemical action, electricity by friction, electricity by magnetism, induction voltage, amperage, resistance, horsepower, wattage, and transformers are major parts of the course. Prerequisite: T-PHY 101, T-MAT 101.

**T-PHY 104 Physics: Light and Sound** 3—2—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. Prerequisites: T-MAT 101, T-PHY 101.

**PHY 190 Physical Science I** 3—2—5

Introductory physics and its application in fundamental concepts, fluids, simple and compound machine, work, energy, power, heat. Selected experiments are performed by students in the laboratory.

**PHY 192 Physical Science II** 3—2—5

A study of sound, light, color, magnetism, static electricity, ELEC current and circuits, electromagnetism and alternating current. Demonstration and lab selected experiments will be conducted by the student.

**PHY 196 Physical Science III** 2—2—2

An introductory course to learn scientific skills in basic physics that are directly used in industry. Demonstration and audio-visual media are used extensively to give added support to the course.

**T-PHY 231 Fluid Mechanics** 3—2—4

Fundamental laws of fluid flow and application of these laws to the sizing of hot and cold water piping, steam piping, refrigerant piping, air ducts, pumps, and fans. Particular emphasis will be directed to calculations of capacity, horsepower, and head requirements of pumps and fans; to comparison of the several methods of piping and air duct sizing; and to methods of fluid flow measurement. Prerequisites: T-MAT 103, T-PHY 102.

## PROGRAMMED INSTRUCTION

C - L-CH

**T-EDU 298 Special Problems** 4—0—4

This course is designed to broaden the person's background. Problems will be selected to meet the interest of the individual as well as develop skills and competencies in a given area. Programmed laboratory procedures will be used whereby special projects, reports and study will be developed by the individual.

## PSYCHOLOGY

C - L-CH

**T-PSY 101 Introduction to Psychology** 3—0—3

Introductory survey of the field of psychology wherein the student becomes better acquainted with a human being as a biological-social organism. Topics covered include history of psychology development, the scientific method in psychology, theory of statistical concepts, intelligence, motivation, emotions and learning.

**T-PSY 112 Personality Development** 3—0—3

Designed to help the student recognize the importance of the physical, intellectual, social, and emotional dimensions of personality. Emphasis on grooming and methods of personality improvement.

**T-PSY 202 Human Growth & Development** 3—0—3

Physical and psychological growth and development from infancy to adulthood with consideration of the social, biological and cultural influences upon growth.

**T-PSY 203 Psychology of Personality and Adjustment** 3—0—3

A study of the totality of the characteristics of people including emotional trends and behavioral tendencies of individuals. Focus will be on man's conflicts within himself and others and an understanding of various mechanisms used to cope with these conflicts. Prerequisite: T-PSY 101.

**T-PSY 204 Abnormal Psychology** 3—0—3

The principle abnormal phases of behavior, and the ways by means of which the individual develops abnormal habits of thinking and acting. A survey of the signs of beginning maladjustment and procedures which may be followed to correct these tendencies. Special attention is given to the prevention and treatment of mental disease. Prerequisite: T-PSY 101.

**T-PSY 206 Applied Psychology** 3—0—3

A study of psychology as it relates to the individual and his work will be undertaken. Emphasis will be placed on the adaptability of an individual to his working and social environment. The transition from school to work, factors affecting job selection, job satisfaction, and personality adjustment will be considered in an effort to familiarize the individual with the basic problems that he must face in society. Identification with social groups will be studied in order to gain a better understanding of the whole-self and how it is affected by motivation, frustration and psychological interrelationships.

## SOCIAL SCIENCE

C - L-CH

**T-SOC Introduction to Sociology** 3—0—3

A study of the fundamental principles and concepts of sociology, with emphasis on contemporary American institutions in relation to technological change, ethnic groups, population trends and social control.

**T-SOC Marriage & the Family** 5—0—5

A study of the family as a social institution—its origins and development, its forms and functions, its interrelation with other social institutions, and its role in contemporary civilization. In connection therewith a study is made of sex development differentations, social relationships between the sexes, and factors contributing to or mitigation against successful, stable marriages.

**T-SOC 207 Rural Society** 3—0—3

A study of selected elements or rural sociology with emphasis on current social changes. The course provides a sociological background for the understanding of rural social changes. Areas of study include rural culture, group relationships, social classes, rural and suburban communities, farm organizations, the communication of agricultural technology, rural social problems, agricultural adjustment and population change.

