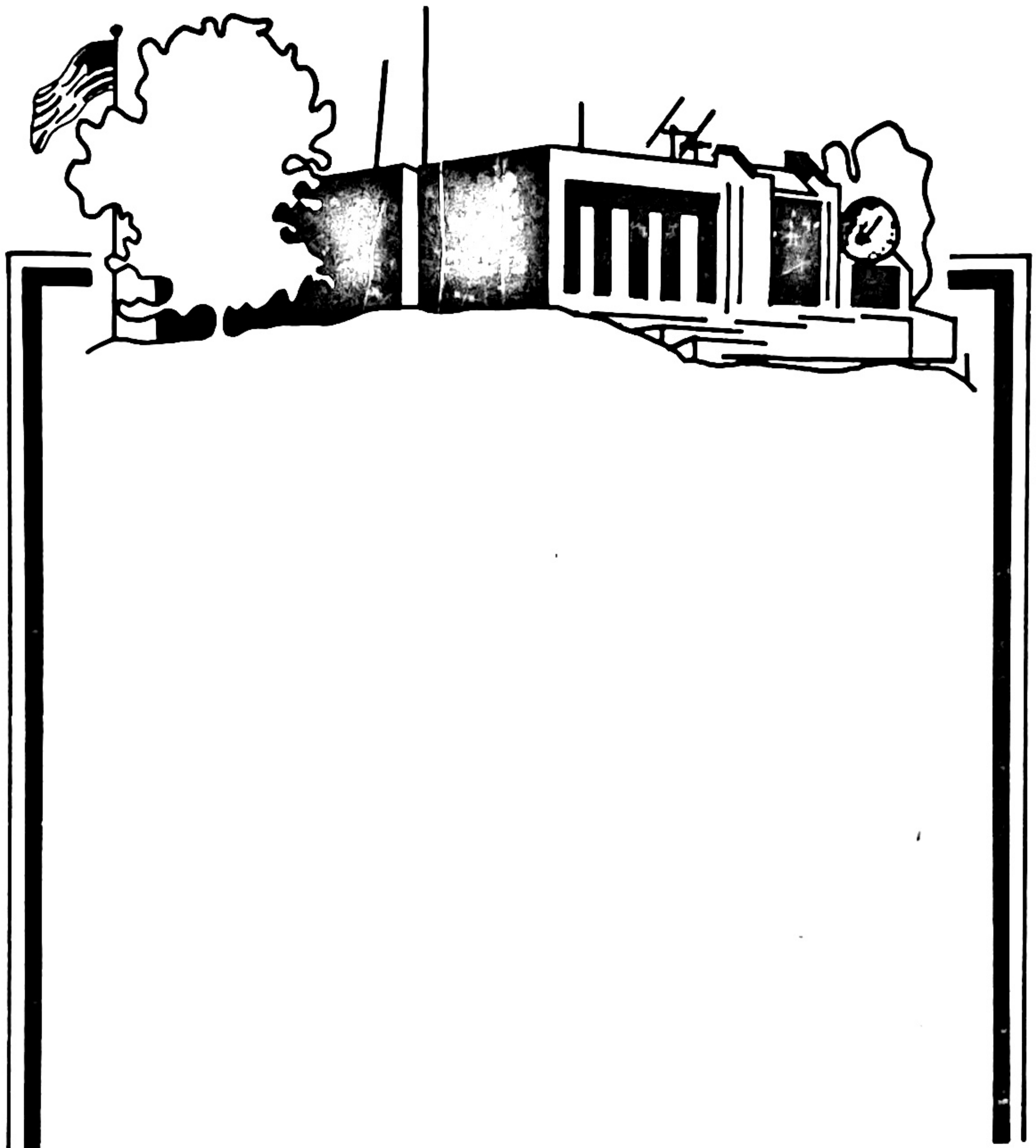

SOUTHWESTERN TECHNICAL COLLEGE 1984-86 CATALOG

Southwestern Technical College operates within the North Carolina Department of Community College system. The College is accredited by the Southern Association of Colleges and Schools. The College is also approved and recognized by the North Carolina State Board of Registration for Professional Engineers and Land Surveyors, North Carolina Board of Cosmetic Arts, and Board of Nursing.

Southwestern Technical College operates in compliance with Title VI of the Civil Rights Act of 1964. No qualified person shall, on the grounds of race, color, national origin, sex or age, be excluded from participation in, be declined the benefits of, or be subjected to discrimination under any program or activity.

The College complies with Section 504 of the Rehabilitation Act of 1973 and makes every effort to insure that handicapped persons are recruited, admitted and have equal access to all services and facilities.

Southwestern Technical College issues this catalog to furnish prospective students and other interested persons with information about the college and its programs. Announcements contained herein are subject to change without notice and may not be regarded in the nature of binding obligations on the College or State.

Southwestern Technical College is an equal employment opportunity college.

SOUTHWESTERN TECHNICAL COLLEGE

SYLVA, NORTH CAROLINA 28779

CATALOG 1984-1986

AN INSTITUTION
OF
THE NORTH CAROLINA DEPARTMENT
OF COMMUNITY COLLEGES

Mailing Address:	Southwestern Technical College 275 Webster Road Sylva, NC 28779-9578
Telephone Numbers:	704-586-4091 (Main Campus) 704-497-7233 (Swain County Office) 704-524-6421 (Macon County Office)

Visitors are always welcome at Southwestern Technical College. The Administrative Offices are open Monday through Thursday from 8 a.m. to 10 p.m. and Friday from 8 a.m. to 5 p.m. Visitors desiring interviews with members of the staff are urged to make appointments in advance.

THE COLLEGE

Southwestern Technical College is located on Highway 116 in Jackson County on a picturesque hillside between Webster and Sylva, fifty miles southwest of Asheville, North Carolina and ninety miles southeast of Knoxville, Tennessee.

Southwestern Technical College was founded in 1964 as an area vocational institute, operating within the North Carolina Community College System. The primary service area established was Jackson, Macon, and Swain counties, the main campus being in Jackson County. The name has evolved from the area vocational school, to a technical institute, to a college.

Southwestern Technical College's unique facilities make education an experience to remember. The modern fifty acre campus is designed to support the wide variety of instructional programs offered by the college. The campus now has five major buildings.

The Vocational Building, constructed in 1964, was remodeled, enlarged and modernized extensively in 1975 to accommodate the College's expanding vocational courses. This facility houses the general administrative offices, supportive staff, and over eight vocational/technical programs, including classrooms, labs, and faculty offices.

The Admissions Office is located in the Technical Building together with student services, financial aid, job placement, registrar, counseling, and veterans service. Also, this building provides space for eight vocational/technical programs, bookstore, and a receptionist area.

The Services Building contains classroom space, dining room, student center, and a multi-purpose auditorium. A variety of extra curricular activities take place in this building from commencement exercises to intramural sports.

The most recent additions to the Campus are the Learning Resource Center completed in 1983, which also houses the College media production center and the Trades Center Building which provides classroom and laboratory facilities for six vocational/technical programs.

BOARD OF TRUSTEES

Chairman
Charles S. Slagle

Vice Chairman
Jeanne Sneed

Governor's Appointment

Talmadge Lee Jones
Bryson City — 1985

Cecil Brooks
Cullowhee — 1987

Hattie Morris
Cherokee — 1989

Charles Jerry Sutton
Franklin — 1991

County Commission Appointment

Robert Blanton
Whittier — 1989

Robert C. Carpenter
Franklin — 1985

Catherine Dillard
Cullowhee — 1991

Charles S. Slagle
Franklin — 1987

Board of Education Appointment

W. Paul Holt, Jr.
Sylva — 1987

Earl F. Hooper
Sylva — 1989

William H. Smith
Sylva — 1991

Jeanne Sneed
Bryson City — 1985

Student Representative

Gary Jamison
Sylva

PRESIDENT'S MESSAGE

Southwestern Technical College is a dynamic, vibrant institution dedicated to meeting the educational needs and aspirations of today's students. We pride ourselves on our commitment to quality instruction and personalized student attention. Our wide variety of vocational, technical, and general education courses are relevant to the society of the 1980's and offered in a small two year college atmosphere.

The future is bright and the present is challenging at Southwestern Technical College. The dedicated and highly skilled faculty and attractive campus are indicative of the many advantages the College offers. As Southwestern Technical College continues to serve, grow, and improve—it is indeed southwestern North Carolina's "Technical Alternative."

MISSION

The Community College System in North Carolina provides for those beyond the normal high school age, 18 years or older, whether they are high school graduates or not, appropriate, economical, nearby learning opportunities. These opportunities range, depending on individual needs and previous educational achievement, from the first grade level through the second year of college, including vocational, technical, and general adult training to all of suitable age who wish to learn and can profit from the instruction provided.

The mission of Southwestern Technical College is to provide convenient learning opportunities for people of the area by offering vocational, technical and developmental programs and general adult education courses to any individual beyond high school age. These courses and programs will better prepare individuals to join the labor market as new employees, qualify them for employment opportunities in new and existing industry, provide specific skills training, and encourage personal improvement, self-satisfaction, and an understanding of the responsibilities and privileges of citizenship.

Specifically stated, the objectives are:

To provide educational opportunities for adults desiring to continue their education.

To provide inexpensive, nearby educational opportunities for high school graduates.

To provide vocational programs for individuals seeking employment in trades.

To provide two-year technical programs for individuals desiring employment in business and industry.

To provide programs of vocational education for employed adults needing training, retraining or wishing to gain personal benefit from the program.

To provide suitable courses for individuals desiring to enrich their lives and to continue personal growth.

To offer testing, guidance and educational counseling services to students and prospective students as well as to any other person in the area who has need of such service.

COLLEGE CALENDAR 1984-85

1984
SUMMER QUARTER
44 days

Registration ..... Friday, June 22
First Day of Classes ..... Monday, June 25
Holiday ..... Wednesday, July 4
Commencement ..... Thursday, August 23
End of Quarter ..... Friday, August 24

1984
FALL QUARTER
55 Days

Student Orientation ..... Tuesday, September 4
Registration ..... Wednesday, September 5
First Day of Classes ..... Thursday, September 6
End of Quarter ..... Wednesday, November 21

1984-85
WINTER QUARTER
55 Days

Professional Development Day ..... Tuesday, November 27
Registration ..... Wednesday, November 28
First Day of Classes ..... Thursday, November 29
Holiday Recess ..... Monday, December 24-Friday, January 4
Classes Resume ..... Monday, January 7
End of Quarter ..... Wednesday, February 27

1985
SPRING QUARTER
55 Days

Registration ..... Wednesday, March 6
First Day of Classes ..... Thursday, March 7
Easter Break ..... Friday, April 5-Monday, April 8
Commencement ..... Thursday, May 23
End of Quarter ..... Friday, May 24

COLLEGE CALENDAR 1985-86

1985
SUMMER QUARTER
50 Days

Registration ..... Monday, June 3
First Day of Classes ..... Tuesday, June 4
Independence Day Break ..... Thursday, July 4-Friday, July 12
Commencement ..... Wednesday, August 21
Quarter Ends ..... Wednesday, August 21

1985
FALL QUARTER
55 Days

Professional Development Day ..... Monday, September 9
Student Orientation ..... Tuesday, September 10
Registration ..... Wednesday, September 11
First Day of Classes ..... Thursday, September 12
Quarter Ends ..... Wednesday, November 27

1985-86
WINTER QUARTER
55 Days

Registration ..... Monday, December 2
First Day of Classes ..... Tuesday, December 3
Holiday Recess ..... Monday, December 23-Friday, January 3
Quarter Ends ..... Monday, March 3

1986
SPRING QUARTER
55 Days

Registration ..... Monday, March 10
First Day of Classes ..... Tuesday, March 11
Easter Break ..... Friday, March 28-Monday, March 31
Memorial Day ..... Monday, May 26
Commencement ..... Thursday, May 29
Quarter Ends ..... Thursday, May 29

COLLEGE CALENDAR 1986-87

1986
SUMMER QUARTER
50 Days

Registration ..... Monday, June 2
First Day of Classes ..... Tuesday, June 3
Independence Day Break ..... Friday, July 4-Friday, July 11
Commencement ..... Wednesday, August 19
Quarter Ends ..... Wednesday, August 19

1986
FALL QUARTER
55 Days

Professional Development Day ..... Monday, September 8
Student Orientation ..... Tuesday, September 9
Registration ..... Wednesday, September 10
First Day of Classes ..... Thursday, September 11
Quarter Ends ..... Wednesday, November 26

1986-87
WINTER QUARTER
55 Days

Registration ..... Monday, December 1
First Day of Classes ..... Tuesday, December 2
Holiday Recess ..... Monday, December 22-Friday, January 2
Quarter Ends ..... Monday, March 2

1987
SPRING QUARTER
55 Days

Registration ..... Monday, March 9
First Day of Classes ..... Tuesday, March 10
Easter Break ..... Friday, April 17-Monday, April 20
Memorial Day ..... Monday, May 25
Commencement ..... Thursday, May 28
Quarter Ends ..... Thursday, May 28

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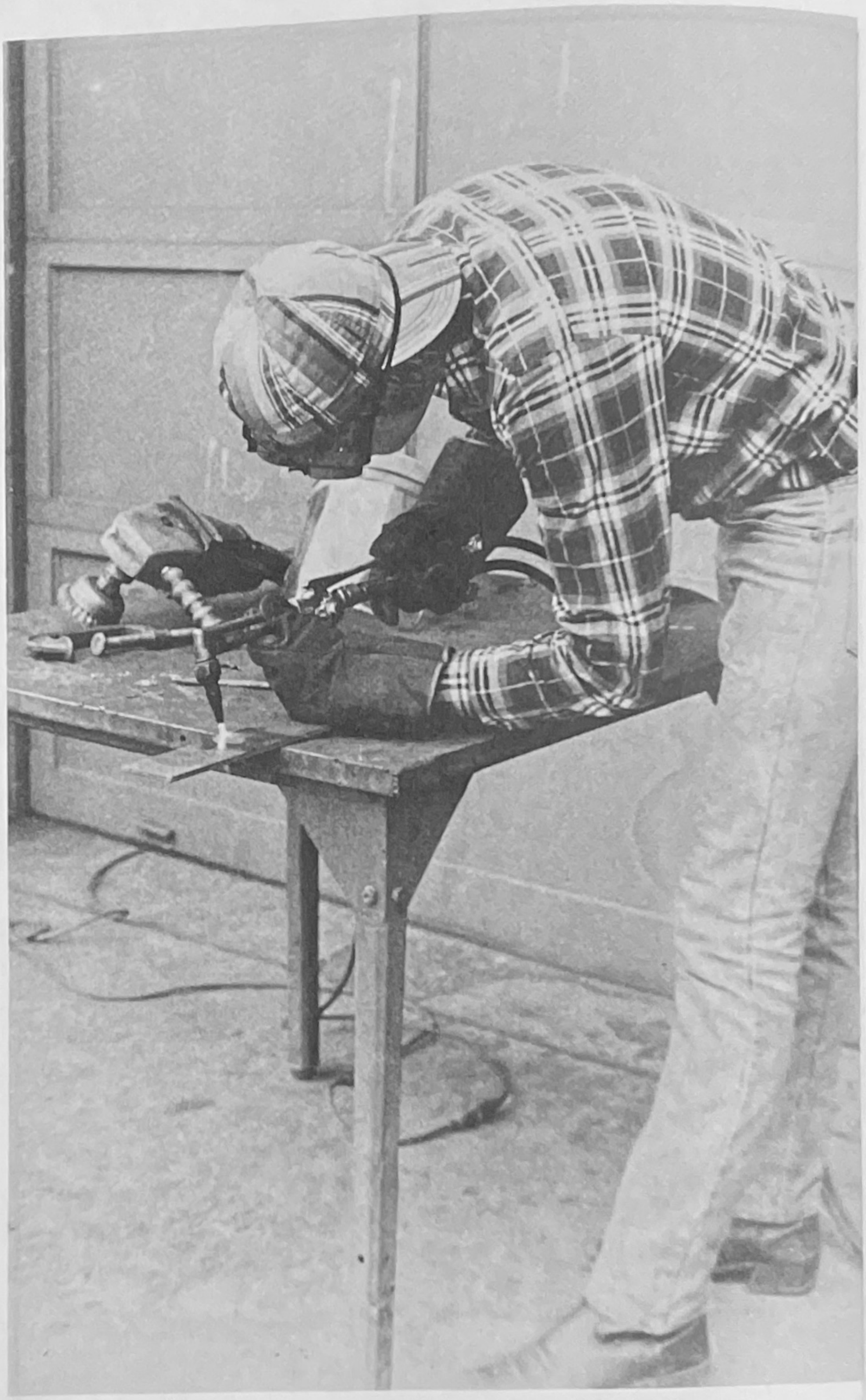
COLLEGE GENERAL INFORMATION



ADMISSIONS INFORMATION

Admissions Policy

Southwestern Technical College operates under the OPEN DOOR POLICY of the Department of Community Colleges. Students are accepted without regard to race, religion, sex, handicap, or national origin. Any person who is at least eighteen years of age or is a high school graduate or its equivalent may be accepted by the College.

Admissions Requirements

Students must meet minimum requirements before being accepted to a specific curriculum. Deficiencies may be removed through courses available in the Developmental Lab. The College administers the General Education Development (GED or high school equivalency) tests.

Admission to degree programs requires a high school diploma or the equivalent. Admission to diploma programs normally requires a high school diploma or the equivalent; however, an exception may be made for the applicant who demonstrates the ability and motivation to enter the curriculum.

Admissions Procedures

1. Applicants to full-time curriculum programs
   a. Submit a completed admissions form to the Admissions Office.
   b. Have records of all previous education including GED, mailed directly to the Admissions Office. Hand-carried copies of transcripts will be accepted temporarily. Official copies must be mailed to the College from the school providing transcripts.
   c. Take placement examination at STC or submit SAT scores.

2. Applicants for part-time credit or audit
   Submit a completed admission form to the Admissions Office.

3. Applicants to programs requiring additional admissions procedures
   Law Enforcement
   Applicants must have completed the following:
   a. Physical examination form.
   b. Recommendation from any two local, state, or federal law enforcement officers.
   Medical Laboratory Technology
   Applicants must have completed the following:
   a. One unit each of biology, chemistry, and algebra with at least an average of C on each.
   Nursing Education Options (NEO)
   These applicants must have completed the following:
   a. One unit each of biology, chemistry, and algebra with at least an average of C on each.
   b. The admission tests for nurses.
   c. Complete dental, physical, and immunization records as well as any other physical or mental health requirements deemed necessary.
   d. Three personal recommendations.
   e. A personal interview with director of program.

4. Applicants for off-campus curriculum classes (Degree, Diploma, Certificate)
   a. Complete admissions forms (forms available at main campus or field offices).
   b. Return completed admissions form to the Admissions Office (8:00 AM until 5:00 PM, Monday through Friday) or field office during the hours of registration as published by the Continuing Education Office.
   c. Provide transcripts of:
      (1) high school or high school equivalency
      (2) all post-secondary training

5. Foreign Students
   a. Submit a completed Foreign Student Admissions form to the Admissions Office.
   b. Give name and address of the United States sponsor.

6. Applicants for readmission. (Students who have officially withdrawn or who have been dropped or who have missed a full quarter's work).
   a. Submit a completed admissions form to the Admissions Office.

TRANSFER OF EARNED CREDIT BETWEEN INSTITUTIONS

Applicants, for day or night classes, either full-time or part-time, who have attended other colleges, universities, or technical institutes, are responsible for having a transcript from each institution submitted directly to the Admissions Office. All courses in which passing grades were received are customarily accepted if they are applicable to the program selected at this college and if they were earned at an accredited college or university, at an institution within the North Carolina Community College System, or at an institution approved by the Dean of Instruction. Requests for transfer credits must be made to the Director of Admissions.

Recipients of V.A. benefits must submit official copies of all post-secondary education before they can receive V.A. benefits. Veterans are also urged to submit transcripts of any educational work completed through the armed services. Recipients of V.A. benefits cannot receive such benefits if these transcripts are not submitted.

TRANSFER OF EARNED CREDIT BETWEEN PROGRAMS WITHIN THE COLLEGE

Appropriate credits earned in any STC program may be credited toward a degree, diploma, or certificate program.

LICENSING OF GRADUATES

Southwestern Technical College is an educational institution and assumes no responsibility for the licensing of its graduates. Students convicted of a felony or any other crime involving moral turpitude may not be recognized by the proper licensing agency.

FALSE INFORMATION

Applicants are expected to demonstrate honesty in the completion of all necessary forms. False information will be grounds for rejection or dismissal.

GENERAL ATTENDANCE REQUIREMENTS

All students are expected to be present and regular in attendance for scheduled classes and open labs. Absences will be considered justified and excusable only in cases of emergencies, serious illness, or death in the immediate family.

Any work missed because of absences must be made up.

ACADEMIC PROBATION AND SUSPENSION

A student whose QPR falls below 2.00 for two consecutive quarters will be placed on probation for the following quarter. If the QPR remains below 2.00 at the end of the probationary quarter, the student would be suspended for the following academic quarter.

WITHDRAWAL PROCEDURE

Official Withdrawal Procedure

A student must complete a Registration Change Notice marked Withdrawal with his/her Advisor and obtain signatures as indicated on the Registration Change Notice. Then the student must leave the completed Registration Change Notice with the cashier (save student copy).

An Official Withdrawal entitles a student to a W, WP, or WF Grade.

Administrative Withdrawal

If a student fails to officially withdraw, the Instructor/Advisor must complete a Registration Change Notice marked withdrawal for the student and leave the Registration Change Notice with the Records Office for processing.

An Administrative Withdrawal does not entitle a student to a W, WP, or WF Grade.

PRE-REGISTRATION

Pre-registration is held each quarter between the 10th class day prior to the end of the quarter and the 5th class day prior to the end of the quarter. Pre-registration procedures are prepared and distributed quarterly by the Dean of Student Services.

REGISTRATION

Registration is held each quarter on the day published in the academic calendar. Registration procedures are prepared and distributed quarterly by the Dean of Student Services.

LATE REGISTRATION

A $5 late registration fee will be charged to returning students enrolled in a full-time curriculum program who register after registration day, except those students who are enrolled in open laboratory programs. Late registrations must be approved by the appropriate Assistant Dean.

DROP/ADD

The drop/add period is the first 10 class days of each quarter. Schedule changes are permitted during this time without grade penalty.

CHANGE OF SCHEDULE OR PROGRAM

1. During the Drop/Add period, changes in class schedule may be made with the approval of the advisor, instructors involved, Veterans Counselor, Financial Aid Officer, Librarian, and the Director of Records and Placement.
2. After acceptance, a change of educational objective (program of training) must be approved by the Admissions Office.

STANDARDS OF STUDENT CONDUCT

Each Southwestern Technical College student is expected to conduct himself in such a manner as to uphold, not detract from the good name of the College and fellow students by full recognition of his responsibilities under the law, and the moral and social standards of the community, state, and nation.

The Constitution and laws of the State of North Carolina confer on the Governing Board of the Department of Community Colleges legal authority to regulate student life, guided by constitutional standards. In exercising this authority, the College is also guided by considerations of educational policy. All students and student organizations are subject to the rules and regulations of the College. The President and/or his delegated official may counsel, admonish, suspend, expel, or otherwise appropriately discipline any student for violating regulations and standards of the College. While students have the rights and obligations of citizens, admission to the College is a privileged status and involves special additional obligations to the College community. The College, within the authority vested by law in the North Carolina Community College's Board of Trustees, has the obligation to determine the standards of conduct appropriate for those who become its members. Neither individual students nor organized student groups may act on behalf of, or speak for, or in the name of Southwestern Technical College.

Southwestern Technical College students, as members of the academic community, shall exercise due regard for law and the rights of others. Circumstances which may lead to disciplinary action, including dismissal from the College, are:

1. Serious infractions of the law duly established by evidence or as determined by legal enforcement agencies of the city, county, state, and nation.
2. Endangering or threatening the life or physical safety of others or self.
3. Action, individual or group, involving destruction of property, endangering life, or disturbing the orderly and necessary peaceful processes of the College.
4. Sexual immorality as defined by the General Statutes of North Carolina.
5. Failure to meet just financial obligations to the College.

6. Violation of the College regulations, federal, state, and local laws regarding the use of firearms, drugs, or intoxicants. The possession or use of intoxicants, or drugs, is prohibited on College property and at functions sponsored by College organizations.

Students shall be responsible for the knowledge of the College rules and regulations as set forth in the College Student Handbook.

EXPENSES

TUITION AND FEES PER QUARTER

Full-Time Student Tuition	$ 51.00
Non-Resident Full-Time Student Tuition	255.00
Part-Time Student Tuition (per quarter credit hour)	4.25
Non-Resident Part-Time Student Tuition (per quarter credit hour)	21.25
Academic and Occupational Extension Courses	10.00
Avocational and Practical Extension Courses (per credit hour)	0.75
Activity Fee (per quarter) - 12 credit hours	4.00
- 9-11 credit hours	3.00
- 6-8 credit hours	2.00
- 0-5 credit hours	1.00
Automobile Registration (per year)	1.00
Student Identification Card (per year - required for full-time, optional for part-time)	1.00
Insurance (per year - optional)	4.50
Special insurance required on high risk programs	
Late Registration Fee	5.00
Graduation Fee (paid when student registers for his last quarter prior to graduation)	20.00

In addition to the above fees, students enrolled in Cosmetology, Food Service Management, Nursing Education Options, and Medical Laboratory Technology are required to pay an additional insurance fee and to purchase special clothing. Cosmetology students must purchase a cosmetology kit.

The College does not provide for installment payments of fees and tuition.

TEXTBOOKS

Textbooks are available in the College Bookstore.

ESTABLISHING STATE RESIDENCY

To qualify for in-state tuition, legal residents must have maintained domicile in North Carolina for at least the 12 months immediately prior to classification. Individuals must establish that their presence in the State during such 12 month period was for purposes of maintaining a bona fide domicile rather than for purposes of mere temporary residence incident to enrollment in an institution of higher education.

Regulations concerning the classification of students by residence for purposes of applicable tuition differentials are set forth in detail in a *Manual to Assist the Public Higher Education Institutions of North Carolina in the Matter of Student Residence Classification for Tuition Purposes.* Copies of the manual are available on request at the Student Services office.

Students who believe that they have obtained eligibility for a change in classification must petition the Student Services Committee for a decision. Changes in classification are effective with the beginning of the next quarter.

REFUNDS

Tuition refund for students shall not be made unless the student is, in the judgment of the institution, compelled to withdraw for unavoidable reasons. In such cases, two-thirds of the student's tuition may be refunded if the student officially withdraws within 10 calendar days after the first day of classes as published in the school calendar. Tuition refunds will not be considered after that time. Tuition refunds will not be considered for tuitions of eight dollars ($8.00) or less, unless a course or curriculum fails to materialize.

OBLIGATION TOWARD TUITION AND FEES

Tuition and fees are due and payable at the time of the student's registration. No student will be permitted to graduate, receive transcripts or register for a new quarter if he has unpaid parking fines, an unpaid balance due, or an account from any previous quarter unless payment of such an outstanding balance has been guaranteed in writing by a financially responsible person or organization.

Any student experiencing special difficulties may make special arrangements with the business manager.

In the event a student completes registration and withdraws before paying the appropriate fees and tuition, the college will attempt to collect these funds. If this attempt is unsuccessful, the account will be turned over to the North Carolina Attorney General's office for disposition.

ACADEMIC INFORMATION

DEGREE PROGRAMS

Southwestern Technical College confers an Associate of Applied Science Degree and an Associate Degree in General Education in the name of the State Board of Community Colleges upon successful completion of a technical curriculum.

DIPLOMA PROGRAMS

Southwestern Technical College confers diplomas in the name of the Southwestern Technical College Board of Trustees upon successful completion of any vocational level curriculum four quarters or more in length (or the part-time equivalency).

CERTIFICATE PROGRAMS

Certificates will be issued in the name of Southwestern Technical College to students who successfully complete an approved curriculum of less than four full quarters.

GRADING SYSTEM

Official grades are issued for each student at the end of each quarter. Students enrolled in curriculum courses will be graded by the letter grade system and assigned a quality point ratio (QPR) for each quarter.

The QPR is determined by dividing the total number of quality points by the number of credit hours attempted.

A QPR of 2.00 is required for graduation. Transfer credits are not included in the QPR computation.

Grade	Definition	Quality Points per Quarter Hour
A (93-100)	The student has, in a superior way, met the objectives established for the course.	4
B (85-92)	The student has more than adequately met the objectives established for the course.	3
C (77-84)	The student has adequately met the objectives established for the course.	2
D (70-76)	The student has minimally met the objectives established for the course.	1
F (Below 70)	The student failed to meet the objectives.	0

Grade	Definition	Quality Points per Quarter Hour
I	An I, or Incomplete, indicates that a student has been doing acceptable work in the course but has not completed all required work. A minimum of 80 percent of course requirements must have been completed for the student to be eligible for an I contract. Less than this would automatically result in an F. It is the student's responsibility to have this deficiency removed in two weeks. When in the judgment of the instructor, a student is not making a reasonable effort to remove the incomplete, and has not done so within the required period of the contract which each student makes with the instructor, the grade will automatically be changed to an F.	0
N	Given for courses below 100 level. This symbol does not count as hours attempted or as hours earned.	0
Z	Audit. This symbol does not count as hours attempted or as hours earned.	0
W	The student withdrew during the first four weeks of the quarter. This symbol does not count as hours attempted or as hours earned. (Given at any time for extenuating circumstances as determined by the Dean of Instruction.)	0
WP	The student withdrew after the fourth week or its equivalent while doing satisfactory work. This symbol does not count as hours attempted or as hours earned.	0
WF	The student withdrew after the fourth week or its equivalent while doing unsatisfactory work. This symbol counts as hours attempted but not as hours earned.	0
S	Credit by Exam. The student received credit for course through proficiency examination. This symbol counts as hours earned but not as hours attempted. Not more than one-half of the required credit for a degree or a diploma may be earned through a "Credit by Exam" unless otherwise approved by the Dean of Instruction.	0
P	Passing—awarded upon successful completion of a Continuing Education Course, where CEU credit is involved, an 80 per cent attendance requirement pertains.	0

DEAN'S LIST

1. Only full-time students are considered. (A full-time student is defined as a student enrolled in a curriculum program, carrying a minimum of 12 quarter hours.)

2. The student is to have a minimum 3.50 quality point ratio to qualify for the quarter under consideration.

3. I, F, and WF grades will automatically eliminate a student from this list for that particular quarter. Credit for a course by examination or transfer does not affect eligibility.

FACULTY ADVISOR

Each student will be assigned an advisor in his major field. The purpose of this program is to provide each student with personal assistance in orientation and with guidance as he progresses in his course of study.

CREDIT BY EXAMINATION

Advanced placement is offered to those students who because of their demonstrated abilities are qualified to accelerate their studies. To obtain advanced placement, a student may take a proficiency examination in certain subjects when he believes he already has mastery of the course material. Permission for such an examination must be obtained from the appropriate Assistant Dean.

The examination may be written, oral, performance, or all of these. Students failing such an examination may not request a second examination until evidence of further study in the subject concerned is presented. The decision of the examining instructor will be final.

Credit may be granted for training received under any of the armed forces college training program, for specialized and technical training done under the auspices of the armed forces and courses taken through USAFI. Credit earned through CLEP is accepted where applicable.

COURSE CREDIT IN RESIDENCE

A minimum of 24 credit hours of work must be completed in residence at Southwestern Technical College to qualify for graduation.

SUPERVISED WORK EXPERIENCE

In keeping with its policy of offering new and enriching educational experiences to students, the college has introduced work experience in some of its curricula and will extend it to others later. Within this program, students are employed for a specific period of off-campus work as a requirement of their course. This employment will be related as closely as possible to the student's course of study. Work experience combines classroom teaching with practical experience on the job.

COMMENCEMENT PROCEDURE

Between the first and the thirty-fifth class day of the quarter in which a student expects to complete requirements for commencement, the student must make application for commencement.

Candidate responsibility is as follows:

1. Obtain Application for Commencement at the Records and Placement Office.
2. Complete candidate's section of the application.
3. Pay commencement fee and all debts owed to the College Bookstore/ Cashier's Office.
4. Take commencement fee receipt to the Student Services Secretary for ordering of Degree-Diploma-Certificate.
5. Take application to advisor.

NOTE: Off-campus students obtain Application for Commencement from Advisor and pay fees to Advisor.

Candidates for commencement are required to participate in commencement exercises if they wish to receive their degree, diploma, or certificate.

STUDENT RECORD POLICY

Student records are maintained in accordance with the "Privacy Act of 1974." A copy of this law and the College's record policy is available for inspection in the College Library.

All questions concerning student records and all requests for record inspection should be directed to the Director of Student Records and Placement.

FINANCIAL AID

Information and applications for all Student Financial Aid Programs are available from:

Office of Student Financial Aid
Southwestern Technical College
275 Webster Road
Sylva, NC 28779

Office hours are 8:00 AM to 5:00 PM daily. The phone number is (704) 586-4091, Extension 224.

ELIGIBILITY

With the exception of a few scholarships, all financial aid at the College is awarded to eligible students on the basis of financial need. Financial need is defined as the difference between the amount of money a student and his family can provide for an education and the cost of the education. The need is greater for some, less for others, and financial aid is meant to fill the need gap, whether it be great or small.

In order to identify those students with financial need and to determine their needs in a systematic manner, the College utilizes the two national need analysis systems: The College Scholarship Service (Financial Aid Form) and the American College Testing (Family Financial Statement).

REQUIREMENTS FOR RECEIVING FINANCIAL AID

Students must meet the following criteria in order to receive Financial Aid:

1. Be currently enrolled at Southwestern Technical College, or be accepted for enrollment on at least a half-time basis (6 credit hours per quarter).
2. Be either a U.S. citizen, or a national or permanent resident of the U.S.
3. Demonstrate financial need.
4. Be making satisfactory progress in the program he/she is pursuing.
5. Not be in default on a National Direct Student Loan, or a Guaranteed Loan.
6. Not owe a refund or Federal Grant.
7. Verify registration compliance with Selective Service.

PROGRAMS AVAILABLE

PELL GRANTS

Pell Grants are awards to help undergraduates pay for their education after high school. These grants provide a foundation of financial aid, to which aid from other federal and non-federal sources may be added. Unlike loans, grants do not have to be paid back.

Awards are made depending upon eligibility as determined by a standard formula approved by Congress. Half-time and three-quarter time students will receive a portion of the total award. Special credit and students attending less than half-time are ineligible to receive a Pell Grant.

N.C. STUDENT INCENTIVE GRANT PROGRAM

Legal residents of North Carolina accepted for enrollment full-time, in good standing, may apply for Student Incentive Grants to help pay their education expenses. Students must demonstrate "substantial financial need" as determined through the need analysis system of either the College Scholarship Service or American Testing Program. The amount of each grant will be based on the individual student's demonstrated financial need in relation to resources and cost of education but may not exceed $1,500 per academic year. The deadline to apply for a NCSIG is March 15.

SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANTS

This program provides grants to students with exceptional financial need, who, for the lack of financial means of their own or of their families, would be unable to enter or to remain at the College. Grants, ranging from $150 to $600, are available to a limited number of students. Supplemental Grants do not have to be repaid.

COLLEGE WORK-STUDY PROGRAM

This is a program of employment in which the student, particularly from a low income family, is compensated for the number of hours he works for the College or an off-campus agency. Students who are employed in this program may work up to 20 hours per week while attending classes full-time. During vacation periods, when the student is not in school, he may work up to 40 hours per week. On-campus jobs can include work in offices, shops, libraries, and maintenance.

The present rate of pay is $3.35 per hour. Students approved for this program can expect to complete, in addition to the award letter, such paperwork as a data sheet, contracts, and a W-4 tax form.

NATIONAL DIRECT STUDENT LOANS

The National Direct Student Loan Program provides long term, low interest loans to qualified students in need of financial assistance to pursue a course of study at the College. The repayment period and interest, at the rate of 5 percent per year, begins six months after a student ends his studies at the College or ceases to be at least a part-time student. NDSL is a loan and must be repaid.

Students who receive loan checks must sign a promissory note for the payment amount. The promissory note also explains rights, obligations, and

responsibilities concerning the loan. Upon leaving school an exit interview will explain obligations for repayment.

COLLEGE FOUNDATION INCORPORATED LOAN FUND

Legal residents of North Carolina who are enrolled or have been accepted for enrollment in an eligible college, university, technical or vocational school in a full-time undergraduate program are eligible to apply. Applicants must meet certain academic requirements as related to their course of study. Students in good standing may reapply each year that additional funds are needed. Students are required to attend a borrowers' conference before additional loans will be approved.

Applications for this program are available upon request by writing:

College Foundation, Inc.
1307 Glenwood Avenue
Raleigh, NC 27605

NORTH CAROLINA STATE BOARD OF EDUCATION STUDENT LOAN FUND

Full-time students enrolled in a vocational or technical program in an institution under the North Carolina Department of Community Colleges may borrow a maximum of $300 per year.

Applications for this program are available upon request from the Financial Aid Office.

UNTO THESE HILLS EDUCATIONAL FUND, INC.

The fund was established in memory of the late Suzanne M. Davis, who was costume designer for "Unto These Hills". The organization was chartered as the Suzanne M. Davis Educational Fund, Inc. In December, 1979, the name of the organization was changed to Unto These Hills Educational Fund, Inc. The fund is supported financially by interest earned from an endowment fund; the Cherokee Historical Association; and others who have contributed to the Fund.

Amount: Scholarships awarded will be in the amount of $500.00 each.

Eligibility: Scholarships are available only to students for undergraduate study. Scholarships are available only to students who are enrolled members of the Eastern Band of Cherokee Indians, Cherokee, North Carolina; or, to students whose parent(s) are enrolled members of the Eastern Band of Cherokee. The student must provide the committee with information to establish tribal enrollment.

JAMES G.K. McCLURE FUND

The Health Careers Scholarship Program of the James G.K. McClure Educational and Development Fund is to aid financially deserving and academically promising residents in Western North Carolina to enter the Licensed Practical Nursing Program. Evidence of Christian character and the desire to be of service to one's fellowmen are considered of basic importance in the selection of the recipients.

GREENEBAUM SCHOLARSHIPS

The James G.K. McClure Educational and Development Fund provides scholarship, given by the family and friends of the late Edward De Zulueta Greenebaum, for residents of Jackson County. Awards are based upon scholarship, financial need and recommendations.

ART SCHOLARSHIP

The College offers two scholarships each year to the two top contestants in the Annual Commercial Art Contest sponsored by the school. The scholarship will pay tuition for one year at STC.

AD CLUB SCHOLARSHIP

The Western North Carolina Advertising Club sponsors a scholarship for a second-year student enrolled at the College in the Commercial Art and Advertising Design Program.

TOMMY LOVE MEMORIAL SCHOLARSHIP

The scholarship will pay tuition for one year for a deserving graduate of Sylva-Webster High School.

WILLIAM B. DILLARD MEMORIAL SCHOLARSHIP

Mr. Dillard was instrumental in the establishment of Southwestern Technical College and its success. This scholarship was established by family and friends to be awarded to eligible students of western North Carolina.

ALCOA FOUNDATION SCHOLARSHIP

Alcoa Foundation of Pittsburgh awards scholarships to eligible students in the counties of Macon, Jackson, Swain, Graham, and Cherokee. These scholarships are administered through the Southwestern Technical College Student Financial Aid Office.

HAROLD'S SUPERMARKET SCHOLARSHIP

This program provides a scholarship each year for employees of Harold Potts or their children. If there are no applications in the above category, then the scholarship is open to anyone from Jackson County who demonstrates a financial need.

MACON COUNTY RETIRED TEACHERS ASSOCIATION NURSING SCHOLARSHIP

This scholarship will pay tuition for one year for a Macon County student entering the Nursing Program at Southwestern Technical College.

SOUTHWESTERN TECHNICAL COLLEGE FOUNDATION SCHOLARSHIP

The Southwestern Technical College Foundation Student Aid Program is designed to complement the present aid program operated by the College. Applications may be obtained from the Financial Aid Office.

THE EMERGENCY LOAN FUND is a short-term or "petty cash" loan fund to permit the College to satisfy the emergency needs of students. Emergency

needs may include tuition, fees, books, rent or grocery money, etc. This fund will provide small amounts of money for a short period of time.

PROGRAMS ADMINISTERED BY OTHER AGENCIES

Information and applications are available upon request from the individual agencies who administer the program.

NORTH CAROLINA DIVISION OF REHABILITATION

The college is approved for the training and education of individuals who qualify under the provisions of the North Carolina Division of Vocational Rehabilitation, Department of Public Instruction.

SOCIAL SECURITY ADMINISTRATION

Eligible persons may receive educational benefits from the Social Security Administration if the head of the household is over 62 and retired or disabled.

BUREAU OF INDIAN AFFAIRS

Educational assistance is provided to the Cherokee Indians through the Bureau of Indian Affairs, Cherokee, North Carolina.

JOB TRAINING PROGRAM ACT

JTPA is available to a limited number of students. This program is administered through the local Employment Security Commission.

VETERANS EDUCATIONAL ASSISTANCE BENEFITS

The Veterans Affairs Office is located in the Student Services Division. Anyone eligible for V.A. benefits is urged to stop by the V.A. office at least one month before entering school.

V.A. benefits recipients must complete the following steps in order to enroll on the G.I. Bill:

(1) Complete and submit an Admissions application, along with official copies of ALL high school transcripts/GED scores, post-secondary, and military transcripts.

(2) Bring an original or registered copy of your DD-214 (discharge papers) and come by the V.A. Office for an interview. During this time V.A. paperwork will be completed, and the veteran will be asked to submit any necessary supportive data (birth certificates of children, marriage licenses, etc.).

(3) Register for your first quarter's classes.

Veteran students are expected to attend classes regularly. Veterans are also responsible for notifying the V.A. Office in the event of withdrawal from a class or from school. Failure to do so will create overpayments for which the veteran will most likely be liable.

APPLICATION FOR FINANCIAL AID

Students desiring financial aid are encouraged to apply early (January-March) to be given top priority for the funds available. Applications will be

processed until all available funds are awarded. It is necessary to reapply for financial aid each year.

In order to be considered for grants, loans, scholarships, and work-study jobs, the applicants must complete and submit either a Financial Aid Form (FAF) or a Family Financial Statement (FFS) to the processing agency listed on the form. The results of the FAF/FFS are mailed directly to the Financial Aids Office. There is a processing fee for this service.

Financial aid applicants must apply for the PELL Grant. This is accomplished by completing either the FAF or the FFS. PELL results are mailed directly to the student in the form of a Student Aid Report which the student must send to the Financial Aids Office without delay. To apply only for a PELL grant, a Federal Financial Aid Form should be filed.

Upon receipt of the FAF/FFS and PELL grant results, the Financial Aid Office will review this data and the applicant's financial award will be determined. An official award letter explaining the award decision and giving information about the aid offered is then sent to the applicant. In order to accept the financial aid award, the applicant must sign the award letter and return it to the Financial Aid Office.

The Financial Aid Officer is available to answer any questions concerning financial aid. For information on how, when, and where to receive Financial Aid, please contact the Financial Aid Office.

FINANCIAL AID POLICIES

Satisfactory Progress

Students must be making satisfactory academic progress in order to continue receiving financial assistance. Students placed on Academic Suspension will be ineligible for all federal aid.

Policy for Packaging Financial Aid

Primarily a PELL Grant is combined with CWSP and NDSL. Composition of the package is dependent upon program enrolled, class schedule, and funds available. SEOG is awarded in addition to PELL, CWSP, or NDSL to those students with exceptional financial need.

Repayment Policy

Students receiving financial aid who withdraw from school are responsible for repaying any overpayment which may result. Overpayment letters will be written to students telling the amount of the overpayment.

Financial Aid Transcript

A Financial Aid Transcript must be on file for all aid applicants who have previously attended other post-secondary colleges, regardless of whether or not aid was received.

SERVICES TO STUDENTS

Orientation

At the beginning of each quarter, an Orientation program is held for new students to acquaint them with basic ideas, procedures, academic areas,

administrative personnel and services of the College. The primary purpose for scheduling this program is to inform new students of important information about the College in an effort to assist them in making an easy transition to new surroundings.

Testing

A program of testing is provided through Student Services. Emphasis is given to placement testing for the purpose of determining verbal and computational skills of entering students. Other types of testing are available for career planning purposes. Achievement tests are provided through the Developmental Studies Program.

Counseling

Counseling services are provided by trained personnel and are available to all students entering or enrolled in the institution. Students may come to the counselor's office at any time when a problem arises which could affect his or her progress in college. Faculty members are asked to encourage students to use this service. Students needing assistance should contact the Counselor.

Placement Office

The office provides the following services for students and graduates:

(i) Films on resume writing, letter writing, and job interviews.
(ii) While the College does not guarantee employment, every effort will be made to assist students and graduates with employment.
(iii) A current listing of jobs available in the area.

The office provides the following services for graduates only:

(i) Resume Service—Students desiring to use this Placement Office Resume Service must: submit their resume to the Placement Office not later than the fifth week of the quarter in which they expect to graduate; submit updates in writing to the Placement Office to keep the resume correct; request that a copy of their resume be sent with transcript each time a transcript is requested.
(ii) Job Search Packet—This packet contains a "Job Seeking Skills Handbook."

PROGRAM RETENTION RATES AND AVERAGE STARTING SALARIES OF GRADUATES

Information regarding retention rates and average starting salaries may be obtained by contacting the Student Services Division.

PHI THETA KAPPA

Phi Theta Kappa is the National Honorary Scholastic Fraternity for Community/Junior Colleges.

The purpose of Phi Theta Kappa is the recognition and encouragement of scholarships and leadership among Community/Junior College students. To achieve this purpose, Phi Theta Kappa provides opportunity for the development of leadership and services . . . for an intellectual climate for exchange of ideas and ideals . . . for lively fellowship for scholars . . . and for stimulation of interest in continuing academic excellence.

To be considered for membership, a student must be (1) enrolled in a two year college, (2) be a full-time student, (3) have achieved a grade point average of 3.5, (4) have established academic excellence as judged by the faculty and (5) be of good moral character and possess recognized qualities of citizenship.

NATIVE AMERICAN CLUB

The Native American Club is an organization designed to be responsive to the needs and interests of those members of the Eastern Band of the Cherokee Indians who are currently enrolled as students at Southwestern Technical College. The Native American Club is dedicated to the support of Native American Students and seeks to help Native Americans in academic, cultural, and public service endeavors.

COMPUTER CLUB

Staff and students are organizing a club whose purpose is to study and use small computers.

SIMULATION CLUB

The purpose of the Simulation Club is to enhance intellectual and conceptual skills through simulation, in particular, such "games" as Wargame simulations and role-playing.

PEN-INK

The main purpose of the Pen-Ink Club is the publication of the *Pen and Ink Magazine* which is devoted to the publication of student works in art, prose and poetry.

STUDENT GOVERNMENT

Students at Southwestern Technical College have the opportunity to participate in Student Government through the Student Government Association.

The Student Government Association is designed to promote the general welfare of the college in a democratic fashion and to facilitate communication between the student body, the faculty, and the administration. The student council provides a means through which students can promote interest in student activities both on and off campus.

Copies of the Student Government Constitution are available in Student Services.

OUTING CLUB

The Outing Club provides a wide variety of activities of interest to all students. Present activities include: canoeing, hiking, snow and water skiing, hang gliding, and swimming. Activities will be added according to student interest and as facilities and equipment become available. Membership in the Outing Club is open to all students with a minimum membership fee.

LEARNING RESOURCE CENTER

The Learning Resource Center is located on the south end of the campus in a new energy efficient building of approximately 11,000 square feet. The facility includes capacity shelving for 40,000 volumes and seating space for 120 people. The building houses not only the book collection, periodicals, and audiovisuals, but also a conference room, projection and screening room, typing room, media production, printing, a darkroom, and Rural Renaissance project facilities.

The Learning Resource Center provides various types of print and nonprint media for students, faculty, and staff of the College. The Library has a continuously growing collection of approximately 22,000 volumes which are primarily scientific and technical, relating directly to the curriculum offerings. The reference collection contains encyclopedias and many specialized dictionaries and handbooks. Also a varied collection of fiction and books of general interest are provided for recreational reading and personal enrichment. The open shelf concept is used to provide for easy access to materials. The Library receives more than 220 magazines and newspapers.

The Learning Resource Center also provides other materials such as pamphlets and newspaper clippings. Included in the collection are bound volumes of magazines and microfilm of approximately 140 periodical titles. The Library also provides microfiche of several document titles and newspaper titles.

Many types of audiovisual materials and equipment are available through the Learning Resource Center. The audiovisual media include films, filmstrips, tapes, slides, transparencies, film loops, and video tapes. The materials may be used in the Center at the study carrells or in a classroom.

The Learning Resources staff of trained personnel is always willing to assist users in locating and using the various types of media.

All library materials must be returned by the end of each quarter and accounts cleared before students will be allowed to register, graduate, or receive a transcript.

The Learning Resource Center is open 8:00 a.m. to 9:00 p.m. Monday through Thursday and from 8:00 a.m. to 5:00 p.m. on Friday. The LRC serves not only faculty, staff, and students of Southwestern Tech, but also residents of the community.

MEDIA SERVICES DEPARTMENT

The Media Services department does graphics design, layout, paste-up, and printing of college brochures, forms, programs, posters, and handbooks. Media Services serves all the departments within the College as well as providing services for community organizations and residents of the three county service area. The department will charge for any personal work done. Other services offered include audio taping, video taping, minor equipment repair, splicing of tapes and films, black and white and color photography, and slide/tape show production. Rural Renaissance project provides for staff development through instructional design where instructors write instructional materials and an artist does the production work.

Normal operating hours are from 8:00 a.m. to 5:00 p.m. Monday-Friday.

PUBLIC INFORMATION OFFICE

The purpose of the Public Information Office is to inform the public about newsworthy events occurring at Southwestern Technical College. The names of students who make the Dean's List, students named to Who's Who, etc., are released to local newspapers and radio stations. Students should contact the Public Information Office if they have news items they want released to the media.

COLLEGE CURRICULUM PROGRAMS OF STUDY

ACCOUNTING
T-016

The Accounting Curriculum is designed to fill a growing need for well trained people in the areas of accounting and finance. The serious accounting student should achieve a degree of skill in accounting that will allow him to meet the requirements of such jobs as junior accountant, cost accountant, auditor, or other entry level positions.

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
ENG	101	Language and Composition I	5	0	5
MAT	110	Business Math	5	0	5
BUS	101	Introduction to Business	5	0	5
BUS	110	Office Machines	1	2	2
			16	2	17
SECOND QUARTER					
ENG	102	Language and Composition II	5	0	5
BUS	120	Accounting I	4	3	5
BUS	248	Business Economics I	5	0	5
EDP	104	Introduction to Data Processing	3	2	4
			17	5	19
THIRD QUARTER					
ENG	204	Oral Communications	3	0	3
BUS	121	Accounting II	4	3	5
BUS	237	Small Business Management I	3	0	3
BUS	249	Business Economics II	5	0	5
BUS	102	Typing I	2	3	3
			17	6	19
FOURTH QUARTER					
BUS	238	Small Business Management II	3	0	3
BUS	122	Accounting III	4	3	5
BUS	133	Fund Accounting	3	2	4
BUS	239	Marketing	5	0	5
			15	5	17
FIFTH QUARTER					
BUS	131	Business Communications	3	2	4
BUS	115	Business Law I	5	0	5
BUS	222	Intermediate Accounting I	3	2	4
BUS	225	Cost Accounting	3	2	4
			14	6	17
SIXTH QUARTER					
BUS	223	Intermediate Accounting II	3	2	4
BUS	229	Income Taxes I	3	2	4
BUS	278	Money and Banking	3	2	4
BUS	127	Financial Management	3	2	4
			12	8	16

			Class	Lab	Hours Credit
SEVENTH QUARTER					
BUS	224	Intermediate Accounting III	3	2	4
BUS	226	Auditing	3	2	4
BUS	231	Income Taxes II	3	2	4
BUS	279	Profit Planning and Budgetary Control	3	2	4
			12	8	16

ALTERNATE ENERGY TECHNOLOGY
T-178

The Alternate Energy Technology curriculum provides an in-depth training in solar heating principles as well as a broader familiarization with other renewable energy sources, techniques for energy conservation and management, and the integration of solar heating systems with non-solar systems. Because of the custom nature of many solar energy installations and the rapid development of new solar techniques, the courses will provide a broad background of mechanical, design, and problem solving skills which will enable the solar technician to adapt to changing conditions.

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
EGY	101	Introduction to Alternate Energy Systems	2	0	2
EGY	102	Solar Radiation	2	0	2
EGY	103	Principles of Solar Collectors	3	6	6
ENG	101	Language and Composition I	5	0	5
MAT	105	Introduction to Algebra	5	0	5
			17	6	20
SECOND QUARTER					
EGY	104	Solar Hot Water Systems	4	6	7
EGY	105	Space Heat Demand	2	0	2
ENG	102	Language and Composition II	5	0	5
MAT	111	Applied Trigonometry	5	0	5
			16	6	19
THIRD QUARTER					
AHR	101	Non-Solar Space Conditioning	5	4	7
EGY	106	Passive Design	5	0	5
ENG	103	Report Writing	3	0	3
		Elective in Social Sciences	3	0	3
POL	104	Political Perspectives on Energy Use	2	0	2
			18	4	20
FOURTH QUARTER					
EGY	107	Solar Space Conditioning	4	6	7
PHY	101	Physics I	3	2	4
ENG	204	Oral Communications	3	0	3
ELC	109	Fundamentals of AC and DC	3	2	4
			13	10	18
FIFTH QUARTER					
EGY	210	Energy Project Lab I	0	4	2
DFT	101	Technical Drafting I	0	6	2
EGY	108	Experimental Design	1	2	2
EGY	205	Photovoltaic Systems	3	2	4
PHY	102	Physics II	3	2	4
			7	16	14

			Class	Lab	Hours Credit
SIXTH QUARTER					
AHR	201	Instrumentation and Controls	3	4	5
DFT	102	Technical Drafting II	0	6	2
ECO	201	Cost-Benefit Analysis of Alternate Energy Systems	2	0	2
EGY	203	Design of Alternate Energy Systems	2	2	3
EGY	208	Wind and Hydro Systems	2	0	2
			9	12	14
SEVENTH QUARTER					
BUS	237	Small Business Management	3	0	3
EGY	201	Installation and Maintenance of Solar Energy Systems	3	4	5
EGY	206	Energy Management and Planning	2	0	2
EGY	211	Energy Project Lab II	0	8	4
EGY	209	Advanced Control Systems	2	2	3
			10	14	17

AUTOMOTIVE MECHANICS
V-003
(Gasoline and Diesel)

This curriculum provides a training program for developing the basic knowledge and skills needed to inspect, diagnose, repair, or adjust most domestic and import automotive vehicles.

The courses are arranged in a sequence that gives the student the required technological and special skills as they are needed to coordinate with laboratory experiences. Emphasis is placed on the mechanical parts and operation of both gasoline and diesel engines.

Auto mechanic, truck and bus mechanic, shop foreman, maintenance supervisor, dealer, service manager, sales technician, factory representative, and experimental lab worker are among those occupational opportunities awaiting graduates of the automotive mechanics curriculum.

The program consists of seven quarters with an eight quarter option.

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
AUT	1116	Automotive Engines	10	15	15
MAT	1101	Fundamentals of Math	5	0	5
			15	15	20
SECOND QUARTER					
AUT	1128	Fuel Systems	5	10	8
AUT	1119	Cooling and Lubrication Systems	2	3	3
PHY	1101	Applied Science I	3	2	4
			10	15	15
THIRD QUARTER					
AUT	1129	Electrical and Electronic Systems	5	15	10
PHY	1102	Applied Science II	3	2	4
ENG	1106	Fundamentals of English	5	0	5
			13	17	19
FOURTH QUARTER					
AUT	1208	Emission Controls	2	5	3
AUT	1126	Engine Diagnosis & Tune-up	6	10	9
AHR	1101	Air Conditioning Systems	2	5	4
			10	20	16
FIFTH QUARTER					
AUT	1123	Chassis and Suspension Systems	5	10	8
AUT	1121	Braking Systems	5	10	8
			10	20	16
SIXTH QUARTER					
AUT	1124	Manual Transmissions & Power Trains	7	15	12
WLD	1101	Basic Welding	0	3	1
PSY	1101	Human Relations	3	0	3
			10	18	16

			Class	Lab	Hours Credit
SEVENTH QUARTER					
AUT	1127	Automatic Transmissions	6	15	11
AUT	1101	Small Engines	1	3	2
BUS	1103	Small Business Management	3	0	3
			10	18	16
EIGHTH QUARTER					
AUT	1201	Practical Shop	0	27	9
AUT	1205	Seminar	3	0	3
			3	27	12

BUSINESS ADMINISTRATION
T-018

The needs of business and industry have grown extensively in positions of supervision and middle management. These positions will be filled by people 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 and to assume the responsibilities that go with supervisory and middle positions in business and industry.

The graduate of the Business Administration Curriculum may enter a variety of career opportunities: first-line supervisor, production planner, quality control technician, budget clerk, and a variety of positions in retailing—ranging from beginning sales clerk to manager.

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
ENG	101	Language and Composition I	5	0	5
MAT	110	Business Math	5	0	5
BUS	101	Introduction to Business	5	0	5
BUS	110	Office Machines	1	2	2
BUS	102	Typing I	2	3	3
			18	5	20
SECOND QUARTER					
ENG	102	Language and Composition II	5	0	5
BUS	136	College Accounting I	4	3	5
BUS	248	Business Economics I	5	0	5
EDP	104	Introduction to Data Processing	3	2	4
			17	5	19
BUS	120	Accounting I (Elective)	4	3	5
THIRD QUARTER					
ENG	204	Oral Communications	3	0	3
BUS	249	Business Economics II	5	0	5
BUS	140	College Accounting II	4	3	5
BUS	237	Small Business Management	3	0	3
			15	3	16
BUS	121	Accounting II (Elective)	4	3	5
FOURTH QUARTER					
BUS	269	Safety Engineering	3	2	4
BUS	244	Retail Management	5	0	5
BUS	272	Principles of Supervision	5	0	5
BUS	239	Marketing	5	0	5
			18	2	19
FIFTH QUARTER					
BUS	131	Business Communications	3	2	4
BUS	115	Business Law I	5	0	5
BUS	232	Sales Development	3	2	4
BUS	273	Personnel Management	5	0	5
			16	4	18

			Class	Lab	Hours Credit
SIXTH QUARTER					
BUS	109	Seminar on Human Relations	3	0	3
BUS	127	Financial Management	3	2	4
BUS	270	Industrial Management	5	0	5
BUS	229	Income Taxes I	3	2	4
			14	4	16
SEVENTH QUARTER					
BUS	263	Statistical Quality Control	3	2	4
BUS	279	Profit Planning and Budgetary Control	3	2	4
BUS	233	Current Trends in Business Management	3	2	4
BUS	242	Public Relations and Advertising	3	2	4
			12	8	16

GENERAL ELECTIVES AND EVENING COURSES

Real Estate

BUS	291	Fundamentals of Real Estate	6	0	6
BUS	290	Real Estate Finance	3	0	3
BUS	289	Real Estate Law	3	0	3

Successful completion of the above three courses will complete the educational requirements to sit for the Broker's exam of the N.C. Real Estate Licensing Board. Completion of BUS 291 (Fundamentals) course will entitle the student to take the Salesman's exam.