**T-SSC 205 American Institutions** 2—2—3

A study of the effect American social, economic, and political instructions 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.

## ELECTRICITY

C - L-CH

**ELC 1180 Basic Electricity** 3—0—3

This course includes the following topics: electron theory, production of electricity by chemical action, friction and magnetism, induction, voltage, amperage, horsepower and wattage, transformers, wiring and resistance. Some emphasis placed on connecting up arc welders and electric motors.

## ENGLISH

C - L-CH

**ENG 190 Vocabulary and Reading I** 3—2—4

This course is a remedial reading and vocabulary development course which is devoted primarily to developing good reading skills and habits. It includes dictionary skills, word attacks, reading speed and comprehension, all directed toward improved reading ability.

**ENG 192 Vocabulary and Reading II** 3—2—4

This course is a continuation of reading and vocabulary development by carefully combining reading machine and book. These skills will transfer into a language program providing opportunity to transfer reading skills into writing areas.

**ENG 193 Practical English** 5—0—5

This course is intended to stimulate students in applying the basic principles of Engish grammar, sentence structure, punctuation and spelling in expressing themselves in writing. Practice will be given in writing letters, note taking, and studying. Proper use of the library for reference work will be stressed.

**ENG 1100 Vocabulary and Reading I** 3—2—4

This course is a remedial reading and vocabulary development course which is devoted primarily to developing good reading skills and habits. It includes dictionary skills, word attacks, reading speed and comprehension, all directed toward improved reading ability.

**ENG 1101 Grammar** 3—0—3

This course is designed to aid the student in the improvement of one's expression in business and technical composition. The approach is functional with emphasis on grammar, diction, sentence structure, punctuation, and spelling. It is intended to stimulate students in the application of the basic principles of English grammar in their day-to-day situations in industry and social life.

**ENG 1102 Industrial Communications** 3—0—3

This course stresses the development of one's ability to communicate effectively with other individuals through the medium of good language usage in speaking and writing, to think more clearly, and to reason more forcefully in work problems pertaining to his job. Prerequisite: ENG 1101 or ENG 1100.

**ENG 1103 Report Writing** 3—0—3

This course includes a brief review of English grammar, spelling, and punctuation followed by a concentrated effort in the application of the fundamentals of good writing: sentence structure, proper development of descriptive reporting, and the mechanics of report construction. Practice in writing letters and various report forms will be given and some time will be devoted to oral speech and note taking. Prerequisite: ENG 1102.

## MATHEMATICS

C - L-CH

**MAT 194 Mathematics I** 5—0—5

Fundamentals of Arithmetic. The meaning of numbers and numerals, reading numerals, operations with whole numbers, sets and subsets, prime and composite numbers, factors and multiples of numbers, common fractions, decimal fractions, and practical problems illustrating each operation.

**MAT 195 Mathematics II** 5—0—5

A continuation of MAT 194. The meaning of per cent, relationship between per cent, fractions, and decimals. Percentages, principal amounts, and rates, squares and square roots, numbers with various bases, expanded notations, basic geometry of lines and angles, measurements and scales, planes and space, right triangles, simple numerical trigonometry.

**MAT 196 Mathematics III** 5—0—5

A continuation of MAT 195. The meaning and measurement of angles, reading, and drawing angles. Application of angles to navigation, measurement of areas, volumes, weight, time, and speed. The Meters System.

**MAT 1101 Mathematics: Fundamentals** 5—0—5

Practical number theory. Analysis of basic operations: addition, subtraction, multiplication, and division. Fractions, decimals, powers and roots, percentages, ratio and proportion. Plane and solid geometric figures used in industry; measurement of surfaces and volumes. Introduction to algebra used in trades. Practice in depth.

**MAT 1102 Mathematics: Algebra** 5—0—5

Basic concepts and operations of algebra; historical background of our base-10 number system; algebraic operations: addition, subtraction, multiplication, and division; fractions, letter representation,

rouping, factoring, ratio and proportions, variation; graphical and lgebraic solution of first degree equations; solution of simultaneous quations by: addition and substraction, substitution, graphing, exponents, logarithms, tables and interpolation.

**MAT 1103 Geometry** **3—0—3**

Fundamental properties and definition; plane and solid geometric figures, selected general theorems, geometric construction of ines, angles and plane figures. Dihedral angles, areas of plane igures, volumes of solids. Geometric principles are applied to shop perations.

**MAT 1105 Mathematics for Nurses** **30—0—3**

Basic arithmetic procedures: addition, subtraction, multiplication, division; common fractions; decimal fractions; percentages; atio and proportion; Roman numerals, metric and apothecaries ystems of weights and measures; fahrenheit and centigrade scales; olutions and dosages.

**MAT 1123 Mathematics: Machinist I** **5—0—5**

Fundamental geometric concepts and construction of plane and olid figures, surface and volume measurements, and related problems, introduction to trigonometry of the right triangle. Introduces gear ratio, lead screw and indexing problems with emphasis on application to the machine shop. Practical applications and problems furnish the trainee with experience in geometric propositions and trigonometric relations to shop problems; concludes with an introduction to compound angle problems. Prerequisite: MAT 1101.

**MAT 1151 Mathematics: Trigonometry** **3—0—3**

A review of trigonometric functions and tables and solution of problems involving right triangles. Problem solving by resolving figures into right triangles and relationships between trigonometric functions. Solutions of oblique triangles, the sine and cosine laws, problems involving tapers, the sine bar, precision discs, taper plus gages, angles, and circular arcs.

**MAT 1152 Mathematics: Trigonometry** **3—0—3**

This course consists basically of the fundamentals of solid geometry and trigonometry of compound angles, problem solving from pictoral drawings of compound angular holes, tilting angles and angles of rotation, and problems having tool and die application.

**MAT 1180 Mathematics: Machinist II** **5—0—5**

Fundamental concepts of plane trigonometry. Functions of the acute angle. Functions of any angle. Relationships between the functions. Trigonometric tables, interpoation, solution of right triangles. Law of sines, law of cosines, solution of oblique triangles. Logarithms. Practice in depth on machine shop problems. Prerequisite: MAT 1123.

## PHYSICS

C - L-C

**PHY 194 Physical Science I** 2—2—

To introduce the student to the fundamental concepts that ar directly related to our physical world; acquaint the student with th scientific facts upon which the major concept and theories of scienc depend. To give a practical approach to science through laborator exercises and demonstration.

**PHY 195 Physical Science II** 2—2—

Designed to make an analysis and general study of the variou fields of work, energy, power and properties of matter, heat, ligh and sound and applied electricity. Emphasis will be placed on ac quiring the basic concepts and the application of these concepts t our physical environment and work.

**PHY 1101 Properties of Matter** 3—2—

Introductory physics and its applications. Systems of measure ment, theory of matter, properties of solids, liquids, and gases.

**PHY 1102 Applied Physics: Electricity** 3—2—

Basic principles of electricity, types of electricity, and its pro duction, transmission, and transformation. Such factors as the electron theory, electrical measurement, magnetism, electromag netism, and the magnetic effects of electricity constitute major area of study. Prerequisite: PHY 1101.

**PHY 1103 Work, Energy, Power** 3—2—

Physical principles of force, energy, work and power; equili brium and the laws of motion; principles of machines, mechanica advantage, and transmission of power in practical applications an the use of vectors and graphical presentations. Prerequisites: PH 1101, MAT 1101.

## PROGRAMMED INSTRUCTION

C - L-CH

**EDU 1298 Special Problems** 4—0—

This course is designed to broaden the person's background Problems will be selected to meet the interest of the individual a well as develop skills and competencies in a given area. Programmed laboratory procedures will be used whereby special projects, report and study will be developed by the individual.