Postal Service Management

PSM	100	Postal Services History & Organization	3	0	3
PSM	105	Mail Processing I	3	0	3
PSM	106	Mail Processing II	3	0	3
PSM	200	Postal Service Labor Management	3	0	3
PSM	201	Postal Service Support (Finance)	3	0	3
PSM	202	Postal Employee Services & Benefits	3	0	3
PSM	203	Postal Customer Services	3	0	3
PSM	205	Rural Delivery & Collection	3	0	3
PSM	206	Postal Service Problem Analysis	3	0	3
PSM	207	City Delivery & Collection	3	0	3

Specialized industrial management courses, general business courses, accounting and secretarial science courses will be scheduled when there is adequate enrollment.

CARPENTRY
V-007

The carpentry curriculum trains individuals to enter the trade with a background in both shop skills and related information. He must have a knowledge of mathematics, blueprint reading, methods of construction, and a thorough knowledge of building materials.

Most carpenters are employed by contractors in the building construction fields. When specializing in a particular phase of carpentry, the job is designated, according to the specialty, such as layout carpenter, framing carpenter, acoustical and insulating carpenter, finish carpenter, and cabinet maker. Actual construction projects will be combined with classroom and labs to make as much practical experience as possible.

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
CAR	1101	Principles of Carpentry	6	18	12
DFT	1110	Blueprint Reading: Building Trades	1	3	2
ENG	1111	Reading Comprehension	2	0	2
			9	21	16
SECOND QUARTER					
CAR	1103	Carpentry: Framing	6	18	12
MAT	1112	Mathematics: Building Trades	2	0	2
PHY	1104	Physical Principles of Building Construction	1	3	2
			9	21	16
THIRD QUARTER					
CAR	1104	Carpentry: Finishing	6	18	12
DFT	1131	Drafting: Building Trades	1	3	2
MAT	1109	Estimating: Building Trades	2	0	2
			9	21	16
FOURTH QUARTER					
CAR	1106	Millwork and Cabinetmaking	6	18	12
BUS	1104	Small Business Seminar	2	0	2
CIV	1120	Building Trades Instruments	1	3	2
			9	21	16

COMMERCIAL ART AND ADVERTISING DESIGN
T-070

A graduate of this curriculum should have a well-rounded background for technical and creative achievement. Graduates will also have an adequate background in illustration, layout and lettering design, and for continuing growth and improvement. Graduates are qualified for employment in most fields of commercial art.

The commercial artist or advertising designer creates and designs layouts and illustrations for printing, creates posters, signboards, billboards, and show cards. He may design and prepare charts, diagrams, sketches, and maps for publication and exhibition, perform responsible illustrative work for package design, photography, lettering, and art work for the printing processes. Opportunities for graduates of this program may be in advertising agencies, newspapers and magazines, television studios, industrial advertising departments and design studios, department stores, government agencies, or in printing and publishing houses.

CURRICULUM BY QUARTERS

			Class Hours	Lab Hours	Credit
FIRST QUARTER					
ENG	101	Language and Composition I	5	0	5
CAT	100	Art Orientation	1	0	1
DFT	101	Technical Drafting I	0	6	2
CAT	101	Advertising Principles	3	0	3
CAT	102	Art and Design	2	6	4
CAT	121	Commercial Art Fundamentals	4	6	6
			15	18	21
SECOND QUARTER					
ENG	102	Language and Composition II	5	0	5
DFT	102	Technical Drafting II	0	6	2
CAT	105	Basic Drawing	2	3	3
CAT	122	Typographic Design	4	6	6
			11	15	16
THIRD QUARTER					
ENG	204	Oral Communications	3	0	3
CAT	106	Life Study	0	6	2
CAT	116	Photography	2	6	4
CAT	123	Layout & Design	6	6	8
			11	18	17
FOURTH QUARTER					
CAT	236	Advertising Concepts & Campaigns	3	3	4
CAT	117	Photography II	2	3	3
CAT	205	Advertising Copywriting & Fitting	3	0	3
CAT	201	Art History	3	0	3
CAT	212	Industrial Art & Design	2	6	4
			13	12	17

			Class	Lab	Hours Credit
FIFTH QUARTER					
CAT	110	General Illustration	2	6	4
BUS	102	Typing I	2	3	3
CAT	224	Art Production	4	6	6
CAT	206	Project Seminar I	2	3	3
			10	18	16
SIXTH QUARTER					
BUS	152	Consumer Awareness	3	0	3
CAT	225	Commerical Art & Advertising Design	6	6	8
CAT	217	Silk-Screen Techniques	2	6	4
CAT	231	Project Seminar II	2	3	3
			13	15	18
SEVENTH QUARTER					
EDU	231	Psychology & Advertising	3	2	4
CAT	226	Commercial Art & Advertising Design (Advanced)	6	6	8
CAT	235	Advertising & Art Direction	5	0	5
CAT	232	Project Seminar III	1	6	3
			15	14	20

COMPUTER SYSTEMS AND PROGRAMMING (ELECTRONIC DATA PROCESSING) T-022

The primary objective of the Computer Science curriculum is to prepare individuals for gainful employment as computer programmers. The objective is fulfilled through study and application in areas such as computer and systems theories and concepts, data processing techniques, business operations, logic, flow charting, programming procedures and languages and types, use and operation of equipment. Entry-level jobs as computer programmers, computer programmer trainees, computer operators, and data processors are available. With experience and additional education, the individual may enter jobs such as data processing manager, computer programmer manager, systems analyst and systems manager.

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
MAT	105	Introduction to Algebra	5	0	5
ENG	101	Language and Composition I	5	0	5
EDP	104	Introduction to Data Processing	3	2	4
EDP	108	Introduction to Programming	4	4	6
			17	6	20
SECOND QUARTER					
MAT	119	Mathematics of Computer Systems	3	0	3
ENG	102	Language and Composition II	5	0	5
BUS	136	College Accounting I	4	3	5
EDP	211	Pascal Programming	4	3	5
			16	6	18
THIRD QUARTER					
MAT	108	College Algebra	5	0	5
ENG	204	Oral Communications	3	0	3
BUS	140	College Accounting II	4	3	5
EDP	214	COBOL Programming I	4	4	6
			16	7	19
FOURTH QUARTER					
ENG	103	Report Writing	3	0	3
EDP	215	COBOL Programming II	4	4	6
EDP	219	Systems Analysis and Design	5	0	5
		Approved related area elective (3 to 5 credit hours)	5	0	5
			17	4	19
FIFTH QUARTER					
EDP	208	RPG II Programming	3	4	5
EDP	210	FORTRAN Programming	3	3	4
EDP	218	Data Base Concepts	3	0	3
EDP	220	Structured Testing and Documentation	3	3	4
		General Education elective (3 to 5 credit hours)	5	0	5
			17	10	21

			Class	Lab	Hours Credit
SIXTH QUARTER					
EDP	202	Assembly Language Programming	4	4	6
EDP	204	Computer Graphics Design	3	3	4
EDP	206	Operating Systems	3	2	4
EDP	216	Data Processing Applications	3	3	4
			13	12	18
SEVENTH QUARTER					
EDP	217	Supervised Work Experience	3	30	6

COMPUTER TECHNOLOGY
T-040

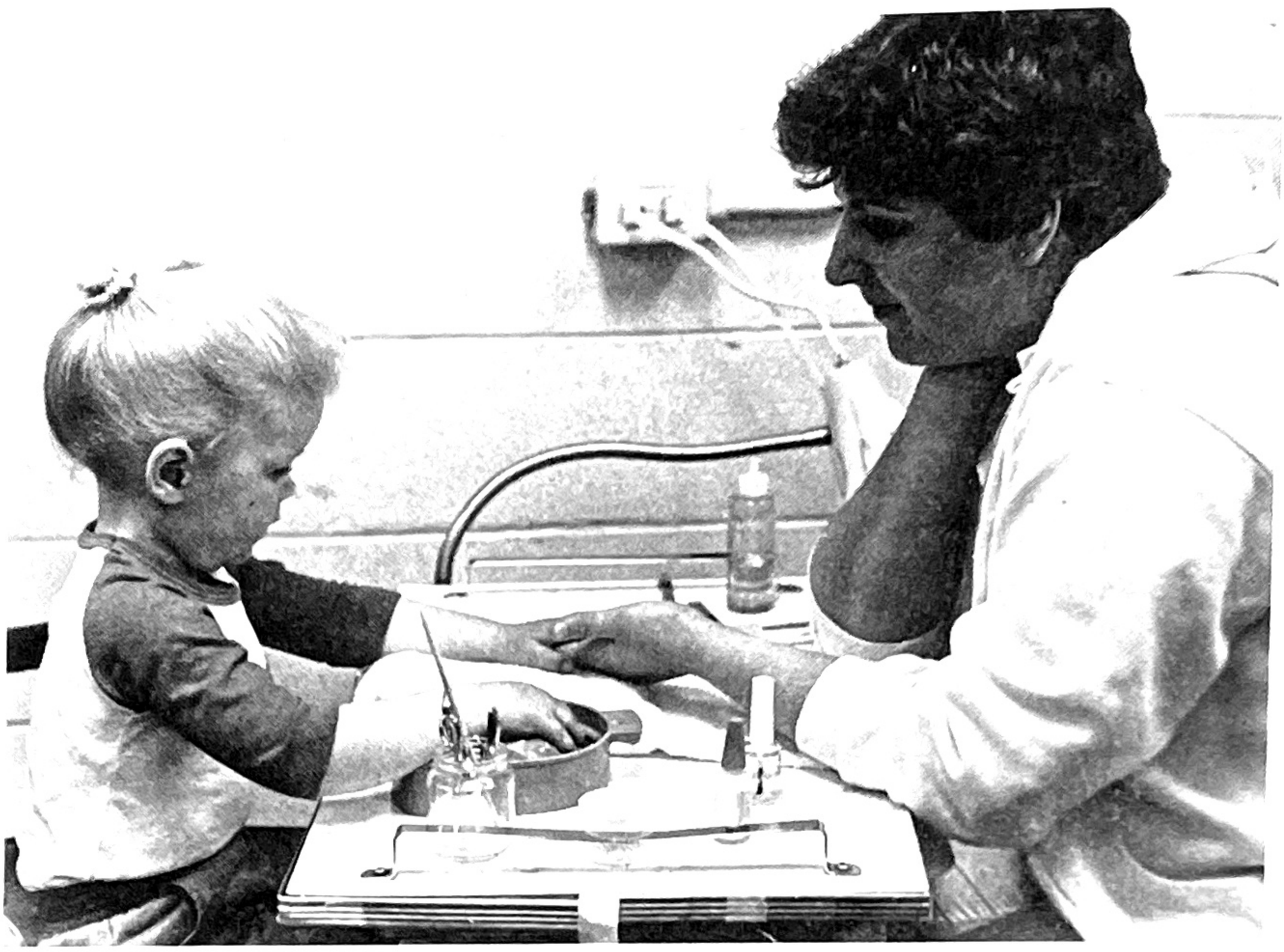
The Computer Technology Curriculum is a two-year program designed to prepare individuals to calibrate and maintain computers, microcomputers, programmed controllers, printers, disk drives, and other peripheral interface equipment. Use of signature analyzers, logic probes and monitors, data generators and oscilloscopes is emphasized.

Graduates in the Computer Technology Curriculum may work as field engineers, computer and interface design engineers, and service technicians.

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
ENG	101	Language and Composition I	5	0	5
MAT	115	Electrical Math I	5	0	5
ELN	102	Introduction to Electronics	5	4	7
DFT	101	Technical Drafting	0	6	2
			15	10	19
SECOND QUARTER					
ENG	102	Language and Composition II	5	0	5
MAT	116	Electrical Math II	5	0	5
ELN	104	Circuit Analysis	5	4	7
			15	4	17
THIRD QUARTER					
ENG	204	Oral Communications	3	0	3
MAT	117	Electrical Math III	5	0	5
ELN	106	Solid State Devices	5	4	7
ELN	110	Basic Troubleshooting	3	2	4
			16	6	19
FOURTH QUARTER					
ELN	201	Electronic Circuits	5	4	7
MAT	119	Mathematics of Computer Systems	3	0	3
PHY	101	Physics I	3	2	4
ELN	109	Digital Concepts	3	2	4
			14	8	18
FIFTH QUARTER					
PHY	102	Physics II	3	2	4
ELN	224	Electronic Layout and Design	0	3	1
EDP	106	BASIC Programming	2	2	3
ELN	236	Microcomputer Programming	3	3	4
		Social Science Elective (3 to 5 credit hours)	5	0	5
			13	10	17
SIXTH QUARTER					
ELN	237	Microprocessor Analysis	3	3	4
ELN	209	Digital Engineering Techniques	3	2	4
ELN	235	Instrumentation and Testing	3	3	4
ELN	206	Digital Computers	3	3	4
PHY	103	Physics III	3	2	4
			15	13	20

SEVENTH QUARTER			Class	Lab	Hours Credit
ELN	238	Microprocessor Interfacing	3	3	4
ELN	239	Computer Systems	3	2	4
ELN	234	Electronic Fabrication	0	3	1
MEC	160	Computer Mechanisms	3	3	4
ELN	205	Computer Repair	2	4	4
			11	15	17



COSMETOLOGY
V-009

This curriculum is approved by the North Carolina State Board of Cosmetic Art Examiners. After successfully completing the requirements of this course, a student must apply to the State Board of Cosmetic Art Examiners for examination. Successful candidates will receive their North Carolina license in Cosmetology.

The Licensed Cosmetologist is in great demand throughout the United States. Many newly licensed Cosmetologists join the staffs of beauty salons while others open their own shops or form partnerships.

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
COS	1001	Scientific Study I	4	6	6
COS	1011	Mannequin Practice	1	24	9
			5	30	15
SECOND QUARTER					
COS	1002	Scientific Study II	5	0	5
COS	1022	Clinical Applications I	0	32	11
			5	32	16
THIRD QUARTER					
COS	1003	Scientific Study III	5	0	5
COS	1033	Clinical Applications II	0	32	11
			5	32	16
FOURTH QUARTER					
COS	1055	Clinical Applications IV	0	29	9
		TOTAL CONTACT HOURS 1518			

ELECTIVES

Less-than-full-load needs of students with less than 1200 hours.

COS	1004	Scientific Study IV	5	0	5
COS	1006	Scientific Study VI	5	0	5
COS	1044	Clinical Applications III	0	32	11
COS	1046	Clinical Applications III-A	0	4	1
COS	1047	Clinical Applications III-B	0	8	2
COS	1048	Clinical Applications III-C	0	10	3
COS	1049	Clinical Applications III-D	0	12	4

COSMETOLOGY
EVENING COURSES
V-009

			Class	Lab	Hours Credit
FIRST QUARTER					
COS	1501	Scientific Study IA	4	0	4
COS	1511	Mannequin Practice I	1	15	6
			5	15	10
SECOND QUARTER					
COS	1502	Scientific Study IB	0	6	2
COS	1512	Mannequin Practice II	0	9	3
COS	1002	Scientific Study II	5	0	5
			5	15	10
THIRD QUARTER					
COS	1003	Scientific Study III	5	0	5
COS	1522	Clinical Applications IA	0	15	5
			5	15	10
FOURTH QUARTER					
COS	1523	Clinical Application IB	0	17	6
COS	1533	Clinical Application IIA	0	3	1
			0	20	7
FIFTH QUARTER					
COS	1534	Clinical Application IIB	0	20	7
SIXTH QUARTER					
COS	1535	Clinical Application IIC	0	6	2
COS	1555	Clinical Application IVA	0	14	5
			0	20	7
SEVENTH QUARTER					
COS	1556	Clinical Application IVB	0	15	5
COS	1004	Scientific Study IV	5	0	5
			5	15	10

DRUG AND ALCOHOL TECHNOLOGY
T-140

The Alcohol and Drug Abuse Technology Program prepares graduates to provide a variety of technician services to persons who are addicted to alcohol or drugs or who misuse or abuse controlled chemical substances, as well as to provide educational and public awareness programs to help prevent alcoholism and drug abuse.

Graduates are trained to perform such duties as outreach to actual and potential substance abusers and to offer assistance during detoxification procedures. They aid professionals in counseling, therapeutic, and rehabilitation services. They also conduct follow-up studies of persons served and help evaluate programs and services, as well as assisting professionals in other ways.

Alcohol and drug abuse technicians are currently employed in outreach, out-patients' treatment, day care, and follow-up programs in community mental health centers, in-patient rehabilitation programs, alcoholic rehabilitation centers and mental hospitals, and many other private, state, and federal agencies as assistants, technicians, aids, trainees, and alcoholism education specialists.

CURRICULUM BY QUARTERS

			Class	Lab	Clinic	Hours Credit
FIRST QUARTER (Fall)						
DAT	100	Introduction to Drug & Alcohol Studies	4	2	0	5
BIO	102	Anatomy & Physiology	4	2	0	5
ENG	101	Language & Composition I	5	0	0	5
SOC	102	Principles of Sociology	5	0	0	5
			18	4	0	20
SECOND QUARTER (Winter)						
DAT	110	Pathophysiological Effects of Drugs and Alcohol	3	0	0	3
PSY	203	Human Growth & Development	5	0	0	5
ENG	102	Language & Composition II	5	0	0	5
			13	0	0	13
THIRD QUARTER						
DAT	120	Interviewing & Counseling I	5	0	0	5
DAT	124	Health Care Skills	1	6	0	4
DAT	126	Crisis Intervention	3	4	0	5
SOC	103	Contemporary Social Problems	5	0	0	5
ENG	204	Oral Communications	3	0	0	3
			17	10	0	22
FOURTH QUARTER						
DAT	121	Interviewing & Counseling II	5	0	0	5
DAT	130	Human and Social Services	3	0	0	3
PSY	229	Abnormal Psychology	5	0	0	5
SOC	104	Marriage and Family Relations	3	0	0	3
ENG	103	Report Writing	3	0	0	3
			19	0	0	19

			Class	Lab	Clinic	Hours Credit
FIFTH QUARTER						
DAT	200	Techniques of Drug & Alcohol Education	5	0	3	6
DAT	220	Counseling & Rehabilitating the Chemically Dependent	4	0	3	5
PSY	240	Behavior Modification	5	2	0	6
			14	2	6	17
SIXTH QUARTER						
DAT	225	Drug and Alcohol Seminar	3	0	0	3
DAT	230	Drug and Alcohol Internship	1	0	21	8
		Elective (Social Science)	3-5	0	0	3-5
			7-9	0	21	14-16
ELECTIVES						
DAT	116	Dealing with Substance Abuse	3	0	0	3
HIS	104	Cherokee History I	3	0	0	3
HIS	105	Cherokee History II	3	0	0	3

DEVELOPMENTAL STUDIES

PURPOSE

The Developmental Program is a series of courses designed for students who, at their present educational level, either cannot enter regular curriculum courses or need help in a particular curriculum area. This program gives every person the opportunity of re-entering school and meeting requirements of the world of work and of further education. The courses are structured to meet individual needs and placement of a student in a course of studies depends upon the person's level of achievement when he registers for the course. Emphasis is placed on reading, math, and English. The student may select other electives which he may need to meet his particular objective. The program also assists students who have a physical handicap or who have a personal situation that would put them at a disadvantage in getting the vocational training they want.

OBJECTIVE

1. To encourage students to develop study skills, test taking proficiencies, and to give them a general idea of what will be expected in the world of work.
2. To enable students to assess potentials so that they can make wise vocational choices.
3. To provide individual instruction and tutoring for students in the program who have specific problems not common to the whole class and such reinforcement for students who have already completed the program; or for students encountering similar difficulties in any other curriculum.
4. To provide enrichment courses in communications, mathematics, and reading for high school graduates who are planning to enter a university.

PROGRAMS OF STUDY
Pre-Technical T-099—Pre-Vocational V-099

A program of studies based on the needs of particular students in areas of deficiencies. Structured to bring up these specific areas so that a student may succeed in a technical or vocational curriculum. Students may enter this program who have not received a high school diploma.

ADMISSION

The Developmental Studies Program is open day and evening hours. A student may register for as many hours as his time allows.

Any applicant wishing to enroll in Developmental Studies should follow the application procedures.

DEVELOPMENTAL SUBJECTS

			Class	Lab	Hours Credit
READING					
DVS	091	Reading Skills I	0	10	5
DVS	081	Reading Skills I	0	5	2
DVS	092	Reading Skills II	0	10	5
DVS	082	Reading Skills II	0	5	2
DVS	093	Reading Skills III	0	10	5
DVS	083	Reading Skills III	0	5	2
DVS	094	Reading in Literature	0	10	5
DVS	084	Reading in Literature	0	5	2
DVS	095	Reading in Science	0	10	5
DVS	085	Reading in Science	0	5	2
DVS	096	Reading in Social Studies	0	10	5
DVS	086	Reading in Social Studies	0	5	2
ENG	010	Reading	0	5	2
ENGLISH					
ENG	090	Dev. English I	0	10	5
ENG	080	Dev. English I	0	5	2
ENG	091	Dev. English II	0	10	5
ENG	081	Dev. English II	0	5	2
ENG	092	Dev. English III	0	10	5
ENG	082	Dev. English III	0	5	2
ENG	093	Dev. English IV	0	10	5
ENG	083	Dev. English IV	0	5	2
ENG	011	Basic Grammar	0	5	2
MATHEMATICS					
MAT	090	Dev. Math I	0	10	5
MAT	080	Dev. Math I	0	5	2
MAT	091	Dev. Math II	0	10	5
MAT	081	Dev. Math II	0	5	2
MAT	092	Dev. Math III	0	10	5
MAT	082	Dev. Math III	0	5	2
MAT	093	Dev. Math IV	0	10	5
MAT	083	Dev. Math IV	0	5	2
MAT	100	Basic Math	0	5	5

EARLY CHILDHOOD SPECIALIST
T-073

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

Emphasis is placed on the importance of reading in the early years and how the student can best fulfill the role as either a reading assistant to the Special Reading Teacher or to the teacher working with very young children.

The Early Childhood Specialist program is a two-year curriculum leading to the Associate of Applied Science degree.

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
ENG	101	Language and Composition I	5	0	5
EDU	133	The Family: A Cross-Cultural Survey	3	0	3
EDU	101	Child Growth and Development I	5	0	5
SCI	101	General Science	3	2	4
EDU	100	The Reading Assistant	4	0	4
			20	2	21
SECOND QUARTER					
ENG	102	Language and Composition II	5	0	5
EDU	131	Child Growth and Development II	5	10	10
EDU	208	Physical Activities for Young Children	3	0	3
			13	10	18
THIRD QUARTER					
ENG	204	Oral Communications	3	0	3
EDU	103	Working with Young Children	5	10	10
EDU	135	The Family and the Community	3	0	3
MAT	100	Basic Math	5	0	5
			16	10	21
FOURTH QUARTER					
EDU	201	Activities for Young Children	5	10	10
EDU	210	The Child and Community Services	3	0	3
EDU	104	Introducing Reading	3	0	3
HIS	211	United States History I	3	0	3
			14	10	19
FIFTH QUARTER					
EDU	211	Children's Literature	3	0	3
EDU	203	The Exceptional Child	3	0	3
EDU	204	Parent Education	3	0	3
HIS	212	United States History II	3	0	3
NUT	102	Nutrition & Health for Young Children	5	0	5
EDU	207	Special Problems in Early Childhood	2	0	2
			19	0	19

			Class	Lab	Hours Credit
SIXTH QUARTER					
EDU	202	Practicum	0	20	2
EDU	205	Seminar	5	0	5
			5	20	7
ELECTIVES					
EDU	102	Programming for Young Children	3	0	3
EDU	107	Math for Young Children	3	0	3
EDU	222	Media Resources & Library Skills	3	0	3
PSY	103	General Psychology	5	0	5

ELECTRONICS ENGINEERING TECHNOLOGY
T-045

Electronics Engineering Technology is a two-year program whose graduates receive an Associate of Applied Science Degree. All curriculum courses are designed to provide the student with a strong electronics background. General education courses are also oriented to the electronics industry.

The electronics engineering technician is well-qualified to fill a variety of positions in manufacturing, power generation, communications, and electronic servicing. An electronics technician performs a number of jobs: engineering assistant, digital systems analyst, field service technician, microwave technician, power plant operator and bench technician. These positions are available in most geographic localities.

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
ENG	101	Language and Composition I	5	0	5
MAT	115	Electrical Math I	5	0	5
ELN	102	Introduction to Electronics	5	4	7
DFT	101	Technical Drafting	0	6	2
			15	10	19
SECOND QUARTER					
ENG	102	Language and Composition II	5	0	5
MAT	116	Electrical Math II	5	0	5
ELN	104	Circuit Analysis	5	4	7
			15	4	17
THIRD QUARTER					
ENG	204	Oral Communications	3	0	3
MAT	117	Electrical Math III	5	0	5
ELN	106	Solid State Devices	5	4	7
ELN	110	Basic Troubleshooting	3	2	4
			16	6	19
FOURTH QUARTER					
ELN	201	Electronic Circuits	5	4	7
MAT	119	Mathematics of Computer Systems	3	0	3
PHY	101	Physics I	3	2	4
ELN	109	Digital Concepts	3	2	4
			14	8	18
FIFTH QUARTER					
ELN	204	Electronic Communications	5	4	7
ELN	224	Electronic Layout and Design	0	3	1
PHY	102	Physics II	3	2	4
		Social Science Elective (3 to 5 credit hours)	5	0	5
			13	9	17

			Class	Lab	Hours Credit
SIXTH QUARTER					
ELN	125	FCC Exam Preparation I	5	0	5
ELN	210	TV Systems Analysis	5	4	7
PHY	103	Physics III	3	2	4
ELN	209	Digital Engineering Techniques	3	2	4
			16	8	20
SEVENTH QUARTER					
ELN	207	Advanced Electronics	5	4	7
ENG	103	Report Writing	3	0	3
ELN	225	Advanced Troubleshooting Procedures	2	6	4
		Elective (2 to 5 credit hours)	5	0	5
			15	10	19
ELECTIVES					
EDP	106	BASIC Programming	2	2	3
ELN	205	Computer Repair	2	4	4
ELN	120	Radio Amateur License Preparation I	3	0	3
ELN	121	Radio Amateur License Preparation II	3	0	3
ELN	222	Special Project Building I	0	4	2
ELN	223	Special Project Building II	0	4	2
ELN	130	Converter Fundamentals and Design	3	2	4
ELN	132	Test Instruments	1	3	2
ELN	133	Communication Circuits	3	2	4
ELN	131	Converter Analysis	3	2	4

Approved Computer Technology Courses or Instrumentation Technology Courses. Certain electives or specialized courses will be scheduled when there is adequate enrollment.

ENVIRONMENTAL SCIENCE TECHNOLOGY
T-103

This curriculum provides a basic science training for students to become qualified laboratory and field technicians, with an emphasis on the field of environmental science. Although the program is broad in scope, a special emphasis is placed on water and wastewater analysis and air sampling and analysis.

The technician's training will qualify him for a wide range of duties such as inspections, surveys, investigations, and evaluations. Specific tasks would include water and air sampling and analysis, assisting professionals in performing environmental research, and collecting and evaluating environmental impact data. Employment opportunities exist with industry and many branches of our local, state, and federal government.

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
BIO	101	General Biology	3	4	5
ENG	101	Language and Composition I	5	0	5
ENV	210	Ecology	3	2	4
MAT	105	Introduction to Algebra	5	0	5
			16	6	19
SECOND QUARTER					
CHM	101	Chemistry I	3	4	5
ENG	102	Language & Composition II	5	0	5
ENV	120	Land Resource Management	3	4	5
MAT	108	College Algebra	5	0	5
			16	8	20
THIRD QUARTER					
ENG	204	Oral Communications	3	0	3
CHM	102	Chemistry II	3	4	5
MAT	104	Statistics	3	0	3
		Elective	3	2	4
			12	6	15
FOURTH QUARTER					
ENV	111	Supervised Work Experience	3	30	6
ENV	202	Data Studies	6	0	6
			9	30	12
FIFTH QUARTER					
PHY	101	Physics I	3	2	4
ENV	224	Chemistry of Wastewater	1	6	4
ENV	130	Microbiology	3	4	5
			7	12	13
SIXTH QUARTER					
ENV	213	Air Sampling, Analysis & Control	3	4	5
ENV	229	Meteorology	3	4	5
GEO	105	Population Geography	3	0	3
PHY	102	Physics II	3	2	4
			12	10	17

			Class	Lab	Hours Credit
SEVENTH QUARTER					
ENV	230	Environmental Quality, Laws & Enforcement	3	0	3
ENV	231	Environmental Project	1	12	5
		Elective	3	2	4
		Elective	3	2	4
			10	16	16

ELECTIVES			5	0	5
MAT	100	Basic Math	3	2	4
ENV	206	Wastewater Treatment Plant Operations	3	2	4
ENV	207	Water Analysis & Treatment	3	2	4
ENV	208	Fisheries Management	3	2	4
ENV	216	Environmental Health			

FOOD SERVICE MANAGEMENT
T-074

This curriculum is designed to train students in the art of commercial food preparation, with particular emphasis being placed on restaurant operations. Extensive training is offered in food production as well as supervision and management.

CURRICULUM BY QUARTERS

			Hours Class	Lab	Credit
FIRST QUARTER					
ENG	101	Language and Composition I	5	0	5
FSO	101	Orientation to Food Service	1	0	1
FSO	102	Food Preparation I	2	9	5
FSO	103	Equipment Use and Care	3	0	3
FSO	104	Sanitation and Safety	3	0	3
			14	9	17
SECOND QUARTER					
ENG	102	Language and Composition II	5	0	5
FSO	112	Food Preparation II	2	9	5
FSO	107	Baking I	2	6	4
FSO	114	Menu Planning	3	0	3
			12	15	17
THIRD QUARTER					
ENG	204	Oral Communications	3	0	3
FSO	204	Food Purchasing and Cost Control	5	0	5
FSO	122	Food Preparation III	2	9	5
FSO	117	Baking II	2	6	4
			12	15	17
FOURTH QUARTER					
FSO	110	Supervised Work Experience	0	30	3
FSO	118	Orientation & Evaluation	4	0	4
			4	30	7
FIFTH QUARTER					
FSO	202	Food Preparation IV	2	9	5
MAT	120	Math for Food Services	3	0	3
BUS	110	Office Machines	1	2	2
BUS	273	Personnel Management	5	0	5
SOC	101	Introduction to Sociology	3	0	3
			14	11	18
SIXTH QUARTER					
BUS	109	Seminar on Human Relations	3	0	3
EDP	100	Selected Topics in Programming	0	2	1
FSO	212	Food Preparation V	2	9	5
FSO	109	Production Management	3	0	3
		Business Elective	5	0	5
			13	11	17

			Class	Lab	Hours Credit
SEVENTH QUARTER					
BUS	237	Small Business Management	3	0	3
BUS	242	Public Relations and Advertising	3	2	4
FSO	141	Hospitality Management	3	0	3
FSO	207	Food Merchandising	4	2	5
FSO	214	Specialty Cooking	2	4	3
			15	8	18
ELECTIVES					
BUS	102	Typing I	2	3	3
BUS	131	Business Communications	3	2	4
BUS	239	Marketing	5	0	5
BUS	244	Retail Management	5	0	5
BUS	229	Income Taxes I	3	2	4
BUS	152	Consumer Awareness	3	0	3
FSO	106	Dining Room Procedures I			

GENERAL EDUCATION
G-020

The General Education Program is designed for individuals who wish to broaden their education with emphasis on personal interest, growth, and development. This program provides for a basic exposure to liberal studies (general education) and enables the student to tailor the program beyond that point to personal interests rather than specific technical or professional requirements. It is also beneficial to those students who wish to improve or expand their knowledge of our culture in its many facets.

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
ENG	110	Freshman Composition I	5	0	5
HIS	211	United States History I	3	0	3
MAT	105	Introduction to Algebra	5	0	5
PSY	103	General Psychology	5	0	5
			18	0	18
SECOND QUARTER					
ENG	112	Freshman Composition II	5	0	5
HIS	212	United States History II	3	0	3
MAT	108	College Algebra	5	0	5
		Science Elective (Physics, Chemistry, Biology)	3	4	5
			16	4	18
THIRD QUARTER					
ART	101	Art Appreciation	3	0	3
ENG	204	Oral Communications	3	0	3
GEO	105	Population Geography	3	0	3
		Science Elective (Physics, Chemistry, Biology)	3	4	5
			12	4	14
FOURTH QUARTER					
ENG	210	Introduction to Literature	5	0	5
POL	103	National, State, and Local Government	3	0	3
SOC	102	Principles of Sociology	5	0	5
		Science Elective (Physics, Chemistry, Biology)	3	4	5
			16	4	18
FIFTH QUARTER					
ECO	101	Principles of Economics	3	0	3
ENG	211	American Literature I	5	0	5
MUS	101	Music Appreciation	3	0	3
PHI	101	Introduction to Philosophy	3	0	3
		Elective	5	0	5
			19	0	19

			Class	Lab	Hours Credit
SIXTH QUARTER					
ENG	212	American Literature II	5	0	5
HIS	101	World Civilization I	3	0	3
		Electives	10	0	10
			18	0	18

INSTRUMENTATION TECHNOLOGY
T-048

The Instrumentation Technology Curriculum is a two-year program leading to an Associate of Applied Science degree. The program provides the student with a strong background in electricity and electronics. Industrial control and measurement of speed, temperature, pressure, flow, humidity, viscosity, and other variables are emphasized.

Graduates should be able to install, calibrate, and maintain industrial controls and instruments. In addition to knowledge of electronic systems, the program provides experience in pneumatics, hydraulics, mechanics, and general manufacturing processes.

The graduate may work as an instrumentation technician, engineering associate, or industrial/laboratory technician.

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
ENG	101	Language and Composition I	5	0	5
MAT	115	Electrical Math I	5	0	5
ELN	102	Introduction to Electronics	5	4	7
DFT	101	Technical Drafting	0	6	2
			15	10	19
SECOND QUARTER					
ENG	102	Language and Composition II	5	0	5
MAT	116	Electrical Math II	5	0	5
ELN	104	Circuit Analysis	5	4	7
			15	4	17
THIRD QUARTER					
ENG	204	Oral Communications	3	0	3
MAT	117	Electrical Math III	5	0	5
ELN	102	Solid State Devices	5	4	7
ELN	110	Basic Troubleshooting	3	2	4
			16	6	19
FOURTH QUARTER					
ELN	201	Electronic Circuits	5	4	7
MAT	119	Mathematics of Computer Systems	3	0	3
PHY	101	Physics I	3	2	4
ELN	109	Digital Concepts	3	2	4
			14	8	18

			Class	Lab	Hours Credit
FIFTH QUARTER					
ELN	203	Measurement and Control I	3	6	5
PHY	102	Physics II	3	2	4
ELN	216	Industrial Electronics	3	2	4
DFT	110	Blueprint Reading: Instrumentation	0	3	1
		Social Science Elective (3 to 5 credit hours)	5	0	5
			14	13	19
SIXTH QUARTER					
PHY	103	Physics III	3	2	4
ELN	209	Digital Engineering Techniques	3	2	4
ELN	213	Measurement and Control II	3	6	5
MEC	235	Hydraulics and Pneumatics	3	3	4
			12	13	17
SEVENTH QUARTER					
ELN	223	Measurement and Control III	3	6	5
ELN	228	Instrumentation Projects	2	6	4
ELN	229	Instrumentation Field Trips	0	3	1
		Elective (3 to 5 credit hours)	5	0	5
			10	15	15
ELECTIVES					
BUS	269	Safety Engineering	3	2	4
EDP	106	BASIC Programming	2	2	3
Approved Electronics Engineering Courses or Computer Technology Courses					

LAW ENFORCEMENT
(POLICE SCIENCE)
T-064

The Law Enforcement Curriculum is designed to prepare the student for entry into the field of police work and other allied occupations. Police science vocations have evolved from simple jobs requiring minimal qualifications to highly complex activities requiring greater capacity for highly specialized knowledge and techniques.

Applicants to this curriculum must have a physical examination and must submit a recommendation from a law enforcement agency. A satisfactory grade must be made on GATB exam to be administered by Employment Security Commission. Admission to PSC 101 as a special credit student requires the student to be 20 years of age and sponsored by a law enforcement agency.

Students satisfactorily completing PSC 101 can be certified to the Minimum Standards and Training Council as having met the prescribed training for law enforcement officers.

Due to the wide scope of courses offered in this curriculum, the career opportunities are numerous. Law Enforcement agencies on the federal, state, and local levels are in need of trained professionals. Business and industry are employing trained personnel to provide their security. In the Correction System, trained individuals are needed in different areas, such as probation officers, consultants, parole board members, counselors, as well as guards. In the last decade, all these Criminal Justice areas have increased their demand for trained and dedicated men and women.

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
PSC	101	Introduction to Law Enforcement	0	25	12
or					
PSC	100	Basic Law Enforcement	0	20	7
ENG	101	Language and Composition I	5	0	5
PSC	227	Special Topics I (elective)	0	10	5
			5	35(30)	22 (17)
SECOND QUARTER					
ENG	102	Language and Composition II	5	0	5
MAT	100	Basic Math	5	0	5
LEX	106	Constitutional Law	5	0	5
PSC	103	Investigative Photography	2	6	4
			17	6	19
THIRD QUARTER					
ENG	204	Oral Communications	3	0	3
PSC	110	Crime & Delinquency	5	0	5
PSC	102	Science of Fingerprinting	3	4	5
PSC	205	Traffic Accident Investigation	3	4	5
			14	8	18

			Class	Lab	Hours Credit
FOURTH QUARTER					
PSC	209	Criminal Justice Field Training	3	32	6
PSC	216	Orientation and Evaluation	3	0	3
PSY	102	Introduction to Psychology	3	0	3
			9	32	12
FIFTH QUARTER					
ENG	103	Report Writing	3	0	3
SOC	101	Introduction to Sociology	3	0	3
PSC	214	Criminal Law	5	0	5
PSC	220	Criminal Justice Communications	5	0	5
			16	0	16
SIXTH QUARTER					
PSC	224	Narcotics and Dangerous Drugs	3	0	3
PSC	230	Criminal Evidence	3	0	3
PSC	206	Police Community Relations	5	0	5
PSC	211	Police Administration	5	0	5
POL	103	National, State and Local Government	3	0	3
			19	0	19
SEVENTH QUARTER					
PSC	228	Courtroom Techniques	3	4	5
PSC	226	Criminal Investigation	3	4	5
PSC	212	Criminalistics	3	4	5
			9	12	15
ELECTIVES					
PSC	229	Special Topics II	0	10	5
PSC	106	Defensive Tactics	0	2	1
PSC	107	Firearms Qualifications	0	3	1
PSC	108	Firearms I	0	2	1
PSC	109	Firearms II	0	2	1
PSC	213	Advanced First Aid	0	4	2

LIGHT CONSTRUCTION
V-029

Particular emphasis is placed on the construction of residential and small commercial buildings. Training is offered in the basic trades of electrical wiring, masonry, carpentry and heating and air conditioning.

Employment may be obtained with contractors who employ carpenters, cabinetmakers, masons, and electricians. Graduates may be employed as apprentices in some areas with advanced credit. Workers in these trades are in demand not only for installation but for building maintenance mechanics in small industries, apartments and hotels, public buildings and hospitals.

Light Construction is divided into two sections: (1) Light Construction Structural and (2) Mechanical. Structural consists of Carpentry and Masonry. Mechanical consists of Heating and Air Conditioning and Electrical Wiring.

LIGHT CONSTRUCTION CARPENTRY

CURRICULUM BY QUARTERS

			Hours Class	Lab	Credit
FIRST QUARTER					
CAR	1000	Carpentry I	2	6	4
DFT	1127	Blueprint Reading: Structural	1	3	2
			3	9	6
SECOND QUARTER					
CAR	1001	Carpentry II: Framing	3	9	6
			3	9	6
THIRD QUARTER					
CAR	1002	Carpentry III: Finishing	2	6	4
MAT	1120	Estimating: Structural	1	3	2
			3	9	6
FOURTH QUARTER					
CAR	1107	Cabinetmaking	3	9	6
			3	9	6

LIGHT CONSTRUCTION MASONRY

CURRICULUM BY QUARTERS

			Hours Class	Lab	Credit
FIRST QUARTER					
MAS	1014	Block Masonry	6	6	8
			6	6	8
SECOND QUARTER					
MAS	1015	Brick Masonry	6	6	8
			6	6	8
THIRD QUARTER					
MAS	1008	Advanced Masonry Shop	3	6	5
DFT	1128	Drafting: Structural	0	3	1
			3	9	6

			Class	Lab	Hours Credit
FOURTH QUARTER					
MAS	1004	Fireplace Construction	6	6	8
			6	6	8

LIGHT CONSTRUCTION ELECTRICAL WIRING

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
ELC	1120	DC Theory (Basic Application)	3	12	7
DFT	1109	Blueprint Reading: Electrical	2	3	3
			5	15	10
SECOND QUARTER					
ELC	1121	AC Theory (Basic Application)	3	12	7
DFT	1113	Electrical Drawing	2	3	3
			5	15	10
THIRD QUARTER					
ELC	1108	Residential Wiring	3	12	7
MAT	1118	Estimating: Electrical	2	0	2
ELC	1122	Residential & Industrial Controls	3	0	3
			8	12	12
FOURTH QUARTER					
ELC	1114	Industrial Wiring	3	12	7
ELC	1005	Code Seminar	5	0	5
			8	12	12

LIGHT CONSTRUCTION MECHANICAL
WARM AIR HEATING AND AIR CONDITIONING

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
AHR	1114	Warm Air Systems	6	3	7
DFT	1129	Blueprint Reading: Sheet Metal	0	3	1
			6	6	8
SECOND QUARTER					
AHR	1120	Air Conditioning Systems	6	6	8
			6	6	8
THIRD QUARTER					
AHR	1118	Heating & Cooling Load Calculations	3	0	3
AHR	1119	Distribution Design & Duct Fabrication	3	6	5
			6	6	8
FOURTH QUARTER					
AHR	1102	Installation & Maintenance of Total Comfort Systems	3	9	6
			3	9	6

MACHINIST
V-032

This curriculum is designed to train machinists by providing theory and practice in a variety of metal machining operations. Related courses including blueprint reading, metallurgy, math and science help provide additional basic skills necessary to the machinist trade. The machinist is a skilled metal worker who shapes metal parts by using machine tools and hand tools. The machinist must be able to set up and operate the machine tools found in a modern shop. The 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 the work can be completed according to blueprint or written specifications. The machinist makes standard shop computations relating to dimensions of work, tooling, feeds, and speeds of machining. Precision measuring instruments, such as micrometers and gauges are used to measure the accuracy of work.

The machinist also must know the characteristics of metals so that annealing and hardening of tools and parts can be accomplished in the process of turning a block of metal into an intricate, precise part.

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
MEC	1101	Machine Shop Theory & Practice I	3	12	7
MAT	1101	Fundamentals of Mathematics	5	0	5
DFT	1104	Blueprint Reading: Machinist I	0	3	1
ISC	1101	Industrial Safety	3	2	4
ENG	1111	Reading Comprehension	2	0	2
			13	17	19
SECOND QUARTER					
MEC	1102	Machine Shop Theory & Practice II	3	12	7
DFT	1105	Blueprint Reading & Sketching	1	2	2
MEC	1118	Introduction to Metals	3	2	4
ENG	1112	Communications Skills	2	0	2
PHY	1101	Applied Science I	3	2	4
			12	18	19
THIRD QUARTER					
MEC	1103	Machine Shop Theory & Practice III	3	12	7
MAT	1123	Machinist Mathematics (or an applied math course covering these concepts)	3	0	3
DFT	1106	Blueprint Reading: Machinist II	2	2	3
MEC	1119	Applied Metallurgy	2	3	3
WLD	1101	Basic Welding	0	3	1
			10	20	17
FOURTH QUARTER					
MEC	1104	Machine Shop Theory & Practice IV	3	12	7
PHY	1102	Applied Science II	3	2	4
ELC	1110	Basic Electricity	1	3	2
			7	17	13

ELECTIVES (REQUIRED) (5 hrs.)

			Class	Lab	Hours Credit
ELECTIVES (ONE REQUIRED)					
BUS	263	Statistical Quality Control	3	2	4
BUS	237	Small Business Management	3	0	3
BUS	269	Safety Engineering	3	2	4
BUS	272	Principles of Supervision	5	0	5
PSY	1101	Human Relations	3	0	3

MASONRY
V-070

The curriculum in masonry trains individuals to enter the trade with knowledge and basic skills that will enable them to perform effectively. The graduate must have a knowledge of basic mathematics, blueprint reading, and masonry technology. Emphasis will be on brick, block, rock, and other related trowel trades. Actual construction projects will be combined with classroom and labs to provide as much practical experience as possible.

CURRICULUM BY QUARTERS

			Hours Class	Lab	Credit
FIRST QUARTER					
MAS	1000	Masonry Shop I	6	18	12
DFT	1110	Blueprint Reading: Building Trades	1	3	2
ENG	1111	Reading Comprehension	2	0	2
			9	21	16
SECOND QUARTER					
MAS	1001	Masonry Shop II	6	18	12
MAT	1112	Mathematics: Building Trades	2	0	2
PHY	1104	Physical Principles of Building Construction	1	3	2
			9	21	16
THIRD QUARTER					
MAS	1020	Related Trowel Trades	6	18	12
DFT	1131	Drafting: Building Trades	1	3	2
MAT	1109	Estimating: Building Trades	2	0	2
			9	21	16
FOURTH QUARTER					
MAS	1005	Rock Construction	6	18	12
BUS	1104	Small Business Seminar	2	0	2
CIV	1120	Building Trades Instruments	1	3	2
			9	21	16

MEDICAL LABORATORY TECHNOLOGY
T-110

This two-year curriculum is designed to prepare a person to work as a vital member of the medical laboratory team, to perform a high percentage of test procedures for patients and serve in a supportive role to the medical technologist (ASCP) or pathologist. The program of study consists of technical and general education courses and clinical laboratory practice in a health facilities laboratory. Upon completion of the program, the graduate is eligible for the registry examination of the Board of Registry of Medical Technologists (ASCP) for certification of Medical Laboratory Technician (MLT).

It is required that the high school graduate or equivalent have one or more credits in biology, math, and chemistry from a secondary or accredited post-secondary school.

CURRICULUM BY QUARTERS

			Hours		
			Class	Lab	Credit
FIRST QUARTER					
ENG	101	Language and Composition I	5	0	5
BIO	101	Biology I	3	4	5
MAT	105	Introduction to Algebra	5	0	5
SOC	102	Principles of Sociology	5	0	5
			18	4	20
SECOND QUARTER					
ENG	102	Language and Composition II	5	0	5
CHM	101	Chemistry I	3	4	5
PSY	102	Introduction to Psychology	3	0	3
BIO	102	Anatomy and Physiology	4	2	5
			15	6	18
THIRD QUARTER					
ENG	204	Oral Communications	3	0	3
BIO	104	Microbiology	3	2	4
CHM	102	Chemistry II	3	4	5
MLT	101	Pathophysiology	3	4	5
			12	10	17
FOURTH QUARTER					
MLT	102	Clinical Hematology	3	4	5
MLT	103	Clinical Microbiology	3	4	5
MLT	104	Clinical Chemistry	3	4	5
			9	12	15
FIFTH QUARTER					
MLT	122	Clinical Microscopy	3	4	5
MLT	123	Immunohematology	3	4	5
MLT	129	Instrumentation	3	0	3
			9	8	13
SIXTH QUARTER					
MLT	130	Clinical Practicum A	3	30	6
MLT	132	Orientation & Evaluation	6	0	6
			9	30	12
SEVENTH QUARTER					
MLT	131	Clinical Practicum B	3	30	6
MLT	133	Seminar	6	0	6
			9	30	12

NURSING EDUCATION OPTIONS PROGRAM (DIPLOMA/DEGREE OPTIONS)

T-116

The Nursing Education Options (NEO) program is a course of study that permits the student to make career choices in the field of Nursing. The program is an eight-quarter, technical program that leads to the Associate of Applied Science degree upon successful completion. Completion of the first four quarters of the program (NEO I) leads to eligibility to take the State Board of Nursing Licensed Practical Nurse exam. The student may choose to exit the program or to continue on to the second year (NEO II). Continuing students, after completing four additional quarters (NEO II), are eligible to take the exam for Registered Nurse.

NEO I, quarters one through four, is offered by Haywood Technical College, Southwestern Technical College and Tri-County Community College on each individual campus and consists of general studies and academic and clinical nursing courses. Upon successful completion of this portion of the program, the student may choose to exit and take the LPN exam or to continue on to NEO II.

NEO II, quarters five through eight of the program is offered through a consortium of colleges composed of Haywood Technical College, Southwestern Technical College and Tri-County Community College, known as Region A Nursing Consortium. General studies may be taken on the campus of the consortium college in which the student is enrolled; the nursing courses will be conducted at the Consortium Administrative Unit, Haywood Technical College, and will consist of classroom instruction and clinical experiences. Clinical rotations will be scheduled primarily in Haywood and Buncombe counties. At the successful completion of NEO II, the graduate is awarded an Associate Degree in Nursing from the college of enrollment and is eligible to take the State Board of Nursing Registered Nurse examination.

Provision is made for persons who are graduates of an accredited practical nurse program to enter NEO II as advanced placement students on a space-available basis upon completion of certain pre-entry course work, provided they otherwise meet the admissions requirements. Persons desiring this advanced placement status should contact the college for individual testing and to learn of other required measures.

While students who complete NEO I may choose to transfer to other NEO programs throughout the state on a space-available basis to complete NEO II, such transfer will be at the discretion of the receiving institution. Students from other NEO programs may transfer into the Region A Consortium program also on a space-available basis, provided they can satisfy all other admission requirements.

It should be noted that many of the courses are sequential; therefore, it is not advisable for the student to omit any quarter and re-enter the program that year. Re-entry under such circumstances is by permission of the program director.

LEVEL I

CURRICULUM BY QUARTERS
(Diploma Option)

			Class	Lab	Clinic	Hours Credit
FIRST QUARTER						
NUR	101	Fundamentals of Nursing	6	4	3	9
BIO	102	Anatomy & Physiology I	4	2	0	5
NUT	101	Nutrition & Diet Therapy	3	0	0	3
PSY	102	Introduction to Psychology	3	0	0	3
			16	6	3	20
SECOND QUARTER						
NUR	102	Medical-Surgical Nursing I	6	0	12	10
MAT	145	Metrology	3	0	0	3
PSY	203	Human Growth & Development	5	0	0	5
			14	0	12	18
THIRD QUARTER						
NUR	103	Medical-Surgical Nursing II	6	0	15	11
NUR	107	Pharmacology	3	0	0	3
ENG	101	Language and Composition I	5	0	0	5
			14	0	15	19
FOURTH QUARTER						
NUR	104	Maternal-Child Nursing I	6	0	15	11
BIO	104	Microbiology	3	2	0	4
NUR	108	Nursing Seminar I	3	0	0	3
			12	2	15	18

LEVEL II

CURRICULUM BY QUARTERS
(Degree Option)

All Level II Nursing is based in the consortium buildings in Waynesville. Clinical facilities used during the second year are located primarily in Haywood and Buncombe counties and may require student attendance on evenings and weekends in addition to weekdays.

Non-nursing courses may be taken at STC. It is important to note that the second year (Fifth Quarter) begins with the winter quarter.

CURRICULUM BY QUARTERS

			Class	Lab	Clinic	Hours Credit
FIFTH QUARTER						
NUR	204	Advanced Maternal-Child Health Nursing	6	0	15	11
or						
NUR	205	Psychiatric Nursing	5	0	15	10
BIO	205	Anatomy & Physiology II	4	2	0	5
SOC	102	Principles of Sociology	5	0	0	5
			14 (15)	2	15	20 (21)
SIXTH QUARTER						
NUR	202	Medical-Surgical Nursing III	5	0	15	10
BIO	206	Anatomy & Physiology III	4	2	0	5
			9	2	15	15
SEVENTH QUARTER						
NUR	204	Advanced Maternal Child Health Nursing	6	0	15	11
or						
NUR	205	Psychiatric Nursing	5	0	15	10
ENG	102	Language and Composition II	5	0	0	5
			10 (11)	0	15	15 (16)
EIGHTH QUARTER						
NUR	203	Medical-Surgical Nursing IV	5	0	15	10
NUR	206	Nursing Seminar II	2	0	0	2
ENG	204	Oral Communications	3	0	0	3
			10	0	15	15

PARALEGAL TECHNOLOGY
T-120

The legal profession requires specialists and general practitioners. A legal specialist may be a lawyer specializing in one facet of law or a paralegal assisting a lawyer or a group of lawyers.

This curriculum is designed to train individuals to work under the supervision of a lawyer to relieve him of routine matters and assist him in the conduct of more complicated and difficult tasks. The graduate of the Paralegal Curriculum will be able to directly assist the lawyer in most facets of law.

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
ENG	101	Language and Composition I	5	0	5
LEX	100	Paralegal Orientation	5	0	5
MAT	110	Business Math	5	0	5
BUS	115	Business Law I	5	0	5
			20	0	20
SECOND QUARTER					
BUS	136	College Accounting I	4	3	5
BUS	116	Business Law II	5	0	5
ENG	102	Language and Composition II	5	0	5
LEX	106	Constitutional Law	5	0	5
BUS	102	Typing I	2	3	3
			21	6	23
THIRD QUARTER					
LEX	110	Civil Procedure	5	0	5
ENG	204	Oral Communications	3	0	3
LEX	103	Legal Research I	3	3	4
LEX	113	Family Law	3	4	5
		Social Science Elective	5	0	5
			19	7	22
FOURTH QUARTER					
LEX	112	Supervised Work Experience	3	30	6
LEX	114	Orientation and Evaluation (Seminar)	6	0	6
			9	30	12
FIFTH QUARTER					
LEX	111	Torts	3	0	3
LEX	212	Real Property	3	3	4
LEX	220	Legal Research II	2	4	5
LEX	208	Criminal Law	5	0	5
BUS	202	Word Processing Systems I	1	4	3
			14	11	20
SIXTH QUARTER					
LEX	201	N.C. Legal Systems I	5	0	5
LEX	107	Criminal Evidence & Procedure	3	0	3
PSC	103	Investigative Photography	2	6	4
LEX	211	Title Abstracting	2	3	3
EDP	104	Introduction to Data Processing	3	2	4
			15	11	19

SEVENTH QUARTER			Class	Lab	Hours Credit
LEX	225	Litigation Preparation	2	2	3
LEX	232	Estate Administration	3	0	3
LEX	202	N.C. Legal Systems II	5	0	5
LEX	205	Surveying	3	0	3
LEX	210	Mechanics of Property Transactions	3	0	3
			16	2	17

PLUMBING
V-037

The curriculum in plumbing and pipefitting provides the student the knowledge and basic skills to perform effectively. Courses in plumbing practices and pipefitting are included to provide practical experience as well as theoretical information. Other courses in communication skills, physics, human relations, and business operations are provided to assist the individual in occupational growth.

A substantial proportion of plumbers are self-employed or work for plumbing contractors doing repair, alteration, or modernizing work. Some plumbers install and maintain pipe systems for government agencies and public utilities, and some work on the construction of ships and aircraft. Pipefitters, in particular, are employed as maintenance personnel in the petroleum, chemical, and food processing industries. Actual construction projects will be combined with classroom and labs to provide as much practical experience as possible.

CURRICULUM BY QUARTERS

			Hours Class	Lab	Credit
FIRST QUARTER					
PLU	1110	Plumbing Pipework	5	15	10
DFT	1110	Blueprint Reading: Building Trades	1	3	2
ENG	1111	Reading Comprehension	2	0	2
			8	18	14
SECOND QUARTER					
PLU	1111	Domestic Hot & Cold Water Systems	5	12	9
MAT	1114	Math for Pipefitters and Plumbers	5	0	5
DFT	1115	Blueprint Reading: Plumbing Trades	3	0	3
			13	12	17
THIRD QUARTER					
PLU	1115	Drainage Systems: Residential	5	7	7
PLU	1112	Installation of Plumbing Fixtures	2	6	4
DFT	1131	Drafting: Building Trades	1	3	2
MAT	1109	Estimating: Building Trades	2	0	2
			10	16	15
FOURTH QUARTER					
PLU	1116	Commercial Systems	5	12	9
PLU	1105	Estimating: Plumbing Trades	3	0	3
BUS	1104	Small Business Seminar	2	0	2
CIV	1120	Building Trades Instruments	1	3	2
			11	15	16

PLUMBING

EVENING COURSES
V-037

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
PLU	1110	Plumbing Pipework	5	15	10
SECOND QUARTER					
PLU	1111	Domestic Hot & Cold Water Systems	5	12	9
DFT	1115	Blueprint Reading: Plumbing Trades	3	0	3
			8	12	12
THIRD QUARTER					
PLU	1115	Drainage Systems: Residential	5	7	7
PLU	1112	Installation of Plumbing Fixtures	2	6	4
			7	13	11
FOURTH QUARTER					
PLU	1116	Commercial Systems	5	12	9
PLU	1105	Estimating: Plumbing Trades	3	0	3
			8	12	12

RADIO AND TV BROADCASTING TECHNOLOGY
T-

Students enrolled in the Radio and TV Broadcasting Technology curriculum have a variety of careers from which to choose. They learn to speak well on microphone and on camera with and without scripts. They learn how to operate the camera, run the audio control board and direct the whole program. Courses in the curriculum also teach students the legal aspects of broadcasting, how to manage a broadcast operation, how to troubleshoot equipment, and how to write and produce both audio and video programming. Technical courses included are designed to give students an understanding of electronics and broadcast equipment.

Upon completion they are well prepared to write, produce, perform and direct production. They can also function as technicians and have an understanding of how their equipment works.

Graduates of the curriculum may find employment in radio or television stations, cable TV companies, public relations and advertising agencies, recording studios, production houses, and industrial or educational media.

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
ENG	101	Language and Composition I	5	0	5
BUS	102	Typing I	2	3	3
RTV	201	Introduction to Broadcasting	5	2	6
RTV	203	Expression in the Media	5	0	5
			17	5	19
SECOND QUARTER					
ENG	102	Language and Composition II	5	0	5
RTV	204	Radio Production	2	6	5
RTV	206	Writing for Broadcasting	3	0	3
MAT	105	Introduction to Algebra	5	0	5
			15	6	18
THIRD QUARTER					
ENG	204	Oral Communications	3	0	3
MAT	107	Applied Trigonometry	5	0	5
RTV	116	Broadcast Announcing	3	2	4
RTV	207	Television Production I	2	10	7
			13	12	19
FOURTH QUARTER					
ELC	109	Fundamentals of AC and DC	3	2	4
RTV	120	Control Room Procedures	3	2	4
RTV	209	Television Production II	2	10	7
RTV	205	Broadcast Programming	3	0	3
			11	14	18

			Class	Lab	Hours Credit
FIFTH QUARTER					
RTV	218	Broadcast Law	3	0	3
RTV	211	Broadcast Journalism	5	4	7
RTV	202	Sales and Promotion	3	0	3
		Social Science Elective (3 to 5 credit hours)	5	0	5
		Computer Elective (up to 5 hours)	3	4	5
			19	8	23
SIXTH QUARTER					
RTV	225	Orientation and Evaluation	6	0	6
RTV	226	Supervised Work Experience	3	30	6
			9	30	12
SEVENTH QUARTER					
RTV	220	Introduction to Television Systems	5	4	7
RTV	221	Troubleshooting Broadcast Equipment	3	2	4
RTV	212	Broadcast Management	3	0	3
EDP	115	Computer Graphics	3	2	4
			14	8	18
ELECTIVES					
RTV	213	Station Operations I	0	10	3
RTV	214	Station Operations II	0	10	3
RTV	215	Station Management I	0	4	1
RTV	216	Station Management II	0	4	1

RECREATION ASSOCIATE
T-094

The Recreation Associate curriculum trains individuals to plan and direct recreational activities for all age groups. The program is divided to meet the needs of those who work with the following categories of people and facilities: pre-school, school age, adults, senior citizens, public and private recreational sites and facilities. Practical administration will be provided in all areas of instruction.