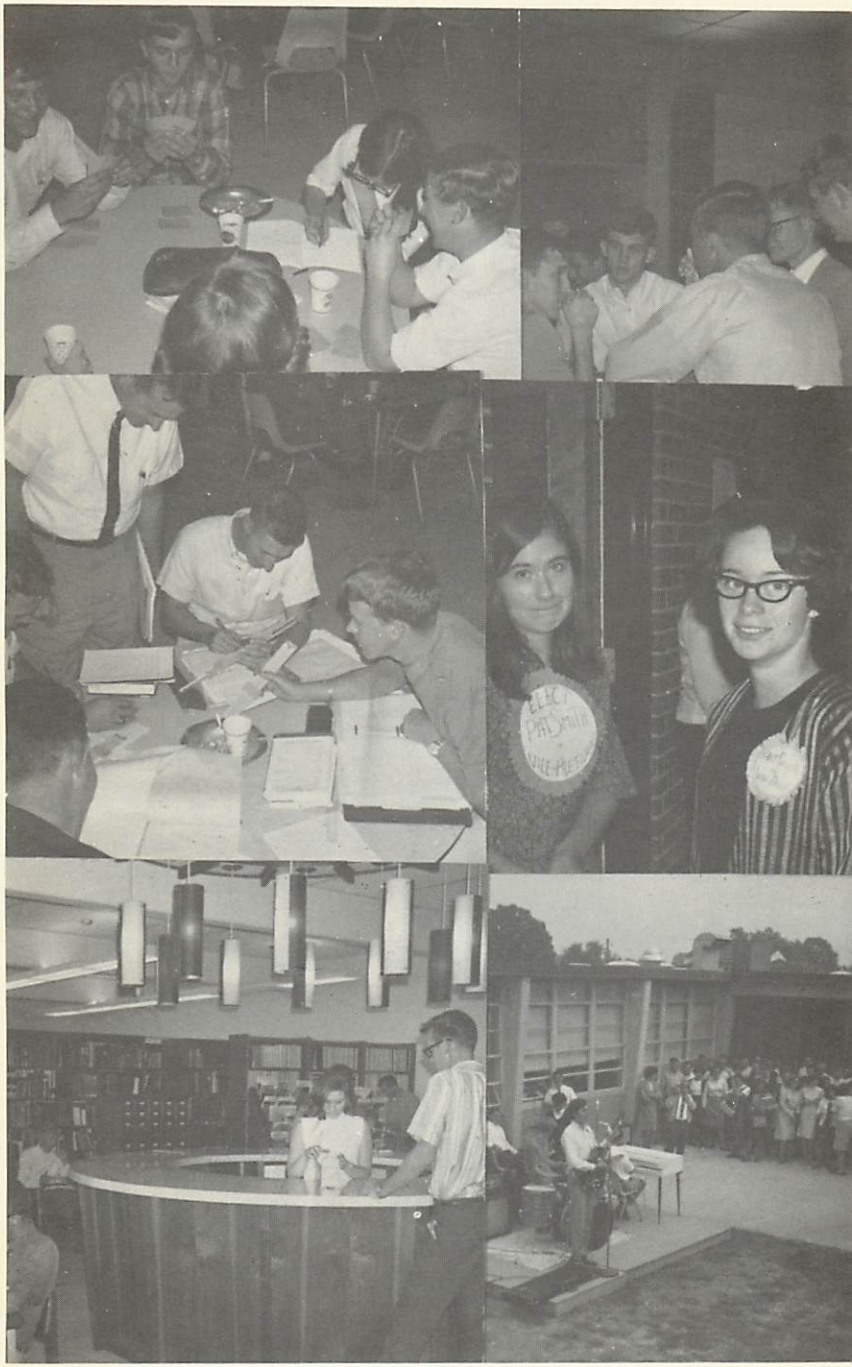
## SOCIAL SCIENCE

**SY 1105 Applied Economics** 3—0—3

Designed to help the student understand present-day economic roblems. Topics include: production, consumption, exchange and istribution, money and credit, business fluctuations, labor and anagement relations, and challenges to our system of free enterrise.

**SY 1106 Applied Psychology** 3—0—3

This course studies the procedures of building an efficient, enusiastic business team and deals with the nature of the problems hich arise in business organizations. The individual and his beavior are discussed, as well as the problems of influence and uthority.



# PROPOSED CURRICULUMS

## (1969 - 1970)

Fayetteville Technical Institute is constantly striving to meet the needs of both industry and the student through the expansion of its curriculum offerings.

Fayetteville Technical Institute has been authorized to offer the following curriculums by the State Board of Education and the Department of Community Colleges leading to the Associate of Applied Science Degree or Diploma:

**Associate Degree**

Dental Hygienist

**Vocational - Diploma**

Cosmetology
Dental Assistant

# DENTAL HYGIENE CURRICULUM

The dental hygienist is the dentist's "good right hand". Her relationship with the dentist is the same as the physician-nurse relationship, and the hygienist is a well-trained person in her field as the registered nurse is in hers.

The primary function of the dental hygienist is to assist the dentist in providing oral health care to the public. She applies her knowledge and skill either in the office of the private dental practitioner, or in health education activities.

Specifically, the hygienist may perform some or all of the following functions: clean and polish teeth; polish fillings; assist in administering anesthetics; expose, process and mount x-rays; make instrumental examination; chart examination findings; apply caries (decay) preventive agents; assist the dentist; sterilize instruments; remove over-hanging margins; provide dental health education; and engage in any practice within the oral cavity that is included in the curriculum of a recognized school of dental hygiene.