CURRICULUM BY QUARTERS

			Hours Class	Lab	Credit
FIRST QUARTER					
ENG	110	Freshman Composition I	5	0	5
MAT	110	Business Math	5	0	5
REC	108	Introduction to Recreation	3	0	3
Core Elective I:		*BIO 101 General Biology	3	4	5
		**BUS 101 Introduction to Business	5	0	5
			21	4	23
SECOND QUARTER					
ENG	112	Freshman Composition II	5	0	5
BUS	109	Seminar on Human Relations	3	0	3
REC	110	Recreation Activities - Youths, Teens, Adults	3	2	4
REC	134	First Aid and Safety	1	2	2
REC	249	Leadership Techniques in Recreation	3	0	3
			15	4	17
THIRD QUARTER					
ENG	204	Oral Communications	3	0	3
POL	103	National, State, & Local Government	3	0	3
REC	200	Swimming Pool Management	2	2	3
REC	125	Recreation Leadership I	0	2	1
Core Elective II:		*ENV 229 Meteorology	3	4	5
		**BUS 242 Public Relations & Advertising	3	2	4
			*11	8	15
			**11	6	14
FOURTH QUARTER					
REC	129	Camping and Nature Activities	3	2	4
REC	138	Outdoor Education	3	2	4
REC	260	Maintenance and Operations	3	2	4
REC	265	Campground Management	2	2	3
			11	8	15
FIFTH QUARTER					
SOC	101	Introduction to Sociology	3	0	3
REC	130	Legalities & Finance in Recreation	3	0	3
REC	250	Recreation Programming	3	2	4
REC	215	Recreation Leadership II	0	2	1
Core Elective III:		*ENV 210 Ecology	3	2	4
		**BUS 272 Principles of Supervision	5	0	5
			*12	6	15
			**14	4	16

			Class	Lab	Hours Credit
SIXTH QUARTER					
REC	256	Conservation of Renewable Resources	3	0	3
REC	259	Recreation Administration	5	0	5
REC	235	Recreation Leadership III	0	2	1
Core Elective IV:		*ENV 120 Land Resource Management	3	4	5
		**BUS 136 College Accounting	4	3	5
			*11	6	14
			**12	5	14
SEVENTH QUARTER					
EDP	104	Introduction to Data Processing	3	2	4
REC	272	Recreation Areas and Facilities	3	2	4
REC	266	Special Population Recreation	3	0	3
REC	277	State and Federal Lands Management	3	2	4
			12	6	15

*Natural Resource Option
**Leadership Option

SECRETARIAL SCIENCE/INFORMATION PROCESSING
T-030

This curriculum provides secretarial training according to the accepted procedures required by business, industry, and other professional areas. Special training in secretarial subjects is supplemented by related courses in math, English, accounting, personality development, and word processing. The newest technology in word processing equipment is used to teach specialized skills which are in great demand in this area and throughout the nation. During the fourth quarter, students are supervised in actual secretarial jobs which provide valuable experience.

This curriculum also offers the option of shorthand courses or ones which provide a broader business background. This option gives students a choice in their preparation for a large variety of positions in the rapidly-growing secretarial field.

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
ENG	101	Language and Composition I	5	0	5
MAT	110	Business Math	5	0	5
BUS	101	Introduction to Business	5	0	5
BUS	102	Typing I	2	3	3
BUS	106	Shorthand I	3	2	4
or		Business elective			
			20	5	22
SECOND QUARTER					
ENG	102	Language and Composition II	5	0	5
BUS	103	Typing II	2	3	3
BUS	248	Business Economics I	5	0	5
EDP	104	Introduction to Data Processing	3	2	4
BUS	107	Shorthand II	3	2	4
or		Business elective			
			18	7	21
THIRD QUARTER					
ENG	204	Oral Communications	3	0	3
BUS	104	Typing III	2	3	3
BUS	110	Office Machines	1	2	2
BUS	209	Machine Transcription	2	0	2
BUS	108	Shorthand III	3	2	4
or		Business elective			
			11	7	14
FOURTH QUARTER					
BUS	111	Supervised Work Experience	0	30	3
BUS	216	Orientation and Evaluation (Seminar)	4	0	4
			4	30	7

			Class	Lab	Hours Credit
FIFTH QUARTER					
BUS	205	Advanced Typing	2	3	3
BUS	201	Principles of Word Processing	3	0	3
BUS	131	Business Communications	3	2	4
BUS	206	Dictation & Transcription I	3	2	4
or		Business elective			
			11	7	14
SIXTH QUARTER					
BUS	136	College Accounting I	4	3	5
BUS	202	Word Processing Systems I	1	4	3
BUS	109	Seminar on Human Relations	3	0	3
BUS	229	Income Taxes I	3	2	4
BUS	207	Dictation & Transcription II	3	2	4
or		Business elective			
			14	11	19
SEVENTH QUARTER					
BUS	214	Secretarial Procedures	3	2	4
BUS	237	Small Business Management	3	0	3
BUS	251	Personality Development	3	0	3
BUS	203	Word Processing Systems II	3	0	3
BUS	208	Dictation & Transcription III	3	2	4
or		Business elective			
			15	4	17

SOLAR MECHANICS
V-123

The Solar Mechanics curriculum prepares students to install and maintain solar energy systems. Because of the custom nature of many solar energy installations and the rapid development of new solar techniques, the courses will provide a broad background of skills which will enable the solar mechanic to adapt to changing conditions.

Solar mechanics may work for plumbing and heating contractors, companies specializing in solar installations, or work in their own energy-related small business.

Actual Construction projects will be combined with classroom and labs to provide as much practical experience as possible.

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
EGY	1120	Introduction to Solar Concepts	3	0	3
EGY	1121	Solar Collectors	5	0	5
EGY	1136	Solar Lab I	0	9	3
PLU	1005	Solar Pipework	1	3	2
EGY	1110	Hand and Power Tools	0	3	1
DFT	1110	Blueprint Reading: Building Trades	1	3	2
ENG	1111	Reading Comprehension	2	0	2
			12	18	18
SECOND QUARTER					
EGY	1125	Solar Domestic Hot Water	4	0	4
EGY	1137	Residential Energy Conservation	2	0	2
AHR	1119	Distribution Design & Duct Fabrication	3	6	5
EGY	1139	Solar Lab II	0	9	3
PHY	1104	Physical Principles of Building Construction	1	3	2
MAT	1112	Mathematics: Building Trades	2	0	2
			12	18	18
THIRD QUARTER					
ELC	1123	Electrical & Control Systems	3	0	3
EGY	1140	Solar Lab III	0	9	3
AHR	1114	Warm Air Systems	6	3	7
AHR	1118	Heating & Cooling Load Calculations	3	0	3
DFT	1131	Drafting: Building Trades	1	3	2
MAT	1109	Estimating: Building Trades	2	0	2
			15	15	20
FOURTH QUARTER					
EGY	1142	Active Solar Space Conditioning	6	6	8
AHR	1102	Installation & Maintenance of Total Comfort Systems	3	9	6
CIV	1120	Building Trades Instruments	1	3	2
BUS	1104	Small Business Seminar	2	0	2
			12	18	18

SURVEYING
T-078

The Surveying (Technical Specialty) curriculum is designed for individuals interested in upgrading skills to assist surveyors or engineers in land, forest, highway, marine, and other types of surveying. The program may be adapted in emphasis by choice of electives. The basic courses included in this curriculum include mathematics, drafting and surveying.

CURRICULUM BY QUARTERS

			Class	Lab	Field	Hours Credit
FIRST QUARTER						
CIV	101	Surveying I	1	2	6	4
MAT	100	Basic Mathematics	5	0	0	5
			6	2	6	9
SECOND QUARTER						
DFT	105	Surveying Drafting	4	4	0	6
MAT	105	Introduction to Algebra	5	0	0	5
			9	4	0	11
THIRD QUARTER						
CIV	102	Surveying II	1	2	6	4
MAT	111	Applied Trigonometry	5	0	0	5
			6	2	6	9
FOURTH QUARTER						
CIV	103	Surveying III	1	2	6	4
CIV	100	Boundary Control	5	0	0	5
			6	2	6	9

ASSOCIATE DEGREE PROGRAM FOR VOCATIONAL INSTRUCTORS
T-109

PURPOSE

The program is designed for persons who have developed a skill, trade or technical specialty and who desire to teach or pursue a degree. Successful graduates of the program may find employment in the public high schools, community and technical colleges. It is also designed for those already teaching in such programs who have not had the opportunity to acquire professional educational training.

This program is unique in its design and offers the opportunity to earn an Associate in Applied Science Degree allowing credit for previous training experience, and formal study in the student's area of expertise, supplemented by course work to broaden the student personally and develop professional skills in the techniques of teaching.

PROGRAM

Credit will be awarded to skilled craftsmen based on educational experience and work experience. Credit will be awarded in the following manner:

Twenty-four quarter hours' credit for full-time trade school, twelve months in one special skill as are certified by diploma or letter by trade school officials, maximum twenty-four quarter credit hours.

and/or

One quarter hour credit per sixty hours of full-time trade inspection for programs of less than one year duration. Certified by diploma or letter by trade school officials, maximum eight credit hours.

One quarter hour credit per forty hours of special course instruction-company sponsored school. Certified by diploma, certificate, or letter by company school. Maximum five hours.

Five quarter hours' credit for each full year of employment in a teaching situation. Teaching must be the primary responsibility of employment. Maximum ten hours.

Two quarter hours' credit for each full year employment in the specialty occupation qualified to teach. Maximum ten hours.

The maximum number of hours awarded for specialty skills toward an Associate in Applied Science Degree is 48 quarter hours.

A minimum of 56 quarter hours' credit must be earned through course work at Southwestern Technical College or another recognized college or technical institute program. In order to earn an Associate in Applied Science Degree, the general education requirements must be met either through transfer credit, challenge examination, or formal course work.

A program of study will be prepared for each individual vocational instructor or potential instructor who makes application for the program. The Dean of Instruction or an Assistant Dean will serve as advisor.

Following are minimum requirements for an Associate in Applied Science Degree for this curriculum. Anyone who needs additional hours may choose electives from any technical curriculum with the approval of the advisor.

Three areas of development and the hours required for each are:

	Min. Quarter Hours Required
A. Specialty Skills	48
B. Personal Skills (Sciences, Humanities)	28
English	15
Social Science	6
Math	5
Science	2
C. Professional Skills (Vocational, Educational)	28
TOTAL	104

COURSE REQUIREMENTS

English (The English requirements may be met by completion of 15 hours from the following courses.)

ENG	101	Language & Composition I	5	0	5
ENG	102	Language & Composition II	5	0	5
ENG	204	Oral Communications	3	0	3
ENG	103	Report Writing	3	0	3

Social Sciences (The Social Sciences requirements may be met by completion of a minimum of 6 hours from courses listed under PSY, HIS, SOC, SSC, ECO or POL in the Course Description Section.)

Mathematics (Mathematics requirements may be met by completion of 5 hours from any course or courses numbered MAT 101 or higher.)

Science (Science requirements may be met by completion of a minimum of 2 hours from courses listed under PHY, BIO, CHM or SCI in the course description section.)

Vocational Education (Vocational Education requirements may be met by completion of 28 hours from the following courses and other curriculum courses as approved by advisor.)

EDU	110	Methods of Teaching Industrial Subjects	3	0	3
EDU	111	Use of Media in Instruction I	3	0	3
EDU	112	Shop Organization & Planning I	2	2	3
EDU	113	Shop Organization & Planning II	2	2	3
EDU	114	Safety in the School Shop & Laboratory	3	0	3
EDU	115	Introduction to Industrial Education	3	0	3
EDU	116	History & Philosophy of Industrial Education	3	0	3
EDU	117	Program & Course Development	3	0	3
EDU	118	Principles of Cooperative Education	3	0	3
EDU	119	Occupational Guidance	3	0	3
EDU	121	Drafting for Vocational Instructor I	3	0	3
EDU	123	Environmental Concepts in Education	3	0	3
EDU	124	Teaching the Handicapped Student in Occupational Education	3	0	3
EDU	125	Drafting for Vocational Instructor II	3	0	3
EDU	140	Use of Media in Instruction II	3	0	3

WELDING
V-050

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.

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

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

CURRICULUM BY QUARTERS

			Class	Lab	Hours Credit
FIRST QUARTER					
WLD	1102	Oxyacetylene Welding & Cutting	5	15	10
MAT	1101	Fundamentals of Mathematics	5	0	5
ENG	1111	Reading Comprehension	2	0	2
			12	15	17
SECOND QUARTER					
WLD	1108	Basic Arc Welding	5	15	10
WLD	1110	Metallurgy for Welders	3	0	3
DFT	1122	Blueprint Reading and Sketching: Mechanical	5	0	5
			13	15	18
THIRD QUARTER					
WLD	1112	Advanced Arc Welding	5	15	10
MAT	1114	Math for Pipefitters & Plumbers	5	0	5
DFT	1121	Blueprint Reading for Welders	3	0	3
			13	15	18
FOURTH QUARTER					
WLD	1106	Introduction to Inert Gas & Pipe Welding	5	15	10
BUS	1104	Small Business Seminar	2	0	2
DFT	1120	Template Development & Pipe Layout	3	3	4
			10	18	16

OPTION

	Class	Lab	Hours Credit
FIFTH QUARTER			
WLD 1114 Practical Shop: SMAW Welding (Certificate Procedures)	0	20	6
SIXTH QUARTER			
WLD 1115 Practical Shop: Inert Gas Welding (Certification Procedures)	0	20	6

WELDING
EVENING COURSES
V-050

	Class	Lab	Hours Credit
FIRST QUARTER			
WLD 1102 Oxyacetylene Welding & Cutting	5	15	10
SECOND QUARTER			
WLD 1108 Basic Arc Welding	5	15	10
THIRD QUARTER			
WLD 1112 Advanced Arc Welding	5	15	10
FOURTH QUARTER			
WLD 1106 Introduction to Inert Gas and Pipe Welding	5	15	10

OPTION

	Class	Lab	Hours Credit
FIFTH QUARTER			
WLD 1114 Practical Shop: SMAW Welding (Certification Procedures)	0	20	6
SIXTH QUARTER			
WLD 1115 Practical Shop: Inert Gas Welding (Certification Procedures)	0	20	6

COLLEGE CONTINUING EDUCATION PROGRAMS OF STUDY

CONTINUING EDUCATION DIVISION

The Continuing Education Division is committed to the concept of life-long learning. It is the purpose of Southwestern Technical College to provide the opportunity for citizens to develop their fullest potential in whatever vocational, intellectual, or cultural areas they desire. It is also the purpose of Southwestern Technical College to offer low cost educational opportunities to any adult regardless of his educational background.

The Continuing Education Division supports the purposes of the college by offering courses on campus and throughout the community whenever interest or need is expressed. The Continuing Education Division always welcomes requests for courses and any suggestions that will help in providing better service to the community.

Extension courses are specially designed courses, usually of short duration ranging from a few hours to one or more quarters, structured so that they provide educational opportunities either to prepare for entry into an occupation, to upgrade the occupational competence of those already employed in the occupation, or to work toward self-improvement.

Extension classes do not earn academic credits which can be recognized in a diploma or degree program; however, a certificate is awarded upon successful completion . For some courses, C.E.U.'s (Continuing Education Units) will be awarded, one C.E.U. to be given for each ten contact hours of participation in an organized Continuing Education experience under responsible sponsorship, capable direction and qualified instruction.

COST

Registration fees for occupational and academic courses have been increased to $10.00. Practical skills and avocational courses shall charge a seventy-five cent ($.75) per student membership hour.

ENROLLMENT

Call the Continuing Education Office, 586-4091 (Jackson), 524-6421 (Franklin), 497-7233 (Cherokee), and preregister. Schedules of courses are sent to all postal patrons before the beginning of each quarter.

COURSE OFFERINGS

The following is a partial list of courses offered through the Continuing Education Division. Others can be offered if twelve or more persons are interested in a course.

ADULT BASIC EDUCATION

The purpose of the Adult Basic Education program at Southwestern Technical College is to provide an educational opportunity for those adults in the tri-county service area who did not complete their public school education. Classes are designed in a flexible manner to allow for individual differences in persons who have been out of the public school system from six months to thirty years or more. Students' varying levels of motivation, ability, time and work habits, and class commitment are all taken into consideration in working toward realistic student goals.

Adult Basic Education stresses literacy development from beginning reading to pre-GED study. Conventional basic literacy instruction emphasizes a general competency in basic word attack, comprehension, and vocabulary skills as well as some basic knowledge in the social studies and science area. Functional literacy, math, and English skills are also developed. Instructional methods and materials appropriate for adults are used to help promote more meaningful learning experiences. Pre-GED instruction provides further study in the math, English, social studies, science, and general reading areas. The program lays the groundwork for individuals to enter high school equivalency classes or to take the General Educational Development examination.

Open enrollment is maintained throughout the year in at least one general class per county to insure the opportunity for continuing education. Specialized ABE classes are established at various locations in the service area. There is no fee for registration or for instructional materials.

ADULT HIGH SCHOOL/GENERAL EDUCATION DEVELOPMENT

HIGH SCHOOL PREPARATION

A review or refresher course in mathematics, reading, and English for individuals preparing to take the high school equivalency (GED) Test. Instruction is designed to meet the needs of individuals at their own particular education level and at their own rate of learning. Enrollment in the class is open at all times. This refresher study will aid the individual in successfully completing the High School Equivalency (GED) Exam and in receiving a High School Equivalency Certificate.

ACADEMIC EXTENSION

Academic Extension courses are available in Art, Religion, Languages, Math, Social Sciences, Economics, Philosophy, Sociology, Psychology, Politics, and Science.

OCCUPATIONAL EXTENSION

Occupational Extension offers courses in Agriculture, Horticulture, Civil Engineering, Business and Marketing, Hospitality, Health and Safety, Home Economics, Production Crafts, Electronics, Electricity, Building Trades, Service Trades, Automotive, Fire Service, Law Enforcement, Masonry, Metalworking, Plastics, Seafood Occupations, Textiles, and Human Resources Development.

PRACTICAL SKILLS

Courses are available in Mechanics and Maintenance, Homemaking, Arts and Crafts, and other miscellaneous courses.

AVOCATIONAL COURSES

Various courses are offered for hobby and recreation.

SPECIALTY OCCUPATIONS

There are five areas of specialized training offered through the Continuing Education Division which are assisted by area consultants. These classes are designed to meet the general or specific training and re-training needs of groups, private individuals, employees in business, governmental agencies, and other public institutions. Participants can earn a number of certificates and awards upon successful completion.

Fisheries Training: This program is designed to assist present trout growers and make their operation more efficient as well as provide potential growers the necessary information to set up a profitable operation. Major topics are Trout Feeding, Diseases and Parasites, Marketing, Processing, Recreation Sales, Waste Disposal and Laws and Regulations; Watershed Management; and Artificial Bait Construction (Flytying) is designed to provide training needed to construct dry flies, wet flies, nymphs, and streamers.

Fire Service Training: A variety of courses are offered in cooperation with individual fire departments in the service area. Specific units are designed to increase the firefighter's technical knowledge and improve his skills in fire-ground operation. Classes may be offered in any order according to the needs of each fire department. Examples of Firemanship classes are:

Area Fire Schools
Arson Detection
Civil Disorder
Compressed Gas Emergencies
Fire Apparatus Practices
Fire Brigade Training
Firefighting Procedures
Fire Stream Practices
Forcible Entry
Home Fire Safety
Hospital Fire Safety
Hose Practices
Introduction to Firefighting
Ladder Practices
Officer Training
Portable Fire Extinguishers
Protective Breathing Equipment
Rescue Practices
Rope Practices
Salvage and Overhaul Practices
School Bus Evacuation
Ventilation
Teacher Education
Bombing and Bomb Threats

Management Development Program: The Management Development Program is designed to upgrade the supervisory and mid-management personnel in business and industry. Classes are scheduled in accordance with the needs of industry.

The courses listed below are available to Southwestern Technical College and may be credited toward Diploma in Management Development Training awarded by the Department of Community Colleges for the completion of any combination of courses totaling 160 hours. Credit may be given for courses previously taken at STC or elsewhere.

Course Titles

Principles of Supervision
Job Relations Training
Science of Human Relations
Conference Leadership Training
Instructor Training
Creative Thinking

Art of Motivating People
Economics in Business & Industry
Effective Communications
Effective Writing
Effective Speaking
Speed Reading
Work Measurement
Job Methods
Industrial Safety & Accident Prevention
Industrial First Aid
The Supervisor in North Carolina
Job Analysis Training
Management Primer
Cost Accounting for Supervisors
Supervision in Hospitals

Hospitality: The Department of Community Colleges offers Hospitality Training as one answer to North Carolina's need for more trained personnel in the area of food, lodging, recreation and travel. Some examples of classes are:

Food Purchasing
Food Preparation
Housekeeping
Hospitality Human Relations
Hotel-Motel Management
Menu Planning
Modified Diets
School Food Service
Quantity Food Production
Use and Care of Equipment
Waiter-Waitress Training

Law Enforcement Training: See description of law enforcement offerings in the curriculum section of the catalog. In addition to basic law enforcement training courses in curriculum, various specialized law enforcement courses are conducted in the area served by Southwestern Technical College, such as:

Breathalyzer Operator's Training
Criminal Law and Procedure
Narcotics and Dangerous Drugs
Criminal Investigation
Firearms Training
Defensive Tactics
Jail and Detention
Communications
First Aid
Courtroom Procedures

HUMAN RESOURCES DEVELOPMENT

The Human Resources Development (HRD) Program is designed to provide pre-vocational training to unemployed or underemployed adults in the service area. Upon completion of the HRD class, students are offered job placement assistance and/or help with entering vocational programs.

The purpose of HRD's pre-vocational training is to increase students' chances for getting and maintaining satisfying employment or for becoming successful in whichever vocational programs they decide to enter. Instruction is divided between job-seeking/job-keeping skills and developing reading, math, and English skills. Participants are provided the opportunity for learning self-awareness and interpersonal skills, matching abilities and strengths to jobs, finding out about realistic job and training opportunities, completing applications, writing resumes, learning interviewing techniques, planning effective job searches, preparing for the high school equivalency (GED) tests, developing and refreshing academic skills, and learning effective study and testing skills.

An average HRD class meets for ten weeks of fifteen instructional hours per week. Classes are held both on and off campus and are repeated each quarter. Anyone eighteen years or older, unemployed or part-time employed, and wiling either to go to work or to enter vocational training is eligible to participate.

"OASIS" (OLDER ADULT SPECIAL INSTRUCTION AND SERVICES)

The "OASIS" Program at Southwestern Technical College is an extension of former seminars and instruction to older adults (senior citizens) in the Jackson, Macon, and Cherokee/Bryson City areas.

The major goal of this program is to involve older adults in the on-going curriculum and continuing education program at STC, both on and off campus, as well as to establish new service and instructional programs.

It also provides training opportunities for service providers for older adults by way of group seminars and classes, as well as individual credit for service providers who wish to improve their skils.

At present, the target sites for instruction of older adults are rest/nursing homes and nutrition sites. Plans are being developed for instruction to the homebound and institutionalized adults in the three-county area via cable-satellite television.

A ten-hour certificate music appreciation course is at present being taught through the "OASIS" program. Art appreciation and creative writing will be offered in the future. STC has 123 catalogued courses of interest to older adults and 63 courses catalogued of interest to service providers.

The goal of "OASIS" is to provide instruction and service through cooperation with the other area service agencies, the state programs, and the national aging organization.

Older adults, 65 or over, who are residents of North Carolina may take courses without paying tuition.

Inquiries about this program should be directed to the Division of Continuing Education at STC.

THE VISITING ARTIST PROGRAM

Southwestern Technical College participates in the Visiting Artist Program sponsored by the North Carolina Arts Council and the North Carolina Department of Community Colleges. The purpose of the program is to enhance the appreciation and cultivation of the arts within the communities which the colleges serve.

Through special funding grants, a professional in the visual, literacy or performing arts is employed by the institution to serve as an "instructor-at-large" for the entire community rather than teaching a regular series of classes on the college campus.

In this capacity, the artist performs a wide range of functions, some of which may be lecture-demonstrations, concerts, and special programs for public schools, civic clubs, art councils, radio/television appearances, church and community organizations.

The artist also organizes and participates in exchange programs with artists from other institutions around the state to bring varied artistic exposure to the institutions and the community.

The artist performs at no charge to the public.

The North Carolina Visiting Artist Program is unique being the first of its kind in the United States.

APPALACHIAN COMMUNITY SERVICE NETWORK—

THE LEARNING CHANNEL

Appalachian Community Service Network (ACSN)—the Learning Channel has enjoyable, valuable things for people to learn every day. The network cablecasts tapes geared to: career skills; self-improvement; leisure activities; and college telecourses.

All programs are delivered via satellite and are designed to meet the needs of people in the home and at work. It is geared to expand use of telecommunication's technology and to meet diverse training needs across the country.

With time on the commercial USA satellite RCA Satcom I, ACSN has the capability of serving the whole area of the United States and beyond. In addition to community sites, cable systems can carry the programs and can make programs available to home viewers.

Southwestern Technical College has the necessary equipment to continue operation and to access the new satellite and ACSN services. Although ACSN will produce some of the programs, it will primarily act as a gatherer and distributor of programming which has been developed by others. STC is excited about being able to continue to share in the use of this programming, which, as an individual agency, the College could never afford to access.

ACSN provides programing to STC for up to 64 hours per week. Program offerings each quarter include courses, workshops, and seminars on a variety of topics. Programs in education, health, business and industry, government, and community services are offered. These are available on campus, at community sites, and over cablevision.

Undergraduate, community college curriculum, and continuing education credits are available.

In addition to campus and community sites, efforts are underway to make programs available to home viewers. Students with access to cablevision who carry ACSN programming can take the programs at home. STC will make the ancillary and support material available as well as provide orientation and a contact instructor for the home viewer.

A full description of ACSN programming services available, can be secured through the Department of Continuing Education.

COUNSELING SERVICES

The Division of Continuing Education arranges off-campus counseling as the need arises. This is coordinated through Student Services. Referrals are made to other programs and assistance is given in arranging G.E.D. testing through the campus director and off-campus testing site directors.

GENERAL EDUCATION DEVELOPMENT TESTS

Southwestern Technical College is an official General Education Development Testing Center. These tests cover five broad areas: English Expression, Literature, Mathematics, Social Studies, and Natural Science.

Persons receiving a total passing score of 225 points with no single test score below 35 are awarded a High School Equivalency Certificate by the North Carolina Department of Public Instruction. This cerfiticate is generally accepted on the same basis as a high school diploma for employment, job promotion, and higher education.

Preparation: A person wishing to take the G.E.D. tests should come to the College for an initial interview and preliminary counseling. It it appears that the individual is not yet fully ready to take the tests, he or she can select one of three ways to complete his or her preparation: The Adult Basic Education program, High School Equivalency classes, or Developmental Studies. Any of these will help him or her to acquire the skills necessary for success on the tests.

Application requirements: In order to take the G.E.D. tests, a person must:

1. Be at least 18 years of age.
2. Be a resident of North Carolina.
3. File an application, which is available at the College or from his or her county Superintendent of Schools.

In the event that any single test score or the total score is unsatisfactory, a retest may be taken after six (6) months of further study.

At the time of application, a testing date will be set. Every effort will be made to arrange a time which will be at the convenience of the applicant so that he or she will not have to take time off from work or other responsibilities. G.E.D. testing sites have been established in Franklin and Cherokee, as well as on the STC campus.

COMMUNITY SERVICE PROGRAMS

The Continuing Education Department is always alert to possibilities of sponsoring public events for which no charge is made. Such programs may consist of art exhibits, dramatic presentations, poetry or other readings, lectures on a wide variety of subjects, or any other topic of special interest.

CHEROKEE CENTER/SWAIN COUNTY CONTINUING EDUCATION

OFFICES

Offices are located in Swain County on the Cherokee Indian Reservation, Acquoni Road in the Cherokee Boys Club Complex.

Office and classroom facilities are provided by the Eastern Band of the Cherokee Indians, Cherokee Boys Club, and the Swain County High School and Swain County Board of Education.

SERVICES

Cherokee Center offers off-campus programs with full college credit in vocational and technical areas. The first three quarters of full-time curriculum programs are offered for the convenience of area people with direct transferability.

CURRICULA COURSE OFFERINGS

Full-time enrollment in the following:

Secretarial Science
Business Administration
Pre-Technical and Pre-Vocational Guided Studies
Other courses in Vocational, Technical, General Education and part-time curriculum classes.

ENROLLMENT

Enrollment information may be obtained for the Center/Swain County offerings by calling (704) 497-7233. For information concerning new class organization, call the above number. A variety of interesting, educational classes can be offered by having a minimum enrollment of twelve students.

CONTINUING EDUCATION

Continuing Education at the Cherokee Center provides the opportunity for community people to develop to their fullest potential in whatever vocational, technical, or personal enrichment area they desire. Continuing Education courses are especially designed courses, usually of short duration ranging from a few hours to one or more quarters, structured so that they provide educational opportunities either to prepare for entry into an occupation, to upgrade the occupational competence of those already employed in the occupation, or to work toward self-improvement.

CONTINUING EDUCATION COURSE OFFERINGS

Academic Extension: Art, Religion, Languages, Math, Psychology, Economics, History, Journalism, Sociology, Science, and others.

Occupational Extension: Agriculture, Horticulture, Animal Science, Emergency Medical, Safety-First Aid, Crafts, Industrial, Automotive, Hospitality, Insurance, In-Service Education, Health Occupations, Home Economics, Electrical, Mechanical, Carpentry, Firemanship, Masonry, Textiles, Law Enforcement, Plumbing, Human Resource Development, New and Expanded Industry Training, and others.