The students will receive instruction in general anatomy and physiology, nistology, pathology, chemistry, bacteriology, hygiene, public health, dental anatomy, nutrition, pharmacology, first aid, dental health education, ethics and economics, speech, English composition, sociology, psychology, dental materials, radiology, typing, human relations, records, clinical dental hygiene, and electives.

Our curriculum must conform to the demands and requirements, and satisfy the educational, professional, ethical and legal standards of the American Dental Association Council on Dental Education, the North Carolina State Department of Community Colleges, the North Carolina State Board of Dental Examiners, the American Dental Hygienists Association, the North Carolina Dental Society and the North Carolina Dental Hygienists Association. The curriculum is designed for six quarters of instruction.

# DENTAL HYGIENE CURRICULUM

## SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| Course No. and Title | | | |
|---|---|---|---|
| **First Quarter** | | | **C — L —CH** |
| T-ENG | 101 | English (Grammar) | 3— 0 — 3 |
| T-CHEM | 101 | Chemistry | 2— 2 — 3 |
| T-DEN | 103 | First Aid | 1— 2 — 2 |
| T-BIO | 101 | Biology (General | 3— 2 — 4 |
| T-DEN | 101 | Dental Hygiene and Ethics | 2— 0 — 2 |
| T-DEN | 102 | Dental Anatomy | 2— 2 — 3 |
| T-BUS | 102 | Typewriting | 0— 5 — 2 |
| | | | 13—13 — 19 |
| **Second Quarter** | | | **C — L —CH** |
| T-ENG | 102 | Composition | 3— 0 — 3 |
| T-CHEM | 122 | (DH) Bio-Chemistry | 3— 2 — 4 |
| T-BIO | 122 | Anatomy and Physiology | 2— 2 — 3 |
| T-BIO | 123 | Histoloty and Embryology | 2— 2 — 3 |
| T-DEN | 123 | Dental Office Practice and Dental Materials | 2— 4 — 4 |
| T-DEN | 124 | Dental Anatomy | 2— 2 — 3 |
| | | | 14—12 —20 |
| **Third Quarter** | | | **C — L —CH** |
| T-ENG | 103 | Report Writing | 3— 0 — 3 |
| T-BIO | 134 | Microbiology | 3— 4 — 5 |
| T-DEN | 135 | Dental Manikin Practice | 2— 6 — 5 |
| T-DEN | 137 | Hygiene | 2— 0 — 2 |
| T-DEN | 136 | Radiology | 1— 2 — 2 |
| T-BIO | 136 | Anatmoy and Physiology | 3— 2 — 4 |
| | | | 14—14 —21 |

| Course No. and Title | | | |
|---|---|---|---|
| **Fourth Quarter** | | | **C — L —CH** |
| T-ECO | 205 | Applied Economics | 3— 0 — 3 |
| T-DEN | 207 | Pharmacology | 3— 0 — 3 |
| T-DEN | 208 | Clinical Dental Hygiene | 0—12 — 4 |
| T-DEN | 209 | Preventive Dentistry | 4— 4 — 4 |
| T-DEN | 210 | General Pathology | 2— 0 — 2 |
| T-DEN | 211 | Dental Health Education | 2— 2 — 3 |
| | | | 14—18 —19 |
| **Fifth Quarter** | | | **C — L —CH** |
| T-DEN | 222 | Clinical Dental Hygiene | 0—12 — 4 |
| T-DEN | 223 | Dental Lab Practice | 2— 2 — 3 |
| T-DEN | 224 | Oral Pathology | 2— 0 — 2 |
| T-DEN | 225 | Anesthesia | 2— 0 — 2 |
| T-DEN | 226 | Public Health and Practice | 2— 4 — 3 |
| T-PSY | 206 | Applied Psycholoy | 3— 0 — 3 |
| | | | 11—18 —17 |
| **Sixth Quarter** | | | **C — L —CH** |
| T-ENG | 204 | English (Oral Communication) | 3— 0 — 3 |
| T-SOC | 201 | Introduction to Sociology | 3— 0 — 3 |
| T-DEN | 236 | Clinical Dental Hygiene | 0—12 — 4 |
| T-DEN | 237 | Special Dental Practice | 2— 2 — 3 |
| T-DEN | 234 | School Health Services | 2— 2 — 3 |
| T-DEN | 233 | Nutrition | 3— 0 — 3 |
| | | | 13—16 —19 |

# COSMETOLOGY

This course outline is planned to meet the requirements of the North Carolina Board of Cosmetics Arts. Twelve hundred hours of instruction covers a period of ten months, which is equivalent to two hundred school days at the rate of five days per week and six hours per day.

The first quarter of instruction consists of the fundamentals of ethics, history, theory and practice. The acquisition of correct habits and skills is stressed. The class activities include practical lessons, lectures, demonstrations, student practice on wefts and patrons.

The second quarter of instruction places more emphasis on manipulative skills. Practical work is done almost exclusively on patrons and models.

In the third quarter the students are capable of doing work unassisted and are equipped for the state examination and outside employment. Each student, prior to filing an application to the Cosmetic Arts Board of examination, is given a test both theoretical and practical.

Cuts hair according to patron's instructions or according to original style (barber). Combs and waves patron's hair (hairdresser), occasionally suggesting or creating new and varied coiffures to meet individual needs (hair stylist). Tints or dyes hair (hair dyer). Gives hair and scalp treatments in accordance with standardized methods (scalp-treatment operator). Applies various lotions, creams, and packs to patron's face to clean or treat skin, remove wrinkles, and to apply cosmetics (facial operator). Cleans, shapes, and polishes patron's nails (manicurist).

## SUGGESTED SEQUENCES OF COURSES BY QUARTERS

| Course No. and Title | | | |
|---|---|---|---|
| **First Quarter** | | | **C — L —CH** |
| COS | 1101 | Introduction to Cosmetology | 3— 4 — 5 |
| PSY | 1102 | Personality | 1— 2 — 2 |
| BIO | 1103 | Bacteriology | 2— 1 — 2 |
| COS | 1104 | Sterilization | 1— 3 — 2 |
| BIO | 1105 | Anatomy | 4— 7 — 7 |
| CHEM | 1106 | Chemistry | 3— 2 — 4 |
| COS | 1107 | Safety | 1— 1 — 0 |
| | | | 15—20 —22 |
| **Second Quarter** | | | **C — L —CH** |
| COS | 1120 | Hair, Shampoo, and Rinse | 0— 1 — 0 |
| COS | 1121 | Scalp Treatments | 1— 2 — 2 |
| COS | 1122 | Haircutting | 1— 2 — 2 |
| COS | 1123 | Hair Styling | 1— 8 — 4 |
| COS | 1124 | Permanent Waving | 2—12 — 6 |
| COS | 1125 | Tinting and Bleaching | 1— 3 — 2 |
| COS | 1126 | Safety | 1— 0 — 1 |
| | | | 7—28 —17 |

| Course No. and Title | | | |
|---|---|---|---|
| **Third Quarter** | | | **C — L —CH** |
| COS | 1130 | Theory of Massage | 2— 1 — 2 |
| COS | 1131 | Skin | 1— 1 — 2 |
| COS | 1132 | Facials | 1— 3 — 2 |
| PHY | 1105 | Electricity and Electrolysis | 1— 3 — 2 |
| COS | 1133 | Nails, Manicuring | 2— 4 — 3 |
| COS | 1134 | Disorders of Hair, Skin, and Nails | 4— 3 — 5 |
| COS | 1135 | Management | 2— 4 — 4 |
| | | | 13—20 —20 |

# DENTAL ASSISTANT

Dental assisting is one of the fastest-growing occupations for women today. The role of the dental assistant has evolved from that of receptionist only to that of a fully participating member of the dental team; primary emphasis is on chairside assisting, although she continues to perform numerous duties related to office management, patient relations, and laboratory procedures. The dental profession now recognizes the contribution the dental assistant can make to extension of services and increased productivity of the dental office. Projected needs call for a five-fold expansion in numbers of graduates and continued improvements in the quality of training programs.

The duties of the dental assistant vary somewhat, depending on the number of auxiliary workers employed. In some offices, the assistant is responsible for all three areas described below; in others, she may be responsible for only one area.

In rendering chairside assistance to the dentist, the dental assistant is responsible for placing instruments for use, keeping the operating field clear during treatment, preparing restorative materials and dental cements, passing materials and instruments during dental procedures, and care of the operatory after use. In the laboratory of the dental office, she may make models of the teeth and mouth, cast inlays and crowns, process exposed X-ray films and mount finished X-rays. In acting as office manager and receptionist, she receives patients, arranges appointments, records treatments, keeps accounts, maintains inventories, and orders supplies.