Practical Skills: Homemaking, Maintenance, Taxidermy, Furniture Refinishing, Small Farm Production, Beekeeping, and others.

Avocational: Crafts, Calligraphy, Basketry, Jewelry Making, Stitchery, Macrame, Pottery, Leather Crafts, Stained Glass, Smoking Withdrawal, and others.

COUNSELING SERVICES

Career and academic counseling services are provided by one full-time counselor and three full-time faculty members at the Center. This program is coordinated through the Student Services Department of the College.

GENERAL EDUCATION DEVELOPMENT TESTS

(HIGH SCHOOL EQUIVALENCY)

The STC Cherokee Center is an official General Education Development Testing Center for Swain County and area residents.

Testing dates at the Center are scheduled for Monday, Tuesday, and Wednesday of the third week of each month.

Tests cover five broad areas: English Expression, Literature, Mathematics, Social Studies, and Natural Science.

Persons receiving a total passing score of 225 points with no single test score below 35 are awarded a High School Equivalency Certificate by the North Carolina Department of Public Instruction. This certificate is generally accepted on the same basis as a high school diploma for employment, job promotion, and higher education.

Preparation: A person wishing to take the GED tests should come to the Center for an initial interview and preliminary counseling. If it appears that the individual is not yet fully ready to take the tests, he or she can select one of three ways to complete his or her preparation: the Adult Basic Education program, High School Equivalency classes, or Developmental Studies. Any of these will help him or her acquire the skills necessary for success on the tests.

Application requirements—In order to take the GED tests, a person must:

1. Be at least 18 years of age.
2. Be a resident of North Carolina.
3. File an application, which is available at the Center or from his or her county Superintendent of Schools.

In the event that any single test score or the total score is unsatisfactory, a retest may be taken after six (6) months of further study.

At the time of application, a testing date will be set. Every effort will be made to arrange a time which will be at the convenience of the applicant so that he or she will not have to take time off from work or other responsibilities.

MACON COUNTY CONTINUING EDUCATION

The office for the Macon County unit of Southwestern Technical College is located at the Court House in Franklin, N.C. This office coordinates the Continuing Education and Curricula classes that are offered for Macon County. For more information about offerings, call (704) 524-6421, Ext. 261.

COURSE DESCRIPTIONS

AHR-101 Non-Solar Heating Systems (5-4-7)

Description of conventional heating and cooling systems, hydronic, forced air, and radiant heat delivery; refrigeration cycle, air conditioner, and heat pump operation; lab work in sheet metal fabrication and troubleshooting skills.

AHR-102 Air Conditioning Systems (2-2-3)

Basic principles of refrigeration; operation of heat pumps; combinations of heating and cooling equipment; cooling towers.

AHR-201 Instrumentation and Controls (3-4-5)

Concepts and applications of various devices to control and monitor energy conversion systems; labwork in electrical wiring. Prerequisite: EGY 107 and ELC 109.

AHR-1101 Air Conditioning Systems (Automotive) (2-5-4)

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.

AHR-1102 Installation & Maintenance of Total Comfort Systems (3-9-6)

A study of the components and their function with other components and recognizing malfunctions and repair or replacement of components of the total comfort systems, including humidifiers, dehumidifiers and air filters. Solar students receive instruction in installation, maintenance, and trouble-shooting of hydronic and forced air heating systems, heat pumps, and solar space heating systems.

AHR-1114 Warm Air Systems (6-3-7)

Size and rating of the different furnaces, fuels, combustion controls and installation of components which make up a complete heating system. Solar students receive instruction in forced air heating systems; heat sources; duct sizing and fabrication; controls.

AHR-1118 Heating & Cooling Load Calculations (3-0-3)

A detailed study of how accuracy of load calculations affect the total installed system. This course is essential to the entire program in that load calculations determine such things as the type of equipment selected for a job, the size and styling of the duct systems, the materials and labor required, and is also the basis of the project's working drawings.

AHR-1119 Distribution Design & Duct Fabrication (3-6-5)

The use of load calculations to size and design the distribution system and application of layout and fabrication of duct design.

AHR-1120 Air Conditioning Systems (Light Construction) (6-6-8)

General introduction to the principles of air conditioning; 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.

ART-101 Art Appreciation (3-0-3)

A general education course open to all; design principles from the laymen's point of view, critical evaluations of selected works of painting, sculpture, and industrial design related to every day life.

AUT-1101 Small Engines (1-3-2)

A study of the history, development and application of small internal combustion engines. A detailed study of the theory and operating principles of the various components and systems making up both two-stroke cycle and four-stroke cycle engines. Actual practices in servicing small engines using the necessary tools and equipment available constitutes a major portion of the course.

AUT-1001 *Small Engine Repair* (1-3-2)

Theoretical and practical study of small engine operation. Emphasis is placed on the troubleshooting, rebuilding, and adjustment of various gasoline engines.

AUT-1005 Basic Automotive Servicing (1-3-2)

A course designed to provide students with the skills and knowledge to perform basic testing and servicing procedures on automobiles. Experiences are provided in testing, adjusting, repairing and replacing components.

AUT-1116 Automotive Engines (10-15-15)

A thorough study of the construction and operation of the components of internal combustion engines. Construction and layout of gasoline and diesel engine blocks are covered for both domestic and import automotive engines. Engine rebuilding is emphasized.

AUT-1119 Cooling & Lubrication Systems (2-3-3)

A complete study of the cooling and lubricant systems of an automotive engine. Emphasis is placed on radiators, heaters, water pumps, and the entire cooling and circulating system of an engine. Transmission cooling techniques, drive train lubrication, and related filtration devices for both gasoline and diesel automobiles are covered.

AUT-1121 Braking Systems (5-10-8)

Braking principles are studied in relation to the coefficiencies of friction and heat, and the expansion of materials. The operation principles of hydraulic, pneumatic, combination, and vacuum brake systems are emphasized. Lakboratory instruction is offered in the installation of brake shoes, shoe reconditioning, drum and rotor turning, assembling and adjusting of brake systems and servicing of auxiliary units.

AUT-1123 Automotive Chassis & Suspension Systems (5-10-8)

Principles and functions of the components of domestic and imported automotive chassis. Instruction is oriented toward actual shop experience in adjusting and repairing of suspension and steering systems. Units to be studied will be shock absorbers, springs, steering systems, steering linkage, types of suspension systems, and wheel alignments.

AUT-1124 Manual Transmissions & Power Train (7-15-12)

A study of the various components which make up the automotive power train. Components to be studied include clutches, manual transmissions, drive shaft assemblies, differentials, or driving axles and transaxles. Theory of operations as well as trouble shooting maintenance and actual rebuilding or repairing the components is stressed in detail.

AUT-1126 Engine Diagnosis and Tune-Up (6-10-9)

This course is designed to provide depth in the understanding and use of various types of tune-up equipment. Through proper use of tune-up equip-

ment, the student is expected to demonstrate his ability to diagnose malfunctions in ignition systems, starters, and charging circuits. The latest transistor and computerized ignition systems are explored. Comparisons of gasoline and diesel engines are discussed.

AUT—1127 Automatic Transmissions (6-15-11)

This course is designed to provide a measure of depth in the understanding of automatic transmissions. Instruction includes classroom study, demonstrations, and student participation in disassembly, and testing of selected transmissions. Special emphasis is placed on principles, function, construction, operation, servicing and "trouble-shooting" procedures of various types of automatic transmissions.

AUT-1128 Fuel Systems (5-10-8)

A study of the different types of fuel systems of an automobile engine. Characteristics of fuels, carburetors, and fuel injectors are covered along with servicing, maintenance, and methods of diagnosing and repairing. Comparisons of diesel fuel systems and how they differ from gasoline engines are also covered.

AUT-1129 Electrical & Electronic Systems (5-15-10)

A thorough study of the theory and operation of various automobile electrical units and systems such as batteries, generators, alternators, standard ignitions, transistorized ignitions, solenoids, magnetic switches, relays and other electrical components. Maintenance and testing procedures, along with the diagnosis and repair of electrical/electronic components found on the modern automobile are emphasized.

AUT-1201 Practical Shop I (0-27-9)

A program that exposes the student to the unpredictable total car problems that occur on a day-to-day basis in a working shop. It is designed to provide the students with the opportunity to further develop their skills in automotive repairing. The students work with a minimum of supervision from the instructors, however the instructors are available as a resource when needed.

AUT-1205 Automotive Seminar (3-0-3)

Students meet with instructor to discuss problems and explore the deeper theoretical and practical concepts involved in advanced servicing.

AUT-1208 Emission Controls (2-5-3)

The purpose of this course is to provide a basic knowledge of what the various Emission Control Systems are and how they operate. Exhaust emission control systems and evaporative emission control systems are covered along with the proper use of all test equipment involved in diagnosing emission control problems.

BIO-089 Basic Biology (3-2-4)

A basic course in scientific theory as applied to the field of biology. Study includes a survey of monera, protists, fungi, plants, and animals.

BIO-101 General Biology (3-4-5)

An introduction to the study of living organisms, with an emphasis upon cellular theory. Topics include the structure and function of organelles, enzyme theory, and tissue, organ, and organ system levels of development.

BIO-102 Anatomy and Physiology I (4-2-5)

A study of the general anatomical plan of the body and eleven systems:

integumentary, skeletal, muscular, digestive, respiratory, circulatory. Designed so that the student will understand how the human body controls its function and provides for survival. Prerequisite: BIO-101.

BIO-104 Microbiology (3-2-4)

An introductory course dealing with the morphology and physiology of important bacteria, fungi and parasites. Emphasis will be placed on safety procedures, sterilization techniques, isolation and identification of microorganisms and preparation and use of culture media.

BIO-205 Anatomy and Physiology II (4-2-0-5)

A more detailed study of the body systems, including fluid and electrolyte balance and their interdependence to total body functioning and homeostasis. Disruptions of normal function and signs and symptoms manifested by the pathology are discussed with each system. Classroom instruction and directed experiences in the on-campus lab are utilized. Prerequisite: BIO-102.

BIO-206 Anatomy and Physiology III (4-2-0-5)

The study of functions and structure of the human body is continued. Pathophysiological changes which bring about disruptions of normal physiology and the manner in which the systems of the body strive to maintain homeostasis are studied. Symptoms, signs and physical and laboratory findings are discussed in the classroom and lab setting. Prerequisite: BIO-205.

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 organizations, methods of financing, internal organization, and management.

BUS-102 Typewriting I (2-3-3)

Introduction to the touch typewriting system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation, and manuscripts. Speed and accurancy requirements: 30 words per minute for five minutes; maximum of five errors.

BUS-103 Typewriting II (2-3-3)

Introduction emphasizes the development of speed and accuracy with further mastery of correct typewriting techniques. These skills and techniques are applied in tabulation, manuscript, correspondence, and business forms. Speed and accuracy requirements: 40 words per minute for five minutes; maximum of five errors. Prerequisite: BUS 102 or equivalent.

BUS-104 Typewriting III (2-3-3)

Emphasis on problems and speed building. Greater attention to development of production typing skills. Development of the student's ability to function as an expert typist, producing mailable copies, is stressed. Introduction to methods of duplication is also included. Speed and accuracy requirements: 50 words per minute for five minutes; maximum of five errors. Prerequisite: BUS 103.

BUS-105 Special Typing (2-3-3)

A course designed to develop typing skill in those students with physical handicaps. The requirements and methods vary depending on the degree and nature of the individual's infirmity.

BUS-106 Shorthand I (3-2-4)

A beginning course in the theory and practice of reading and writing shorthand. Emphasis on phonetics, penmanship, word families, brief forms, phrases and word beginnings and endings. Dictation rate of 40 words per minute required.

BUS-107 Shorthand II (3-2-4)

Continued theory study with greater emphasis on dictation and elementary transcription. Dictation rate of 60 words per minute required. Prerequisite: BUS 106 or equivalent.

BUS-108 Shorthand III (3-2-4)

Theory and speed building. Introduction to office style dictation. Emphasis on development of speed in dictation and accuracy in transcription. Dictation rate of 80 words per minute required. Prerequisite: BUS 107.

BUS-109 Seminar on Human Relations (3-0-3)

Discussions concerning the interactions of people in all types of situations. Emphasis on interactions of people in subordinate positions as well as management positions.

BUS-110 Office Machines (1-2-2)

Designed to teach students how to use electronic calculators in solving the kinds of problems found in business.

BUS-111 Supervised Work Experience (0-30-3)

During the fourth quarter, students are assigned to work in a business or professional office for a minimum of thirty hours per week. The objective is to provide actual work experience for secretarial students and an opportunity for the practical application of the skills and knowledge previously learned. Prerequisite: All course requirements of the first three quarters or approval of the department head.

BUS-115 Business Law I (5-0-5)

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

BUS-116 Business Law II (5-0-5)

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

BUS-120 Accounting I (4-3-5)

Principles, techniques and tools of accounting, for understanding of the mechanics of accounting. Collecting, summarizing, analyzing and reporting information about service and mercantile enterprises, to include practical application of the principles learned. Prerequisite: MAT 110.

BUS-121 Accounting II (4-3-5)

Partnership and corporation accounting. Emphasis is placed on recording, summarizing, and interpreting data for management control rather than on skills. Accounting services are shown as they contribute to the recognition and solution of management problems. Prerequisite: BUS 120.

BUS-122 Accounting III (4-3-5)

Study of long term liabilities and investments, analysis of financial statements, cost, budgets and flow of funds. Prerequisite: BUS 121.

BUS-127 Financial Management (3-2-4)

The major objectives center around revealing the significance of business finance and the role it plays in the production and distribution process. The course is presented from the viewpoint of the finance department of a firm and deals with the concepts and techniques used in making correct decisions on obtaining and using funds.

BUS-131 Business Communications (3-2-4)

A communication course designed for business students who must learn to initiate written documents. Primary emphasis is placed upon the development of skills in the techniques of writing business letters, such as credit and collection, complaints, orders, acknowledgements, remittances, inquiries, application letters and data sheets. Prerequisite: ENG 102.

BUS-133 Fund Accounting (3-2-4)

The application of accounting principles to government and problems related to governmental appropriation and allotments, encumbrances, and fund accounting. The course includes a study of various funds and the operation of these funds. Included are General, Special, Debt Service, Assessment, Trust, Agency, Intragovernmental Service, Capital Projects, and Enterprise Funds. Prerequisite: BUS 120.

BUS-136 College Accounting I (4-3-5)

A basic understanding of accounting fundamentals which gives a foundation for entry and development in the business environment. The double-entry framework, journalizing, cash receipts and disbursements, banking procedures and payroll accounting will be included. The student will apply these fundamentals in the use of a practice set.

BUS-137 Preemployment Skill Review (3-0-3)

A review of preemployment information and skills which are basic to most secretarial positions. The course will provide an opportunity for students to become familiar with various types of clerical aptitude tests currently being used by business and government.

BUS-140 College Accounting II (4-3-5)

An understanding of accounting methods with emphasis on merchandising businesses. The entire accounting cycle including financial statements and adjusting and closing entries will be included in this course. The student will realistically apply these fundamentals in work with a practice set.

BUS-152 Consumer Awareness (3-0-3)

Introduces the basic economic concepts of supply, demand, and substitutability. Using these concepts, students will study and discuss consumer laws, consumer credit, product safety and warranties, advertising and packaging appeals, and sources of consumer information, emphasizing avenues of recourse for consumer grievances.

BUS-201 Principles of Word Processing (3-0-3)

An introduction to Word Processing concepts, stressing comparison with traditional office techniques, elements, systems, and applications.

(1-4-3)

BUS-202 Word Processing Systems I

This course is designed to train students in the basic and intermediate functions of a text-editing/word processing system. Students learn to produce a variety of documents utilizing software, visual prompts, and diskette media. Experience with actual field problems will be provided for reinforcement. An advanced keyboarding skill which is transferable to data entry terminals and other displays is also developed. Prerequisite: Typing skill.

(3-0-3)

BUS-203 Word Processing Systems II

This course is designed to train students in the advanced functions of a text-editing/word processing system. Students will develop file design and management skills and learn advanced math functions utilizing the appropriate software, visual prompts, and diskette media. Prerequisite: BUS 202, Word Processing Systems I.

(2-3-3)

BUS-205 Advanced Typewriting

Emphasis is placed on the development of individual production rates. The student learns the techniques needed in planning and typing projects that closely approximate the work appropriate to the field of study. Some of the projects involve: correspondence, manuscripts, reports, tabulation, technical, legal, government, and medical typing problems. Speed and accuracy requirements: 60 words per minute for five minutes; maximum of five errors. Prerequisite: BUS 104.

(3-2-4)

BUS-206 Dictation and Transcription I

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. Dictation rate of 100 words per minute required. Prerequisite: BUS 108.

(3-2-4)

BUS-207 Dictation and Transcription II

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. Dictation rate of 120 words per minute required. Prerequisite: BUS 206.

(3-2-4)

BUS-208 Dictation and Transcription III

Principally a speed building course, covering materials appropriate to the course of study, with emphasis on speed as well as accuracy. Dictation rate of 120 words per minute required with resulting mailable transcripts. Prerequisite: BUS 207.

(2-0-2)

BUS-209 Machine Transcription

Training in the operation and applications of dictation/transcription equipment. Prerequisite: typing skill.

(3-0-3)

BUS-212 Speedwriting I

Speedwriting is a system of shorthand in which the letters of the alphabet and marks of punctuation are used to represent the sounds. Penmanship will be used to a large extent, so it is an easy system to learn. This is a beginning course in the theory and practice of reading and writing speedwriting.

Emphasis is on speedwriting rules, brief forms, and standard abbreviations. Cassette tapes provide the repetitive practice needed to write speedwriting automatically.

BUS-214 Secretarial Procedures (3-2-4)

Designed to acquaint the student with the responsibilities encountered by a secretary during the work day. Some of these responsibilities include: receptionist duties, handling the mail, telephone techniques, travel information, telegrams, office records, purchasing of supplies, and office organization. Prerequisite: BUS 104.

BUS-216 Orientation and Evaluation (4-0-4)

For the first week of the quarter, the students will meet as a group with the school supervisor for work experience orientation. The students will meet again with the supervisor, as a group for a week, at the end of the quarter for final evaluation discussions. The employer will fill out progress reports and rating sheets on each student to aid in his final evaluation. Prerequisite: All course requirements of the first three quarters or approval of the department head.

BUS-222 Intermediate Accounting I (3-2-4)

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 retained earnings statements, fundamental processes of recording, cash and temporary investments, and analysis of working capital. Prerequisite: BUS 122.

BUS-223 Intermediate Accounting II (3-2-4)

Additional study of intermediate accounting with emphasis on investments, plant and equipment, intangible assets, special analytical processes, and processing accounting data through use of a computer. Prerequisite: BUS 122.

BUS-224 Intermediate Accounting III (3-2-4)

Interpreting accounting data for managerial decisions. Long-term liabilities, paid-in capital, and retained earnings. Budget preparations. Prerequisite: BUS 122.

BUS-225 Cost Accounting (3-2-4)

Nature and purposes of cost accounting: accounting for direct labor, materials, and factory overhead; job cost, process cost and standard cost principles and procedures; selling and distribution costs, budgets and executive use of cost figures. Prerequisite: BUS 122.

BUS-226 Auditing (3-2-4)

A study of the theories and practices of auditing, the generally accepted auditing standards, and the rules of professional conduct. Problems illustrating specific techniques of auditing various ledger accounts will be studied. These problems will develop internal auditing concepts and procedures, as well as the public accounting viewpoint. Prerequisite: BUS 223.

BUS-229 Income Taxes I (3-2-4)

Application of federal and state tax laws to individual tax situations with special emphasis on current tax law changes.

BUS-231 Income Taxes II (3-2-4)

Application of federal and state tax laws to partnership and corporations with special emphasis on current tax law changes. Continuation of BUS 229 with practical experience.

BUS-232 Sales Development (3-2-4)

A study of retail, wholesale and specialty selling with emphasis placed upon mastering and applying the fundamentals of selling. Preparation for and execution of sales demonstrations required.

BUS-233 Current Trends in Business Management (3-2-4)

A course designed to develop the student's ability to keep up to date in his profession. Case studies and lectures centering around industrial and business periodicals are the major teaching techniques used. Prerequisite: All course requirements of the first three quarters or approval of the department head.

BUS-235 Business Management (5-0-5)

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.

BUS-237 Small Business Management I (3-0-3)

Introduces the small business and its environment as a part of the overall business world. The creation and the management of the small business are explored in depth. Topics include the following: strengths and weaknesses of small business, salaried employment versus entrepreneurship, danger of small business failure, roads to ownership, selection of the legal firm of organization, franchising, obtaining capital, the management process, planning and tools for decision making, organizing, and staffing the organization.

BUS-238 Small Business Management II (3-0-3)

A continued study of the small business in the American economy. Emphasis is placed on selling, credit, financial and administrative controls, legal and governmental controls, and a study of specific types of small businesses.

BUS-239 Marketing (5-0-5)

A general survey of the field of marketing, with a detailed study of the functions, policies, and institutions involved in such marketing process.

BUS-242 Public Relations & Advertising (3-2-4)

Designed to make the student familiar with the practice of public relations, the problems most likely to be met, and the tools with which to approach these problems to be professionally effective. 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.

BUS-244 Retail Management (5-0-5)

A study of the operations of a retail firm including: merchandising, buying, selling, advertising, and related functions such as financial management.

BUS-248 Business Economics I (5-0-5)

The fundamental principles of economics including the institutions and practices by which people gain a livelihood. Included is a study of the laws of supply and demand and the principles bearing upon production, exchange, distribution and consumption both in relation to the individual enterprise and to society at large.

BUS-249 Business Economics II (5-0-5)

Greater depth in principles of economics, including a penetration into the composition and pricing of national output, distribution of income, international trade and finance, and current economic problems. Prerequisite: BUS 248.

BUS-251 Personality Development (3-0-3)

Designed to help the student recognize the importance of the physical, intellectual, social, and emotional dimensions of personality. Emphasis is placed on grooming and methods of personality improvement.

BUS-261 Manufacturing Cycles (5-0-5)

A study of various manufacturing cycles, processes, the equipment, tools and materials used, the principles involved and the products produced. Films and field trips further introduce the broad subjects of manufacturing.

BUS-263 Statistical Quality Control (3-2-4)

Principles and techniques of quality control and cost saving. Organization and procedure for efficient quality control. Functions, responsibilities, structure, costs, reports, records, personnel and vendor-customer relationships in quality control. Sampling inspections, process control and tests for significance.

BUS-265 Work Measurement (3-2-4)

Principles of work simplification including administration of job methods improvement, motion study fundamentals and time study techniques. Use of flow and process charts, multiple activity charts, operation charts, flow diagrams and methods evaluation.

BUS-266 Value Analysis (3-2-4)

The modern concept in the control of manufacturing production. This course will provide the students an opportunity to study a production system with the specific purpose of identifying unnecessary costs. The objective of the concepts and techniques of value analysis is to make possible a degree of effectiveness in identifying and removing unnecessary cost by the use of sound decisions through a common sense approach.

BUS-267 Production Control (3-2-4)

Day-to-day plant direction, forecasting, product planning and control scheduling, dispatching, routing, and inventory control.

BUS-268 Plant Layout (3-2-4)

A practical study of factory planning with emphasis on the most efficient arrangements of work areas to achieve lower manufacturing costs. Layouts for small and medium sized plants, layout fundamentals, selection of production equipment and materials handling equipment. Effective management of men, money and materials in a manufacturing operation.

BUS-269 Safety Engineering (3-2-4)

Management and supervisory responsibility for accident prevention, accident reports, machine guarding, personnel protective equipment, first aid, etc. The course centers around OSHA standards with practical exercises in their use and interpretation.

BUS-270 Industrial Management (5-0-5)

This course is an introduction to specialized industrial topics including value analysis, work measurement, manufacturing cycles, and production control.

BUS-271 Office Management (3-2-4)

Presentation of the fundamental principles of office management. Emphasis on the role of office management including its functions, office automation, planning, controlling, organizing and actual office problems.

BUS-272 Principles of Supervision (5-0-5)

Introduces the basic responsibilities and duties of the supervisor and his relationship to superiors, subordinates, and associates. Emphasis on securing effective work force and the role of the supervisor. Methods of supervision are stressed.

BUS-273 Personnel Management (5-0-5)

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

BUS-277 Credit and Collection (3-2-4)

This course presents fundamental principles and practices of credit and collection. Meaningful projects are included in order to provide a better understanding of credit principles, concepts, procedures, job activities and responsibility.

BUS-278 Money and Banking (3-2-4)

After successfully completing the course, the student will understand the operations of the banking system, will understand the role of commercial banks and the Federal Reserve, and will understand the application of fiscal policy and monetary policy in our economic system.

BUS-279 Profit Planning and Budget Control (3-2-4)

The course is designed to familiarize students with the entire process of developing the profit plan and budget, and controlling expenditures through responsibility reporting.

BUS-285 Real Estate Appraisal (3-0-3)

This course consists of instruction in appraising real estate value, preparing a written appraisal, and establishing marketable prices for real property.

BUS-289 Real Estate Law (3-0-3)

The course consists of instruction in the areas of contracts, land use controls, deeds, property ownership, cooperatives, and other legal aspects. In order to satisfactorily complete this course, students must attend a minimum of 80 percent of the class meetings and achieve a passing grade under the school's uniform grading system for college credit courses. Prerequisite: BUS 291 or Salesman's License.

BUS-290 Real Estate Finance (3-0-3)

This course consists of instruction in the areas of financing arrangements, sources of financing, financing instruments, loans, mortgages, tax ramifications, etc. In order to satisfactorily complete this course, students must attend a minimum of 80 percent of the class meetings and achieve a passing grade under the school's uniform grading system for college credit courses. Prerequisite: BUS 291 or Salesman's License.

BUS-291 Fundamentals of Real Estate (6-0-6)

This course consists of instruction in fundamental real estate principles and practices, including real estate law, financing, brokerage, valuation and taxation. Also included is instruction on residential building construction, land use, the real estate market and the North Carolina Real Estate Licensing Board. Students must attend a minimum of 80 percent of the class meetings and achieve a passing grade under the school's uniform grading system for college credit courses if this course is to be used to qualify for the NC Real Estate Salesman Exam. This course provides instruction in all the subject areas required for the salesman course and is a prerequisite for BUS 289 and BUS 290 and qualifying to take NC Real Estate Brokers Examination.

BUS-1103 Small Business Management (3-0-3)

An introduction to the business world, problems of small business operations, basic business law, business forms and records, financial problems, orders and inventories, layout of equipment and offices, methods of improving business and employer-employee relations.

BUS-1104 Seminar on Small Business Management (2-0-2)

A seminar on the problems of small business operations, basic business law, organizational form, financial problems, inventories, employer-employee relations, and other related subjects.

CAR-1000 Carpentry I (2-6-4)

An introduction to the construction industry, the care and use of hand and power tools, materials, and methods of construction and basic building layout. Types of foundations and methods of construction.

CAR-1001 Carpentry II: Framing (3-9-6)

All aspects of the framing of residential structures are covered. Coordination with other trades is introduced.

CAR-1002 Carpentry III: Finishing (2-6-4)

The interior and exterior finishing of residential structures and built-ins.

CAR-1101 Principles of Carpentry (6-18-12)

A brief history of carpentry and present trends of the construction industry. The course will involve operation care and safe use of carpenter's hand tools and power tools in cutting, shaping and joining construction materials. Major topics of study will include theoretical and practical applications involving materials and methods of construction, building layout, preparation of site, footings and foundation wall construction including form construction and erection.

CAR-1103 Carpentry: Framing (6-18-12)

A thorough introduction to the principles and practices of frame construction including sills, floor joist, sub-floor, wall framing, ceilings, rafters, bridging, sheathing, partitions, and roof construction. Coordination with other skills will be stressed.

CAR-1104 Carpentry: Finishing (6-18-12)

Methods and techniques of interior and exterior finishing will be covered including baseboards, door and window trim, stairways, door and window hanging, hardware, exterior trim, built-ins. Emphasis will be on quality work.

CAR-1010 General Contractor's License Preparation (3-0-3)

A study of the codes and laws dealing with the construction of residential, commercial, public and institutional buildings. State codes will be examined in reference to safety, inspection, and enforcement procedures. The course prepares the student for the state contractor's exam.

CAR-1106 Millwork and Cabinetmaking (6-18-12)

Cabinetmaking and millwork as performed by the general carpenter for building construction. Use of shop tools and equipment will be emphasized in learning methods of construction of millwork and cabinetry. Practical applications will include measuring, layout and construction of base and wall cabinets, built-ins, arches and stairs. Materials and finishes are also covered.

CAR-1107 Cabinetmaking (3-9-6)

The construction and installation of cabinets, shelves, and other built-ins encountered by the general contractor.

CAT-100 Art Orientation (1-0-1)

An introduction to fundamental elements and principles of creative art expression emphasizing composition, design, shape, value, styles, and movements.

CAT-101 Advertising Principles (3-0-3)

A comprehensive survey of the history and development of advertising including a discussion of its economic and social values. An introduction to advertising media and current publications in the field.

CAT-102 Art and Design (2-6-4)

Problems in basic design, basic drawing techniques, relationships of materials and techniques to form. Emphasis on the creative process.

CAT-105 Basic Drawing (2-3-3)

Basic drawing in various wet and dry media with emphasis on recording, visualizing and symbolizing. Subject matter includes still life and landscapes with problems that relate the art elements.

CAT-106 Life Study (0-6-2)

Basic drawing from a live model. A study of body structure with emphasis on the skeletal and muscular systems, movement and the aging process. Various drawing techniques using pen and ink, wash, pastels, and colored pencil for figure drawings and portraits.

CAT-115 Basic Photography (2-3-3)

An introduction and familiarization to the basic techniques of photography. Laboratory skills are emphasized in the use of the camera, file exposure, lighting and developing.