The specific objectives that will be developed in the four quarters of instruction are: understanding of the business procedures of the dental office; understanding of principles and beginning skill in the procedures of chairside assisting, including effective patient relationships; and understanding of principles and beginning skills in performance of selected laboratory procedures commonly carried out in the dental office.

| Course No. and Title | | | |
|---|---|---|---|
| **First Quarter** | | | **C — L —CH** |
| DEN | 1100 | Introduction to Dental Assisting | 2— 0 — 2 |
| DEN | 1101 | Dental Materials | 2— 9*— 5 |
| DEN | 1102 | Preclinical Sciences | 3— 3*— 4 |
| ENG | 1101 | English Grammar | 3— 0 — 3 |
| BUS | 102 | Typing | 2— 3*— 3 |
| | | | 12—15 —17 |
| **Second Quarter** | | | **C — L —CH** |
| DEN | 1120 | Preclinical Sciences II | 4— 0 — 4 |
| DEN | 1121 | Clinical Procedures I | 5— 9*— 8 |
| DEN | 1122 | Dental Accounting | 3— 2*— 4 |
| ENG | 1102 | Communication Skills | 3— 0— 3 |
| | | | 15—11 —19 |
| **Third Quarter** | | | **C — L —CH** |
| DEN | 1130 | Clinical Procedures II | 5— 6*— 7 |
| DEN | 1131 | Dental Office Practice I | 0—12*— 4 |
| DEN | 1132 | Dental Office Management | 4— 3*— 5 |
| ENG | 1103 | Report Writing | 3— 0 — 3 |
| | | | 12—21 —19 |

*Manipulative Laboratory

# DEPARTMENT OF ADULT EDUCATION

## General Information

Another important function of Fayetteville Technical Institute is to provide educational opportunities for adults interested in upgrading their ability, developing new skills, completing high school, or participating in special interest classes. Adult Education courses are generally non-credit and short in duration when compared to curricula programs, but are helpful in providing adults with immediate employment opportunities or job advancement.

Due to the increased number of students and variety of programs, Fayetteville Technical Institute entered into an agreement with the Cumberland County Board of Education to cooperatively sponsor Adult Education Courses in the public schools of Cumberland County. These schools have been designated as Adult Education Centers and are an integral part of the total Adult Education Program of Fayetteville Technical Institute.

## Purposes

The general purposes of the Department of Adult Education are:

(1) to administer and supervise a broad program of adult education and to include instruction which prepares adults for better family living, more job opportunities, promotion in present employment and civic and community leadership;
(2) to provide educational opportunity for adults interested in upgrading their ability, developing new skills and expanding their cultural and avocational interest;
(3) to be in contact with local industry, to study and determine educational needs of industrial employees;
(4) to plan and supervise instructional programs and conduct in-service training programs for instructors of adult education.

## Admission

Any adult living within a commuting distance is eligible to attend adult education classes offered by Fayetteville Technical Institute either on-campus or at any of the several Adult Education Centers in Cumberland County. Any student admitted to a class must have reached his eighteenth birthday or he may be a high school graduate of any age.

## Fees

A nominal instructional and supply fee is charged for the majority of adult education classes. All fees must be paid before the first class session and may be refunded only in the event the class is canceled. Books and supplies are available through the Fayetteville Technical Institute Book Store. The book store facilities are also available for students enrolled in the Adult Educational Centers.

### Certificates and Diplomas

Fayetteville Technical Institute issues a certificate of participation to each student completing a course and attending 80 per cent of the class hours required for completion. Adult High School diplomas are awarded those adults meeting the requirements in the Adult High School Program.

### Transcripts

Transcripts of previous high school records are required of those students enrolled in the Adult High School Diploma Program. Students should contact the last school attended requesting their transcript to be forwarded to the Director of Adult Education of Fayetteville Technical Institute.

Adults interested in securing additional information about adult education courses, should contact the Director of Adult Education, Fayetteville Technical Institute, P. O. Box 5236, Fayetteville, North Carolina, 28303.

### Adult Basic Education

Adult Basic Education is a program designed with but one major purpose - that is to assist adults who wish to improve their skills in oral and written communication, arithmetic, basic science, and social studies. Classes meet two nights weekly in the local communities where there is a sufficient number of interested adults.