CAT-110 General Illustration (2-6-4)

Study of creative methods and rendering techniques used in the illustration field. Editorial illustration, advertising spots, cartooning, fashion and retail product. Black and white and color problems will be assigned, using various media and materials. Emphasis on good drawing and research.

CAT-116 Photography I (2-6-4)

An introduction to the field of photography, photographic equipment and materials. A study of the fundamental techniques of the camera and its expressive possibilities in relation to the field of design and visual communications. Assigned camera projects, darkroom procedures and equipment.

CAT-117 Photography II (2-3-3)

Advanced photographic techniques and materials. Participation in studio and laboratory procedures illustrating various applications and creative possibilities of photography. Applied problems using the 35mm, copy and twin lens reflex cameras. Prerequisite: CAT 116.

CAT-121 Commercial Art Fundamentals (4-6-6)

An introduction to the communication design field. How to communicate with others in a clear and concise manner. Emphasis on applied problems and frequent critiques.

CAT-122 Typographic Design (4-6-6)

Through reading, discussion and a series of design projects, the student will gain a working knowledge of the basics of typography, calligraphy, color, type specification, and type comprehensives. Prerequisite: CAT 121.

CAT-123 Layout and Design (6-6-8)

Professional approach to advertising and editorial layout. The indicating of finished art concepts, visuals, and ideals. Pencil roughs, colored sketches and comprehensive layouts. Prerequisites: CAT 122, DFT 102.

CAT-200 Visual Graphics Production (3-2-4)

Basic use of lettering, titling, and illustrative materials and equipment used in slide and television video production. Trips to production facilities.

CAT-201 Art History (3-0-3)

Through lecture, personal observation, discussion, readings and the viewing of slides, the student will gain an understanding and appreciation of art in a historical context; where artists stand now, and how we arrived at this point. Emphasis on the formal, emotional and intellectual aspects.

CAT-205 Advertising Copywriting and Fitting (3-0-3)

A study of the techniques used in creating effective advertising copy for various types of media; purposes and duties of the copywriter and legal problems encountered in copywriting. Theory and practice will be given in writing copy for the various media including retail and fashion copy, mail order, direct mail, business publications, radio and television.

CAT-206 Project Seminar I (2-3-3)

Each student selects and pursues project work in the field of his choice. Maximum individual attention is available.

CAT-212 Industrial Art and Design (2-6-4)

A study of art and design for industry and business. Forms, charts and graphs, letterhead, trademarks and company publications. Use of the air brush, photo retouching and airbrush art. Handling of annual reports. Prerequisite: CAT 123.

CAT-217 Silk Screen Techniques (2-6-4)

Commercial approach to silk screen printing. Applied problems using paper, tusche and glue, lacquer, film, aquafilm, and photographic film methods. Problems in multicolor printing.

CAT-224 Art Production (4-6-6)

A thorough background in production methods for various media. Study of printing and engraving processes. Color separation process. Assignments in art mechanicals, reproduction methods and printing paper qualities and selection. Trips to printing, engraving, and paper plants.

CAT-225 Commercial Art and Advertising Design (6-6-8)

A course providing simulated professional working conditions. The student will utilize all previous instruction "job" assignments. Work will start the student's individual portfolio or professional samples. There will be class critique and discussion of assignments and solutions. Prerequisite: CAT 123.

CAT-226 Commercial Art & Advertising Design (Advanced) (6-6-8)

Course providing simulated professional working conditions. Advanced "job" problems. Emphasis on self-expression and originality. The student will complete his professional portfolio. Prerequisite: CAT 225.

CAT-231 Project Seminar II (2-3-3)

Each student selects and pursues project work in the field of his choice. Maximum individual attention is available.

CAT-232 Project Seminar III (1-6-3)

Individual attention is given each student in the areas of learning which need strengthening. Project development is stressed.

CAT-235 Advertising and Art Direction (5-0-5)

A study of the art director's profession. The creating and coordinating of effective advertising campaigns and editorial designs for both national and local markets. The practical consideration, procedures and job opportunities restrictions. Media selection, frequency of insertion, direct mail and response. The value of market research. Emphasis on dealing with professionals in related fields.

CAT-236 Advertising Concepts and Campaigns (3-3-4)

Research and analysis of visual communication problems. Individualized students and creative terms conceptualize themes and campaigns for print and television. Emphasis on advertising that is innovative not merely imitative. The "Total Concept": thumbnail sketch through working mechanical. Prerequisite: CAT 123.

CHM-101 Chemistry I (3-4-5)

Study of the physical and chemical properties of substances; atomic structure, bonding, stoichiometry, gas laws, preparations and properties of solutions. Laboratory experiences parallel lecture topics.

CHM-102 Chemistry II (3-4-5)

Continuation of Chemistry I; qualitative analysis, organic chemistry and environmental chemistry. Laboratory experience to accompany lecture. Prerequisite: CHM 101.

CIV-100 Boundary Control (5-0-0-5)

The course covers the legal principles of boundary control to acquaint the student with the correct interpretations of deed description.

CIV-101 Surveying I (1-2-6-4)

Care and use of instruments, theory and practice of plane surveying including taping differential and profile leveling, transit, stadia, and transit-tape surveys.

CIV-102 Surveying II (1-2-6-4)

Triangulation of ordinary precision, use of plane table, calculation of areas of land, land surveying, topographic surveys and mapping.

CIV-103 Surveying III

(1-2-6-4)

Route surveys by ground and aerial methods, simple, compound, reverse parabolic and spiral curve; geometric design of highways, highway surveys and plans including mass diagrams.

CIV-1120 Building Trades Instruments

(1-3-2)

Use and care of instruments, measurement of distances and angles, leveling, recording, field notes, establishing lines and grades, cross sections and volumes.

COS-1001 Scientific Study I

(4-6-6)

An introduction to the field of cosmetology. Subjects covered include professional ethics, grooming, hygiene and personality development, sterilization, sanitation, first aid and bacteriology, cosmetology law, anatomy, chemistry, nails, hair, scalp and skin disorders.

COS-1002 Scientific Study II

(5-0-5)

Theory of skin, scalp, hair, nails and disorders, salesmanship, permanent waving, croquinole and chemical hair relaxing, hairdressing and wig styling, hair coloring.

COS-1003 Scientific Study III

(5-0-5)

Theory of anatomy, manicuring, chemistry of cosmetics and facials, hair styling, massage scalp treatments, superfluous hair removal and grooming and hygiene.

COS-1004 Scientific Study IV

(5-0-5)

Theory of skin, scalp, hair, nails and disorders, salesmanship, permanent wave styling, beauty salon management, electricity, hair shaping, chemistry, sanitation and sterilization, cold waving.

COS-1040 Manicuring

(2-13-6)

The course gives theory and laboratory practice in the techniques of manicuring.

COS-1501 Scientific Study IA

(4-0-4)

Same as COS 1001.

COS-1502 Scientific Study IB

(0-6-2)

The continuation of COS 1501 from class to laboratory demonstration. The application of procedures from theory to practice of shop cleanliness, equipment sterilization, and the practice of ethical standards. Prerequisite: COS 1501.

COS-1511 Mannequin Practice I

(1-15-6)

An introduction to the practice of fingerwaving, pincurling, rollers, marcelling and hair relaxing, shampooing and rinses, scalp treatment and hair shaping.

COS-1512 Mannequin Practice II

(0-9-3)

An introduction to the practice of permanent waving, hairdressing, combing, hair tinting, bleaching, frosting and streaking, wigs—care, styling. Prerequisite: COS 1511.

COS-1522 Clinical Applications IA

(0-15-5)

An introduction to the actual clinical practice covering bacteriology, pin curling, finger waving and roller.

COS-1523 Clinical Applications IB (0-17-6)
An introduction to the actual clinical practice covering permanent waving, hair styling and wigs, manicuring and pedicuring, skin and scalp disorders, coloring, and shaping. Prerequisite: COS 1522.

COS-1533 Clinical Applications IIA (0-3-1)
Shop practice in hair shaping.

COS-1534 Clinical Applications IIB (0-20-7)
Shop practice in professional ethics, manicuring, cosmetics and facials. Prerequisite: COS 1533.

COS-1535 Clinical Applications IIC (0-6-2)
Shop practice in hairstyling, cold waving, hair coloring and scalp treatment. Prerequisites: COS 1533, 1534.

COS-1555 Clinical Applications IVA (0-14-5)
Advanced shop techniques in hair coloring, lash and eye brow tinting, and artistry in hairstyling wigs.

COS-1556 Clinical Applications IVB (0-15-5)
Advanced shop techniques in cold waving, hair shaping, sterilization, sanitation, and chemistry. Prerequisite: COS 1555.

COS-1006 Scientific Study VI (5-0-5)
A continuation of Scientific Study for those students lacking classroom hours.

COS-1011 Mannequin Practice (1-24-9)
An introduction to the practice of fingerwaving, pin curling, rollers, marcelling and hair relaxing, shampooing, and rinses, scalp treatment, hair shaping, permanent waving, hairdressing and combing, hair tinting, bleaching, frosting and streaking, wigs—care and styling.

COS-1022 Clinical Applications I (0-32-11)
An introduction to actual clinical practice covering bacteriology, pin curling, finger waving and roller, permanent waving, hair styling and wigs, manicuring and pedicuring, skin and scalp disorders, coloring, shaping.

COS-1033 Clinical Applications II (0-32-11)
Shop practice in hair shaping, professional ethics, manicuring, cosmetics and facials, hairstyling, cold waving, hair coloring and scalp treatment.

COS-1044 Clinical Applications III (0-32-11)
Advanced shop techniques in hair coloring and lash and brow tinting, artistry in hairstyling wigs, cold waving, hair shaping, sterilization, sanitation and chemistry.

COS-1046 Clinical Applications III-A (0-4-1)
COS-1047 Clinical Applications III-B (0-8-2)
COS-1048 Clinical Applications III-C (0-10-3)
COS-1049 Clinical Applications III-D (0-12-4)
A continuation of COS 1044, offered for students with less than 1200 hours.

COS-1055 Clinical Applications IV (0-29-9)

DAT-100 Introduction to Drug and Alcohol Studies (4-2-0-5)

A historical overview of alcoholism and drug addiction in western countries. Areas of emphasis include physiological effects, the addiction process, and the service delivery system.

DAT-110 Pathophysiological Effects of Drugs & Alcohol (3-0-0-3)

Study of the pathophysiological effects (dysfunction) of alcohol and drugs on the human body. Emphasis on human body responses to opiates, cocaines, cannabis, amphetamines, barbiturates, hallucinogens, deleriants and alcohol. Additional topics may include signs and symptoms of abuse, identification, drug abuse in public education and problems of abuse.

DAT-116 Dealing with Substance Abuse (3-0-0-3)

The major focus of this course will be skill building in the areas of communication, stress management, responsible assertion and decision making. The overall intent is the development of those skills that provide alternatives to alcohol and other drug use/abuse and the development of those skills that lead to helping others avoid problems with alcohol and other drugs.

DAT-120 Interviewing & Counseling I (5-0-0-5)

Basic counseling practice and theory in relationship to addiction and recovery.

DAT-121 Interviewing and Counseling II (5-0-0-5)

A practicum type setting is used to further the already acquired skills. Theories and practices of previous course will be augmented for more in-depth study and practice. Prerequisite: DAT 120. Interviewing and Counseling I.

DAT-124 Health Care Skills (1-6-0-4)

Focuses on procedures and practices commonly used to meet the needs of persons. Emphasizes principles and techniques underlying good patient care. Skill development will include management of medical emergencies such as preventive intervention techniques, cardiopulmonary resuscitation and clinical practice in basic health care skills.

DAT-126 Crisis Intervention (0-0-0-0)

Introduction to Alcoholics Anonymous's 12 STEP intervention of the alcoholic in theory and practice. Students will study the 12 STEPs in relation to their own lives. The course will also touch on planned intervention into the family of an addict.

DAT-130 Human and Social Services (3-0-0-3)

This course is designed to introduce the student to those institutions, public and private, which perform designated human and social service functions in society. Agencies may include those whose primary function is financial assistance, corrections, mental health services, family counseling and child welfare services. Examination is made of social interventive methods utilized to solve social problems.

DAT-200 Techniques of Drug and Alcohol Education (5-0-3-6)

Techniqes of designing, conducting and evaluating drug and alcohol education programs for private and public groups and agencies, including schools, churches, clubs, parent groups, and businesses, DUI classes, and clients. The course focuses on three levels of education—prevention: primary (not yet using substances); secondary (uses substances and may experience minor

problems); and tertiary (abuses substances and experiences problems). Emphasis is on attitude change through presentation of information.

DAT-220 Counseling and Rehabilitating the Chemically Dependent (4-0-3-5)

Study of theory and practice in group methods enhancing task and maintenance functions. Skills in problem solving, conflict resolution, brainstorming, and topic expansion will help the counselor help the addict in a practical and human way to a quality sobriety.

DAT-225 Drug and Alcohol Seminar (3-0-0-3)

A seminar to intensively study and present topics of special interest and to demonstrate knowledge and skill competency in preparation of educational materials and teaching individuals and groups. Legal aspects and professional ethics will be included.

DAT-230 Drug and Alcohol Internship (1-0-21-8)

Students would be required to spend at least 200 hours as interns in substance abuse services. Insofar as possible, students should work in at least three separate areas or agencies. This course provides advanced training in all aspects of professional practice as encountered in the working shop.

DFT-101 Technical Drafting I (0-6-2)

A study of drawing principles and practices for print reading and describing objects in the graphic language. Basic skills 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.

DFT-102 Technical Drafting II (0-6-2)

The application of orthographic projection principles to the more complex drafting problems, primary and secondary auxiliary views, simple and successive revolutions, and sections and conventions will be studied; introduction of the graphic analysis to space problems. Problems of practical design elements involving points, lines, planes, and a combination of these elements shall be studied. Dimensioning practices for "details" and working drawings. Approval by the American Standards Association will also be included. Introduction is given to intersections and developments of various types of geometric objects. Prerequisite: DFT 101.

DFT-105 Surveying Drafting (4-4-6)

Instruction is given in the selection, use and care of instruments, single stroke lettering, applied geometry, freehand sketching consisting of orthographic and pictorial drawings. Orthographic projection, reading and instrument drawing of principal views, single auxiliary views (primary), and double oblique auxiliary views will be emphasized. Dimensioning and note practices will be studied with reference to the American Standards Association practices.

DFT-107 Schematic Drawing I (3-2-4)

An introduction to basic drafting tools, equipment, supplies, and methods for the beginning student. Lettering, dimensioning and geometric construction techniques are emphasized. The student is familiarized with types of schematic symbols, diagrams and standards necessary to the electronics draftsman.

DFT-108 Schematic Drawing II (3-2-4)

A continued study of schematic diagrams and their relationships to the generation of hardware. Printed Circuit Board design and manufacture are emphasized. Logic symbols and integrated circuits are introduced to provide basic skills necessary for digital designing.

DFT-110 Blueprint Reading: Instrumentation (0-3-1)

Each student is expected to develop the ability to recognize and draw all basic electrical schematic symbols. Skills in reading wiring blueprints are emphasized.

DFT-1104 Blueprint Reading: Machinist I (0-3-1)

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

DFT-1105 Blueprint Reading and Sketching (1-2-2)

Further practice in interpretation of blueprints as they are used in industry; study of prints supplied by industry; making plans of operations; introduction to drafting room procedures; sketches as a means of passing on ideas, information, and processes. Prerequisite: DFT 1104.

DFT-1106 Blueprint Reading: Machinist II (2-2-3)

Advanced blueprint reading and sketching as related to detail and assembly drawings used in machine shops. The interpretation of drawings of complex parts and mechanisms for features of fabrication, construction, and assembly. Prerequisite: DFT 1105.

DFT-1109 Blueprint Reading: Electrical (2-3-3)

Each student is expected to develop the ability to recognize and draw all basic electrical schematic symbols and to be able to associate these with the implied hardware. Skills in reading wiring blueprints are emphasized along with the associated skills of extracting material lists from blueprints needed to wire the structure involved. Some sketching and specification writing problems are used to tie the reading skills back to local and National Electrical Code requirements.

DFT-1110 Blueprint Reading: Building Trades (1-3-2)

Principles of interpreting blueprints and specifications common to the building trades. Development of proficiency in making three view and pictorial sketches.

DFT 1103 General Blueprint Reading (0-3-1)

Interpretation and reading of blueprints. Development of ability to read and interpret blueprints, charts, instruction and service manuals, and wiring diagrams. Information on the basic principles of lines, views, and dimensioning procedures.

DFT-1113 Electrical Drawing (2-3-3)

Interpretation of schematics, diagrams and blueprints applicable to electrical installation with emphasis on electrical plans for domestic, commercial and industrial buildings. The sketching of schematics, diagrams and electrical plans and using appropriate symbols and notes according to the national electrical code will be emphasized.

DFT-1115 Blueprint Reading: Plumbing Trades (3-0-3)

Sketching diagrams and schematics, interpretation of blueprints applicable to the plumbing trades. Emphasis will be on plumbing plans for domestic and

commercial buildings. Piping symbols, schematics, diagrams and notes will be studied in detail. Applicable building and plumbing codes will be used for reference.

DFT-1120 Template Development (3-0-3)
A study of the methods used in layout of sheet steel. Emphasis is placed on developing pipe and angle layouts by the use of patterns and techniques.

DFT-1121 Blueprint Reading for Welders (3-0-3)
A thorough study of trade drawings in which welding procedures are indicated. Interpretation, use and application of welding symbols, abbreviations and specifications will be emphasized.

DFT-1122 Blueprint Reading & Sketching: Mechanical (5-0-5)
Reading, Interpreting and Sketching mechanical details and assembly drawings used in piping systems that are installed in the construction Industries such as Nuclear Power Houses, Shipbuilding, Plumbing, Heating and Ventilating systems.

DFT-1127 Blueprint Reading: Structural (1-3-2)
Reading and interpreting working drawings and specifications to the structural portions of the general construction trades.

DFT-1128 Drafting: Structural (0-3-1)
Selection and use of drawing tools, lettering, dimensioning, geometric construction, orthographic projection, pictorial representation, symbols, sections and construction details commonly used in structural designs.

DFT-1129 Blueprint Reading: Sheet Metal (0-3-1)
Principles of interpreting blueprints and specifications pertaining to sheet metal work that is used in the heating, ventilating and air conditioning duct systems.

DFT-1131 Drafting: Building Trades (1-3-2)
Selection and use of tools, lettering, geometric construction, orghographic projection, pictorial representation, sections and construction details.

DVS-081 Reading Skills I (0-5-2)
DVS-091 Reading Skills I (0-10-5)
Basic word recognition, literal comprehension skills, vocabulary development through context. The student progresses at his own pace through increasing levels of difficulty in an individual laboratory setting.

DVS-082 Reading Skills II (0-5-2)
DVS-092 Reading Skills II (0-10-5)
An extension of Reading Skills I with emphasis on interpretive and inferential skills, vocabulary development through prefix/root meanings. The student progresses at his own pace through increasing levels of difficulty in an individualized laboratory setting. Prerequisite: DVS 091, or equivalent.

DVS-083 Reading Skills III (0-5-2)
DVS-093 Reading Skills III (0-10-5)
An extension of Reading Skills I & II, with an emphasis on evaluating and comparing sources, making judgments, and other critical reading skills. Also includes attention to increasing rate. The student progresses at his own pace through increasing levels of difficulty in an individualized laboratory setting. Prerequisite: DVS 092, or equivalent.

DVS-084 Reading in Literature (0-5-2)
DVS-094 Reading in Literature (0-10-5)

Provides practice in reading subject-matter areas with attention to vocabulary, graphics, organizational patterns, etc. that are unique to literature.

DVS-085 Reading in Science (0-5-2)
DVS-095 Reading in Science (0-10-5)

Provides practice in reading subject-matter areas with attention to vocabulary, graphics, organizational patterns, etc., that are unique to science.

DVS-086 Reading in Social Studies (0-5-2)
DVS-096 Reading in Social Studies (0-10-5)

Provides practice in reading subject-matter areas with attention to vocabulary, graphics, organizational patterns, etc., that are unique to social studies.

ECO-101 Principles of Economics (3-0-3)

Introduction to the fundamental principles underlying the economic problem; special emphasis on the aggregate economics analysis; determinants of national income and business cycles; money and banking; fiscal and monetary policy; inflation and unemployment; economic growth.

ECO-201 Cost-Benefit Analysis of Alternate Energy Systems (2-0-2)

General procedure for estimating costs; estimation of costs for alternate energy systems; comparison of short-term costs and long-term benefits for alternate energy systems; analysis of payback period, cash flow, return on investment, and unit cost of alternate energy. Prerequisite: EGY 106, EGY 107 and EGY 205.

EDP-100 Selected Topics in Data Processing (0-2-1)

Course content varies as special interests of narrow scope are explored on an elementary level.

EDP-102 Computer Literacy for Beginners (1-2-2)

The novice learns the vocabulary of computers, the basic structure of a computer system, computer applications in a wide variety of fields and investigates controversial issues in computer usage. He participates in hands-on laboratory exercises to become a confident computer user.

EDP-104 Introduction to Data Processing Systems (3-2-4)

Fundamental concepts and operations, processing systems, as an aid in developing a basic knowledge of computers, prerequisite to the detailed study of particular computer problems.

EDP-106 BASIC Programming (2-2-3)

An introduction to digital computing techniques, problem analysis, and program development using the BASIC language. Topics include various input/output methods, decision points and branching, loops, and sequential files.

EDP-108 Introduction to Programming (4-4-6)

An introduction to computer programming: algorithm development, input and output, branching and looping, arrays, menus, subroutines, string manipulation, sequential and random access files, introductory graphics. (May be replaced by *both* EDP 106 and EDP 110.)

EDP-110 BASIC Programming II (2-4-4)

A continuation of EDP 106, this course examines more complex problems and the more advanced techniques appropriate for those applications. Topics include random access files, subroutines and functions, use of graphics, and an introduction of the concept of structured programming. Prerequisite: EDP 106 or equivalent experience.

EDP-112 Microcomputer Word Processing (1-2-2)

The student learns basic functions of text-editing utilizing microcomputer equipment.

EDP-115 Computer Graphics (3-2-4)

Interactive computer graphics on a cathode-ray-tube graphics terminal, appropriate for most graphical applications, points and lines, two- and three dimensional pictures and their transformations, plane and space curves, surfaces.

EDP-200 Operations Lab (0-5-2)

Provides experience in the daily activities of a computer center: operating the console, managing peripherals, keeping records. Consent of the Computer Center Director is required.

EDP-201 Individual Programming Project (1-2-2)

Supervised independent study and development of a programming project of special interest to the student. Prerequisite: One high level language EDP 108 or above.

EDP-202 Assembler Language Programming (4-4-6)

A study of addressing techniques, symbolic, coding, internal representation, and assembler systems. Prerequisite: Successful completion of one high level language course (EDP 110, 210, 211, or 214) or equivalent experience.

EDP-203 Microcomputer Assembly Language (3-3-4)

Same concepts as EDP 202 applied in the microcomputer environment. Prerequisite: one high level language EDP 108 or above.

EDP-204 Computer Graphics Design (3-3-4)

Programming techniques for screen design. Applications include graphs and charts, geometric shapes, and animation. Prerequisite: EDP 108. (This course differs from EDP 115 in its approach to graphics. EDP 115 utilizes graphics packages; it is primarily a user course. EDP 204 will emphasize the programming necessary to produce the graphics.)

EDP-205 Computerized Accounting (2-4-4)

The student will be able to process accounting data through use of the computer. Emphasis is on (1) analyzing transactions, (2) recording transactions on coding forms designed for special and general journals, (3) transferring transactions from coding form to input media and (4) processing the transaction using the microcomputer. Prerequisite: BUS 140 or BUS 120 or equivalent experience.

EDP-206 Operating Systems (3-2-4)

The student learns to use system commands and utilities for job control, file management, and information security. Extensive use of technical manuals is required. Prerequisite: EDP 108 and EDP 215.

EDP-208 Beginning RPG II

A problem oriented approach to programming with a high level, commercially oriented programming language. (3-4-5)

EDP-210 FORTRAN Programming

Introduces the student to computer programming logic and symbolic language. Emphasis on flowcharting and program construction. (3-3-4)

EDP-211 Pascal Programming

A study of programming techniques in a highly structured language with emphasis on top-down design and modular organization. Unique features include user-defined variable types, case structure, sets, pointer variables, and dynamic data structures. (4-3-5)

EDP-214 COBOL Programming I

Develops programming skill with emphasis on program structure. A comprehensive course which facilitates the writing and testing of programs in this language. (4-4-6)

EDP-215 COBOL Programming II

Advanced techniques in file handling using COBOL. (4-4-6)

EDP-216 Data Processing Applications

The student will participate in the development of a system under the supervision of the instructor. Includes planning, coding, testing, and providing full documentation. Prerequisite: EDP 208 and EDP 215. (3-3-4)

EDP-217 Supervised Work Experience

The student puts his data processing skills into practice in the work environment. Consent of the curriculum advisor is required. (3-30-6)

EDP-218 Data Base Concepts

Investigation of the processes of developing and maintaining a unified data file system to serve the various systems of a business entity. Prerequisite: EDP 215. (3-0-3)

EDP-219 System Analysis and Design

The student will understand the basic functions performed by a systems analyst. Through classwork and laboratory procedures, the student will develop techniques for analyzing and designing solutions for business problems. Record and file design, devices and media selection will be studied and applied. Systems used in various types of businesses and industries will be discussed. The student will be able to do a feasibility study. (5-0-5)

EDP-220 Structured Testing and Documentation

Provides experience in rigorous testing and debugging prodecures. The student will produce a complete documentation package for programmers, users, and operators. Prerequisite: EDP 219. (3-3-4)

EDU-100 The Reading Assistant

Study of the role of the reading assistant as she works with the reading teacher. Emphasis upon equipment, materials, records used. Students should gain a knowledge of readiness for learning and word recognition skills and activities. (4-0-4)

EDU-101 Child Growth and Development I

A detailed study of the developmental sequence of the prenatal infant and preschool periods with emphasis on developmental influences and conditions necessary for optimal development of individuals. (5-0-5)

EDU-102 Programming for Young Children (3-0-3)

Development of the knowledge of a good preschool and early childhood learning environment; scheduling, routines, transitions, room arrangements for obtaining maximum learning and the planning of learning units; the selection of equipment and materials for use in the classroom. Prerequisites: EDU 101, EDU 131.

EDU-103 Working with Young Children (5-10-10)

Case presentation, films, observations, and group discussions are utilized to study characteristic behaviors of each level of development and to derive guidelines for promoting desirable behaviors and for coping with undesirable behaviors. Laboratory experiences will provide opportunities to develop observation skills, effective techniques, and some knowledge of how to adapt learning to the needs of individual children.

EDU-104 Introducing Reading (3-0-3)

An introduction to reading for the young child with emphasis on the development of reading skills, methods and materials.

EDU-107 Math for Young Children (3-0-3)

The teaching of basic number concepts through appropriate methods, materials, and activities for the young child. Developmental experiences will be emphasized. Prerequisite: Math 100.

EDU-110 Methods of Teaching Industrial Subjects (3-0-3)

A study of effective methods and techniques of teaching industrial subjects. Emphasis given to class organization; student-teacher planning; methods of teaching manipulative skills and related information; lesson planning; shop safety; and evaluation. Teaching problems will be studied and analyzed following directed observations in the public schools.

EDU-111 Use of Media in Instruction I (3-0-3)

A basic course in the planning and production of slides, still pictures, mounting and preserving materials, graphics, transparencies, and audio recordings for instructional use. The design and application of these materials are related to current theories of instruction. Emphasis will be placed on developing audio-visual materials designed to achieve specific instructional objectives.

EDU-112 Shop Organization and Planning I (2-2-3)

A study of problems related to vocational shop layout, planning and management, supplies and equipment handling, textbooks, sources of materials.

EDU-113 Shop Organization and Planning II (2-2-3)

A continuation of EDU 112.

EDU-114 Safety in the School Shop & Laboratory (3-0-3)

A course designed to cover the basic requirement necessary for a safe environment for the inexperienced student. A thorough study of the requirements of the Federal Occupational Safety and Health Act as it applies to school problems will be conducted.

EDU-115 Introduction to Industrial Education (3-0-3)

The place of vocational education in a program of public education and the fundamental principles upon which this work is based.

EDU-116 History & Philosophy of Industrial Education (3-0-3)
Historical study of trade and technical education movement. Place, function, and changing concepts of industrial and technical education in American education. Economic sociological and psychological aspects.

EDU-117 Program and Course Development (3-0-3)
Methods of developing program and course content and structuring into a workable instructional system. Individualized instructional techniques will be covered. Each student will prepare a selected program in detail.

FEDU-118 Principles of Cooperative Education (3-0-3)
A discussion of the principles and practices of cooperative education in use today. The advantages and problems of the technique as a facet of total education will be covered along with techniques of implementation in various programs.

EDU-119 Occupational Guidance (3-0-3)
An introduction to the understanding and motivation of vocational students. Proper use of records and tests in cooperation with available counseling services in evaluating student problems and potential. Stimulating learning through understanding and control of personal and environmental variables in the classroom.

EDU-121 Drafting for the Vocational Instructor I (3-0-3)
An introduction of basic skills and techniques of drafting. Included are uses of drafting equipment, lettering, freehand orthographic and pictorial sketching, geometric construction, orthographic instruments drawing of principal views, and standards and practices of dimensioning. The principles of isometric, oblique, and perspective are introduced.

EDU-123 Environmental Concepts in Education (3-0-3)
A workshop to introduce instructors to the significance of human ecology in their own discipline. Environmental teaching aids, curriculum materials and area resource personnel will be introduced. Methods of including environmental concern into regular subject matter will be covered.