There is no registration fee required and materials are provided by the Fayetteville Technical Institute. All materials used have been especially prepared for adults with emphasis on individual needs and interests.

Level I: the basic fundamentals of reading, writing, and arithmetic are stressed in Level I. The course is designed to bring adults to a functional level whereby individual study is possible. Some basic science and social studies are introduced at this level.

Level II

Level II is a continuation of the first level with more individual study and a greater scope of subject matter including science and social studies. With the completion of Level II, the adult should be equipped to go into the Adult High School program.

### The Adult High School Diploma Program

The Adult High School Diploma Program provides adults eighteen years of age and older the opportunity to receive the Adult High School Diploma. A student may enter the program by presenting a transcript of previous work or by taking an achievement test battery given by Fayetteville Technical Institute and being placed on his educational grade level indicated by his scores made on the test battery.

To be eligible to receive an Adult Diploma, one must attend class at least two quarters and score twelth grade, fifth month achievement on a complete test battery.

The Adult Diploma Program will be offered at the Massey Hill and Armstrong High Schools.

### The Fundamentals Learning Laboratory

The purpose of the Learning Laboratory is to make available to the community and the student body of Fayetteville Technical Institute an opportunity to learn new subjects, strengthen weak areas of learning, or to study and qualify for a high school equivalency diploma. It serves as a remedial clinic for aspiring students and a programmed classroom for adults who desire new or specialized training.

The Learning Laboratory enables a person, at any educational level, to further his knowledge in any of forty subjects. This is a new approach to education with the use of programmed materials and teaching machines.

There are no regularly scheduled classes. The prospective student may come into the laboratory at any time his daily schedule will permit. The laboratory is open from 8 a.m. to 3 p.m. Monday through Fridays and from 7 p.m. to 10 p.m. Monday through Thursday. This approach to learning may be pursued by anyone over 18 years of age who is motivated and desires self-improvement, regardless of educational background.

Subjects available in programmed instruction include: English, social studies, mathematics, foreign languages, reading skills, and science.

### General Adult Education

Cultural and recreational programs are offered on a limited basis through the Adult Education Department. Courses of this nature are designed to meet the special interests of adults and are offered on a self-supporting basis. Courses such as Art, Interior Design, Flower Arrangement, and other special interests classes are available. Any course of a special interest nature can be offered when there are sufficient numbers of individuals interested in participating.

### Extension Education

Extension education includes those educational programs which are occupational oriented providing adults an opportunity to learn new skills and to upgrade and improve their ability. Students who are employed normally attend extension classes during the non-working hours to increase their skills and understanding; to improve their competency; and to qualify for advancement. Extension classes are available as a part of the evening program at Fayetteville Technical Institute and the local Adult Education Centers. Special classes may be organized within an industry using the classroom and shop facilities of the industry.

Extension courses do not count toward a diploma or a degree but a certificate of participation is awarded by the Institute to those who complete a course.

Extension Education encompasses many and varied needs of adults and provides an opportunity for Fayetteville Technical In-

stitute to develop classes to meet these needs. Extension education also provides an opportunity for Fayetteville Technical Institute to be a comprehensive school in that many adults do not participate in curricula programs. Extension education courses which are available include:

Health Occupations
Fire Service Training
Law Enforcement Training
Supervisory Development Training
Seminars and Conferences
Business Education
Hospitality Training
Agriculture Technology
Trade and Industry
Apprenticeship Training

### Manpower Development Training

The purpose of MDTA is to establish an effective program to alleviate conditions of substantial and persistent unemployment and under-employment in economically distressed areas in the United States.

Students enrolled in MDTA programs are selected by the North Carolina Employment Security Commission without regard to ability, aptitude, or physical condition and are referred to the MDTA Division Chairman at Fayetteville Technical Institute. Adults must be at least 18 years of age or older. Fayetteville Technical Institute is responsible for administering and supervising MDTA classes.

There are no MDTA programs in operation at Fayetteville Technical Institute at the present time.

### New and Expanding Industry Education

The purpose of new and expanding industry education is that of cooperating with industry in a effort to provide an adequate trained labor force to meet the needs of a rapidly expanding industrial development in North Carolina. Individuals learn basic skills required by a particular job in a company, equipping North Carolina with a labor force possessing saleable skills which should lead to more gainful employment.

New Industry Training is accomplished by using On-the-Job Training, Pre-employment training or a combination of both.

This training program is set up to train only that number of individuals for which the participating industry can assure jobs upon successful completion of their training.