EDU-124 Teaching the Handicapped Student in Occupational Education (3-0-3)
An exploration into the psychological and educational processes necessary in the teaching of the handicapped student are explored. Different handicaps are discussed and evaluated as to the expectation and accommodation of the handicapped student in a regular classroom setting.

EDU-125 Drafting for the Vocational Instructor II (3-0-3)
An extension and broadening of the techniques used in EDU 121.

EDU-130 The Dynamics of Human Behavior (3-2-4)
Study of human behavior, with emphasis on developmental aspects, motivations, common behavioral patterns, and the role of defense mechanisms in human behavior. Laboratory experiences will demonstrate a variety of theories related to human behavior.

EDU-131 Child Growth and Development II (5-10-10)
A detailed study of the developmental sequence during the preschool and early childhood years. Emphasis is given to factors influencing development: the importance of experiences in establishing patterns of behavior, attitudes,

interpersonal skills; language usage; and the relationship of early childhood to later realization of potential. Prerequisite: EDU 101.

EDU-133 The Family: A Cross-Cultural Survey (3-0-3)

Study of the family as a social unit, with primary focus on the influence of family relationships during infancy and childhood. Historical patterns and the evolution of family roles in various types of cultures provide opportunities to analyze and interpret the influence of the culture and the family in relation to the large society.

EDU-135 The Family in the Community (3-0-3)

Study of community agencies concerned with physical and mental health in families, socio-economic problems, and education for child-rearing. Prerequisite: EDU 133.

EDU-138 Basic Cherokee Language I (0-0-0)

This series of studies on the Cherokee Language is for basic beginners. The course deals with the phonetic style only based upon the "Kituhwa" dialect. Other Cherokee dialects will be compared.

EDU-140 Use of Media in Instruction II (3-0-3)

Students are given hands-on experience in the use of media that will be of practical use in the classroom. Projects and demonstration of skills in the use of media form and instructional need is required of those successfully completing the course.

EDU-201 Activities for Young Children (5-10-10)

Individual and group exploration of activities and media for promoting optimal overall development of children, with special emphasis on music, art, science, and oral language development. Laboratory experiences provide opportunities to plan and implement a program which demonstrates the adaptability of specified activities and media to a variety of age levels. Prerequisite: EDU 103.

EDU-202 Seminar (0-20-2)

Seminar on practicum experiences and discussions on issues such as discipline, being professional, and federal rules and regulations for daycare.

EDU-203 The Exceptional Child (3-0-3)

Study of children with developmental variations requiring modification in activities. Consideration is given to recognition of problems, community resources, and appropriate activities for the child with exceptional deviations in personality or physical development. Prerequisites: EDU 201, EDU 210.

EDU-204 Parent Education (3-0-3)

Study of ways parents can be involved in the child development center, of the purposes and value of home visitation, and of techniques for reporting child progress to parents. The role of the early childhood specialist in aiding parents in guidance of the child's development is emphasized. Each student will develop a series of programs appropriate for presentation to the parents of preschool children. Prerequisite: EDU 135.

EDU-205 Practicum (5-0-5)

Supervised experiences in a variety of child care facilities.

EDU-207 Special Problems in Early Childhood (2-0-2)
Directed study of a specialized area of early childhood, appropriate to the individual career interests of students. Prerequisite: EDU 203.

EDU-208 Physical Activities for Young Children (3-0-3)
This course is designed to help the student gain an understanding and appreciation of the role that physical education plays in the development of the preschool child. Selection of activities and organization will be stressed.

EDU-210 The Child and Community Services (3-0-3)
Study of the types of facilities needed by a community concerned with the well-being of its children. Analysis of child needs which can be met through community planning, with identification of local, state and national resources. Prerequisite: EDU 135.

EDU-211 Children's Literature (3-0-3)
A survey of literature appropriate for the preschool and early childhood age children. Emphasis upon types of literature, selection and use.

EDU-222 Media Resources and Library Skills (3-0-3)
Demonstrations and practical experiences in the use of instructional media of all types along with a practical guide to the use of the library and its various types of services as they relate to the teaching program.

EDU-231 Psychology and Advertising (3-2-4)
An introduction to psychology with an emphasis to how psychology relates to the world of advertising. Consumer behavior and attitudes will be discussed and actual problems will be assigned.

EDU-235 Group Communications Dynamics (3-0-3)
This course stresses the interchange of communications and the psychology of the spoken word in relating to people in groups. The group introduces topics for discussion with interrelations to the group. Evaluations are a result of the group reaction to the topics introduced by individuals from this group.

EGY-101 Introduction to Alternate Energy (2-0-2)
Survey of the current applications of alternate energy; principles of solar collection, storage, and distribution; examples of solar installations, overview of wind, hydro, and solar electric conversion systems.

EGY-102 Solar Radiation (2-0-2)
Nature of solar radiation; daily and seasonal variations in the amount and direction of solar radiation; information on orienting collectors; use of clear-day insulation tables; use of meteorological data.

EGY-103 Principles of Solar Collectors (3-6-6)
Summary of commercially-available types of collectors; components of collectors and their relation to function; materials selection; description of collector performance; testing of collectors; lab work in pipe fabrication and collector demonstrations.

EGY-104 Solar Hot Water Systems (4-6-7)
Design of hot water systems for swimming pools and domestic use: selection of components; principles of operation; methods of freeze protection; sizing; monitoring of systems and labwork in pipe fabrication.

EGY-105 Space Heat Demand (2-0-2)
Principles of heat transfer; description of heat loss; survey of materials to decrease heat loss; heat load calculations.

EGY-106 Passive Design (5-0-5)
Relation of building to natural environment; direct gain, indirect gain, and isolated gain systems concept; use of thermal mass and moveable insulation; rules of thumb for sizing; architectural design in relation to heating and cooling.

EGY-107 Solar Space Conditioning (4-6-7)
Use of collectors and isolated storage for active solar space heating; techniques for site-built collectors; combined dhw and space heat systems; sizing of components; use of non-solar backup. Prerequisites: EGY 104 and AHR 101.

EGY-108 Experimental Design (1-2-2)
Scientific method; laboratory procedures; data collection; experimental uncertainties and analysis of precision; problem-solving techniques; testing procedures; use of laboratory instruments; use of data processing. Prerequisite: MAT 105.

EGY-201 Installation and Maintenance of Solar Energy Systems (3-4-5)
Installation of collectors and other solar components; connecting pipes and ducts; checking out the systems; provision for future maintenance; routine maintenance; troubleshooting and repairs. Prerequisite: EGY 107.

EGY-203 Design of Alternate Energy Systems (2-2-3)
General design procedure; evaluation of input requirements and design options; exercises in design of solar energy systems for hypothetical clients; development of design portfolio. Prerequisites: EGY 106, EGY 107, and EGY 205.

EGY-205 Photovoltaic Systems (3-2-4)
Photovoltaic principles, panels, and arrays; storage of electricity; controls and interface with utility; back-up electricity sources; estimate of electric demand. Prerequisite: ELC 109.

EGY-206 Energy Management and Planning (2-0-2)
Energy conservation by management for residential, commercial, and industrial applications; energy audit procedures; cost-benefit analysis of various energy use options; management of peak load; use of electronic and computer control for load management. Prerequisites: EGY 105 and ECO 201.

EGY-208 Wind and Hydro Systems (2-0-2)
Measurement of wind and water resource; commercially available wind plants; waterwheels and turbines; electric generators; electric storage options; control options. Prerequisite: ELC 109.

EGY-209 Advanced Control Systems (2-2-3)
Application of control methods to particular examples of alternate energy systems. Prerequisite: AHR 201.

EGY-210 Energy Project Lab I (0-4-2)
Individual projects to apply knowledge gained in previous courses; experience in construction of systems; individual research; development of basic masonry and carpentry skills.

EGY-211 Energy Project Lab II (0-8-4)
Continuation of EGY 210 with emphasis on design of alternate energy systems; construction projects; individual research. Prerequisite: EGY 203.

EGY-1110 Hand and Power Tools (0-3-1)
Care and use of the hand and power tools required by the solar mechanic in working with wood.

EGY-1120 Introduction to Solar Concepts (3-0-3)
Survey of the current applications of solar energy; daily and seasonal variations in amount and direction of solar radiation; aiming solar collectors; use of clear-day isolation tables.

EGY-1121 Solar Collectors (5-0-5)
Principles, types, materials, design, construction, efficiency, and installation of solar collectors; swimming pool systems.

EGY-1125 Solar Domestic Hot Water (4-0-4)
Types, components, operation, freeze protection, sizing, and installation of solar domestic hot water systems.

EGY-1136 Solar Lab I (0-9-3)
Individual and class projects in solar heating systems with an emphasis on solar collectors; tours of operating solar energy systems in the community.

EGY-1137 Residential Energy Conservation (2-0-2)
Concepts of heat transfer and types of heat loss: use of R-values and U-values to describe loss; description of insulating materials; air infiltration and methods for controlling it; architectural features for energy conservation.

EGY-1139 Solar Lab II (0-9-3)
A continuation of Solar Lab I with more advanced projects; emphasis on solar domestic hot water systems.

EGY-1140 Solar Lab III (0-9-3)
Continuation of Solar Lab II with more advanced projects; emphasis on space heating systems.

EGY-1142 Active Solar Space Conditioning (6-6-8)
Collectors, storage, transfer fluids, distribution systems, back-up energy sources, controls and other components of active solar space conditioning systems; operation of solar powered absorption cooling; estimates of space heating and cooling loads and sizing of system components.

EGY-1144 Solar Greenhouses (2-0-2)
Basic principles of solar energy; design procedures and construction details for solar greenhouses; plant cultivation.

EGY-1146 Solar Water Heating (2-0-2)
Introduction to the techniques of heating water with the sun; description of components; installation and operation of solar domestic hot water systems.

EGY-1147 Passive Solar Energy (2-0-2)
Designing with climate to minimize mechanical heating and cooling requirements; review of several passive solar design house plans; focus on passive design for Western North Carolina.

EGY-1148 Solar Heating for the Home (2-0-2)

A survey of solar space heating techniques for residential application; energy conservation and passive concepts; emphasis on active systems.

EGY-1150 Solar, Wind and Hydro Electrical Conversion Systems (2-0-2)

Survey of photovoltaic, wind, and microhydro electrical generation; calculation of residential electrical demand; sizing systems; cost-benefit analysis; interfacing with the power grid; onsite electricity generation in Western North Carolina.

ELC-109 Fundamentals of AC and DC (3-2-4)

Understanding the basic circuits involved with batteries and power supplies. Examination of alternating current and its use in the broadcast field.

ELC-120 Introductory Direct Current (1-2-2)

Basic DC circuits; theory, components, circuits and general applications; proper use and care of test instruments.

ELC-121 Introductory Alternating Current (1-2-2)

Basic AC circuits; wave generation; component actions in AC circuits; AC test equipment.

ELC-1005 Code Seminar (5-0-5)

An in-depth study of the National Electrical Code as it pertains toresidential wiring. Emphasis will be placed on improving the student's ability to locate rapidly and read accurately appropriate code sections.

ELC-1003 Electrical Code Seminar (1-2-2)

A study of specifications for installing electrical equipment as established by the National Electrical Code.

ELC-1108 Residential Wiring (3-12-7)

Provides instruction and application in the fundamentals of blueprint reading, planning, layout, and installation of wiring in residential applications such as: services, switchboards, lighting, fusing, wire sizes, branch circuits, conduits, National Electrical code regulations in actual building mock-ups.

ELC-1110 Basic Electricity (1-3-2)

This basic electricity course will introduce students to the structure of matter, electrical terminology, symbols, and electron theory of current flow. Emphasis will be placed on the use of testing equipment for troubleshooting plumbing appliances.

ELC-1114 Industrial Wiring (3-12-7)

Construction specifications and electrical systems are introduced with installation practices being an integral part of the course study. Also introduced into the field of study will be unit substation and high-voltage metering equipment, feeder ducts and distribution transformers, panelboards and subfeeders, general circuits, motors and controllers, precipitron units, synchronous condensers, signal systems, ventilating and air-conditioning units, and alternate methods of feeder layout.

ELC-1120 DC Theory (Basic Application) (3-12-7)

This is the first course in electricity. The student is required to develop the basic skills in the use of: Ohm's Law, basic DC theory, the use and applications of proper wiring and soldering techniques, the theory and uses of inductors and capacitors as well as the applications, proper maintenance and care of analog meters and VOM type test instruments. A laboratory test-manual is used in conjunction with a simplified laboratory training kit to provide hands-on training in all significant areas of the subject. Teacher supervised self-paced study is combined with short lectures and discussions to assure student mastery of the subject matter and associated skills.

ELC-1121 AC Theory (Basic Application) (3-12-7)

This course is structured in a manner quite similar to ELC 1120 (DC Theory) and uses the same laboratory equipment. Skills stressed include capacitive and inductive reactance, transformers and transport systems. Impedance and powerfactors are covered as well as AC filters, resonant circuits, and AC test equipment and instrumentation applications.

ELC-1122 Residential & Industrial Controls (3-0-3)

This is an introductory course covering various methods of remote power control, product sampling, unit counting, speed controls, timing controls and temperature sampling and controlling devices. Most, but not all, circuits covered use low voltage control wiring and/or date lines. Lectures will be supplemented with system demonstrations to illustrate acceptable wiring and installation procedures.

ELC-1123 Electrical and Control Systems (3-0-3)

Fundamentals of DC and AC circuits; familiarization with residential power wiring; sensors and controllers used in heating systems.

ELN-102 Introduction to Electronics (5-4-7)

Overview of electronics principles, electrical safety, Ohm's law, Kirchoff's laws, series and parallel circuits, magnetism, proper use and care of instruments.

ELN-104 Circuit Analysis (5-4-7)

Sine-wave generation; alternators, inductors, transformers, capacitors, filters, and networks; impedance, tuning and resonance; proper use and care of AC instruments. Prerequisite: ELN 102 and MAT 115.

ELN-106 Solid State Devices (5-4-7)

Transistors and integrated circuits; power supplies, amplifiers and oscillators; and switching devices. Prerequisite: ELN 104.

ELN-109 Digital Concepts (3-2-4)

Use of logic gates and counting circuits; flip-flops, timers, displays, and registers; diode transistor, resistor transistor, and transistor, transistor logic. Prerequisites: ELN 201 and MAT 118.

ELN-110 Basic Troubleshooting (3-2-4)

A course providing the student with ways to save time and increase effectiveness in troubleshooting by the use of tested techniques and common sense approaches. The student will learn to isolate problems in complex equipment, check components with inexpensive test equipment and use the tools and chemical agents commonly associated with the electronics industry. A practical and hands-on approach is emphasized in laboratory activity. Prerequisite: ELN 101.

ELN-120 Radio Amateur License Preparation I (3-0-3)

Exposure to the exciting world of Amateur Radio. Emphasis placed on operating rules and regulations along with basic theory and code needed to pass the novice examination.

ELN-121 Radio Amateur License Preparation II (3-0-3)

Continuation of theory for preparation of general class and higher licenses. Question and answer method used with related laboratory applications. Code speed emphasized.

ELN-125 FCC Exam Preparation (5-0-5)

FCC General Radio-Telephone examination; review of applicable electronic principles; and practice testing. Prerequisites: ELN 204 and MAT 117.

ELN-130 Converter Fundamentals and Design (3-2-4)

Theory of RF converter systems explained. Mixers, oscillators, and wideband amplifiers discussed. Laboratory test procedures are emphasized.

ELN-131 Converter Analysis (3-2-4)

A continuation of ELN 130.

ELN-132 Test Instruments (1-3-2)

Training in the use of test and calibration equipment emphasized. The logical approach to electronic equipment troubleshooting is explained.

ELN-133 Communications Circuits (3-2-4)

The basic theory and application of AF and RF amplifiers is discussed. Various transmitter and receiver stages are explored.

ELN-201 Electronic Circuits (5-4-7)

Principles and applications of tuned circuits, amplifiers, and oscillators are explored. Precision electronic equipment used to test and evaluate. Application of principles emphasized. Prerequisite: ELN 101.

ELN-203 Measurement and Control I (3-6-5)

A study of the concepts of measurement and control, levels of accuracy and traceability. Also covered are the theory and calibration of pressure gauges, vacuum gauges, and pressure switches using laboratory standards such as the dead weight tester, manometer, precision test gauges, and associated hardware. General shop practices are included.

ELN-204 Electronic Communications (5-4-7)

AF, IF and RF amplifiers and oscillators; AM, FM, PM, and SSB principles and applications; and communication test instruments. Prerequisites: ELN 201 and MAT 117.

ELN-205 Computer Repair (2-4-4)

The internal operation of micro and mini-computers is explored. System layouts and designs are studied. The interconnection of memory circuits, timing circuits, central processing units, and input/output devices and how they make-up a computer is emphasized. The interfacing of external devices through various ports and buses is studied. Signal paths and logic states are determined along with various troubleshooting techniques.

ELN-206 Digital Computers (3-3-4)

Basic registers and counters. The arithmetic unit of the computer. Serial and parallel systems. Timing and control unit. Principles of storage. Memory and address registers. Memory selection techniques. Machine language programming

ELN-207 Electronics IV (5-4-7)

Microwave equipment, radar, and other special communications circuits. Emphasis placed on microwave and special purpose antennas along with waveguide and other high frequency transmission media. Applications if klystrons, magnetrons, and TWT's covered. Prerequisite: ELN 204.

ELN-209 Digital Engineering Techniques (3-2-4)

Study of various logic circuits including electronic gates, adder circuits, shift registers, memory circuits, and timing circuits. The world of microprocessors is explored. Laboratory application of theory is emphasized. Prerequisite: ELN 109.

ELN-210 TV Systems Analysis (5-6-8)

T.V. broadcast theory introduced along with detailed study of basic T.V. receiver circuits. Black and white along with color theory is proven by laboratory tests and measurements utilizing up-to-date test equipment especially designed to gather such data. Prerequisite: ELN 204.

ELN-213 Measurement and Control II (3-6-5)

A study of control theory and applications with emphasis on electronic controls and mechanisms. Control loops and configurations of electronics and pneumatics are constructed and placed in operation. Applications of interfacing are covered along with calibration and alignment of constructed systems.

ELN-216 Industrial Electronics (3-2-4)

Standard and novel industrial methods and systems of counting, switching, speed control are covered. Emphasis is placed on the latest techniques of high speed controls using diacs, triacs and other solid state devices.

ELN-220 Antenna Design (3-2-4)

Involves study of single and complex antennas, materials, physical dimensions, design formula, skin effect, gain, radiation patterns, sine loss, standing wave ratio, reflected power, and various methods of field strength evaluation. Antenna project building included.

ELN-222 Special Project Building (0-4-2)

An elective offered for the student interested in building a special project—either original design or kit form. Construction techniques emphasized.

ELN-223 Measurement and Control III (3-6-5)

Troubleshooting techniques are studied and practiced using standard instrument maintenance test equipment. Actual loops and control systems are set up and tubing and piping layouts are studied. Instruments are dismantled, reassembled, calibrated, and placed in service.

ELN-224 Electronic Layout and Design (0-3-1)

Study of printed circuit board layout and fabrication techniques. Layout includes schematic interpretation, the use of dry transfers, production of negatives; fabrication techniques include board preparation, care and handling of chemicals and associated materials, drilling, plating, component layout, and troubleshooting. Layout design project to be completed in ELN 234.

ELN-225 Advanced Troubleshooting Procedures (2-6-4)

Logical analysis; systematic isolation; signal injecting and tracing; voltage and waveform measurements at test points; and signature analysis. Prerequisites: ELN 110 and ELN 204.

ELN-228 Instrumentation Projects (2-6-4)

Laboratory projects in electronic and pneumatic instrumentation to promote individual initiative and project responsibility. Involves a review of major concepts in previous courses. The student will have maximum opportunity to develop, evaluate, and carry his projects to a successful conclusion.

ELN-229 Instrumentation Field Trips (0-3-1)

Field trips and lectures by instrument technicians and engineers in local industries are provided.

ELN-234 Electronics Fabrication (0-3-1)

Continuation of ELN 224 to include P.C. Board design, layout and fabrication. Packaging methods including front panel layout determined by human engineering. Application of technical writing as pertains to the theory of operation, parts list, P.C. Board layout, schematic, and other manufacturing/engineering data.

ELN-235 Instrumentation and Testing (3-3-4)

Circuitry involved with the many types of instruments that the engineering technician will be using, such as various types of readouts encountered in industry. The importance of attenuation, advantages and disadvantages of varied types of filters, usefulness of DC/AC bridges, comparisons of analog and digital instrumentation, and the use of the more sophisticated instruments.

ELN-236 Microcomputer Programming (3-3-4)

Microprocessor architecture, internal registers, and internal bus structures. Machine language programming, using operation codes to move data internally. Study of how memory sequentially stores and supplies the program for performing computer operations.

ELN-237 Microprocessor Analysis (3-3-4)

Timing and control signals and sequential operation for performing instructions. Use and analysis of microprocessors (CPU) with arithmetic and control units on one chip and other complementing chips.

ELN-238 Microprocessor Interfacing (3-3-4)

Timing and control signals necessary to interface the central processing unit to peripheral equipment. Data transformed from serial to parallel and from parallel to serial using UART chips for bus structured systems. Latching of data and interrupts and real time problems.

ELN-239 Computer Systems (3-2-4)

A detailed study of the computer system as a unit. Topics studied include system architecture, interfacing peripherals to the CPE, peripheral drivers (hardware and software), magnetic storage techniques, disk storage systems, printing and video terminals and operating systems and system software. Various computers are discussed with the TRS-80 disk-based microcomputer and various mainframe systems covered in detail.

ENG-010 Reading

Encourages the student's development of reading comprehension and reading rate. The course emphasizes the grasp of basic ideas rather than words and offers workable techniques which the student may use in reading assignments. These techniques help the student to identify, interpret, and evaluate ideas.

ENG-011 Basic Grammar

An intensive study of grammar for students whose English placement score indicates a need for special help in developing the needed skills for college writing. Prerequisite: ENG 010 or exemption.

ENG-080 Developmental English I (0-5-2)
ENG-090 Developmental English I (0-10-5)

Student learns to identify parts of speech such as nouns and verbs, adjectives and adverbs, and their relationships to the sentence as a whole. Student learns distinction between sentences and fragments.

ENG-081 Developmental English II (0-5-2)
ENG-091 Developmental English II (0-10-5)

Student furthers knowledge of parts of speech and receives an introduction to phrases and clauses. End punctuation of sentences is studied, especially in relation to complete and incomplete sentences. Prerequisite: ENG 090.

ENG-082 Developmental English III (0-5-2)
ENG-092 Developmental English III (0-10-5)

Student continues study of phrases and clauses, including phrase and clause functions as modifiers. Use of internal punctuation is studied, with special emphasis on the comma. Students may begin writing model paragraphs. Prerequisite: ENG 091.

ENG-083 Developmental English IV (0-5-2)
ENG-093 Developmental English IV (0-10-5)

Student learns use of various other types of internal punctuation such as semicolon, colon, and quotation marks. Student continues study of paragraph form, with emphasis on the various types of paragraphs such as contrast and comparison. Prerequisite: ENG 092.

ENG-101 Language and Composition I (5-0-5)

The first of a two-course series designed to improve writing skills. This course exposes students to grammar, punctuation, syntax and paragraphs. Prerequisite: ENG 010 or exemption.

ENG-102 Language and Composition II (5-0-5)

Teaches the student to write clearly and effectively. This course is a continuation and further development of English 101. The emphasis is on developing the longer composition. Library research is introduced. Prerequisite: ENG 101.

ENG-103 Report Writing (3-0-3)

Utilizes the fundamentals of English as a background for the organization and techniques of modern report writing. Exercises in developing typical reports using writing techniques and graphic devices are completed by the students. Practical application in the preparation of a full-length report is required of each student at the end of the term. This report must relate to his chosen curriculum. Prerequisite: ENG 102.

ENG-110 Freshman Composition I (5-0-5)

Development of writing skill: planning, organizing, and editing paragraphs and expository essays. Emphasis on effective syntax, correct punctuation and grammar.

ENG-112 Freshman Composition II (5-0-5)

Introduction to the research paper and the study of literature. Emphasis on methods of research and documentation. Development of skill in literary analysis. Prerequisite: ENG 110.

ENG-204 Oral Communications (3-0-3)

A study of basic concepts and principles of oral communications to enable the student to communicate with others. Emphasis is placed on the speaker's attitude, improving diction, voice, and the application of particular techniques of theory to correct speaking habits and to produce effective oral presentation. Particular attention given to conducting meetings, conferences, and interviews. Prerequisite: ENG 102.

ENG-210 Introduction to Literature (5-0-5)

The course consists of reading and analysis of a variety of types of literature for the purpose of developing critical judgment.

ENG-211 American Literature I (5-0-5)

A survey of American Literature beginning with the Colonial Period and concluding with the Romantic Period. Major emphasis will be on literature that reflects significant themes and concepts, including Calvinism, Transcendentalism, Romanticism and Realism.

ENG-212 American Literature II (5-0-5)

A survey of American Literature beginning with Emily Dickenson and concluding with Cheever, Updike and Oates. Emphasis will be on literature which reflects the themes and concepts of Realism, Naturalism, Regionalism and Existentialism.

ENG-213 Folklore, Myth and Legend (3-0-3)

General introduction to myth, legend and folklore in western culture with an emphasis on Greek, Roman, Celtic, Norse and Irish mythology, with a final unit in the myths, legends and folklore of North Carolina. Major methods of presentation will be lecture, storytelling and class discussion.

ENG-215 Types of Literature

Fundamental course designed to acquaint students with the major philosophies, terminologies and techniques in literature; and to provide an appreciation of poetry, drama and prose. Course will deal with significant developments in each of the literary types (poetry, drama and prose) with an additional unit on aspects of classical mythology with literary significance.

ENG-216 Journalism: News Writing (3-2-4)

Introduction to the fundamental writing and fact gathering skills of journalism. Practice in news reporting, interviewing, gathering information and writing various types of news stories.

ENG-217 Creative Writing (3-0-3)

A course designed to develop the student's potential as a creative writer, consisting of a study of basic fundamentals, selected contemporary models, and a variety of practical classroom exercises.

ENG-218 Science Fiction (3-0-3)

A survey of science fiction from Sir Thomas More's *Utopia* to current representative works of "speculative fiction." Major emphasis will be on utopian and dystopian works. Lectures will provide a comprehensive view of major themes during the last two hundred years, and class discussion will focus on a minimum of eight novels that represent current themes.

ENG-219 Research Writing (3-0-3)

This course is based upon critical analysis of literary selections. The fundamentals of library research and documentation are emphasized.

ENG-220 English Literature I (5-0-5)

A survey of English literature, beginning with *Beowulf* and concluding with William Blake's poetry. Particular emphasis will be placed on tracing the development of drama, poetry and prose, and on identifying and discussing major influences, themes and concepts.

ENG-221 English Literature II (5-0-5)

A survey of English literature, beginning with the Romantic Movement and concluding with selected modern British novelists. Major emphasis will be on works that embody significant literary themes and concepts, such as the pantheistic and mystical motifs of the Romantic poets; and the recurrence of mythical themes. Survey will conclude with emphasis on modern British novelists, poets and dramatists.

ENG-222 Theatre Activities I (0-6-2)

This is a laboratory course for extensive participation in theatre activities. It consists of work in drama for public presentation, backstage work, use of makeup, properties, lighting, and other facets of technical theatre. An average of two hours each week or a minimum of thirty-two hours of participation during the semester is required. This course may be repeated three times for credit.

ENG-1106 Fundamentals of English (5-0-5)

Designed to aid the student in the improvement of self-expression in grammar, composition, and the basic reading skills. Special machines are used for class drill to broaden the span of recognition, increase eye coordination, and word group comprehension.

ENG-1111 Reading Comprehension (2-0-2)

Designed to develop the student's reading comprehension directly related to specifications, code books and installation manuals for building construction.

ENG-1112 Communication Skills (2-0-2)

To develop the student's ability to communicate successfully both in speaking and writing. Emphasis on vocabulary, letter writing, and reports as related to the construction industry.

ENV-111 Supervised Work Experience (3-30-6)

Students are given actual on-the-job training; they are placed with a government agency or private business which deals with environmental monitoring.

ENV-120 Land Resource Management (3-4-5)

An integrated course aspect of geology, soil and water conservation, and the relationship of these factors to the biological community. Methods of land management will be discussed allowing controlled growth without environmental degradation.

ENV-130 Microbiology (3-4-5)

A study of general microbiology with emphasis on micro-organisms associated with pollutants such as industrial waste and sewage. Lab will include methods of isolating, culturing, and staining selected micro-organisms. Prerequisites: BIO 101, CHM 101.

ENV-202 Data Studies (6-0-6)

A practical application of the principles of data collection, analysis and presentation.

ENV-206 Wastewater Treatment Plant Operations (3-2-4)

A course designed to prepare students to take the Grade I certification for Wastewater Treatment Operator's License. Includes all aspects of operating a wastewater plant.

ENV-207 Water Analysis and Treatment (3-2-4)

Topics cover routine analysis for water quality and operational procedures for water treatment plant operations. Water treatment plant design is also included.

ENV-208 Fisheries Management (3-2-4)

A study of the aquatic environment and fishery science. Life history and biology of important game and commercial fishes, age and growth analysis, population estimations, fish culture, fish management, and pollution studies.

ENV-210 Ecology (3-2-4)

A basic course designed to acquaint the student with the relationships between organisms and their environment, and of interactions among organisms. Lectures, laboratories, and field trips present a balanced perspective in environmental biology. Included will be productivity, nutrient cycling; pollution, environmental factors affecting aquatic and terrestrial systems, regulation and dynamics of populations, interactions among species, community ecology; and the ecological viewpoint in modern land management.

ENV-213 Air Sampling, Analysis and Control (3-4-5)
A study of air quality standards, air monitoring equipment, and techniques for sampling air. Labs will include sampling and analysis of ambient air.

ENV-216 Environmental Health (3-2-4)
The influence of environmental conditions on human health. Special emphasis given to medical laboratory procedures including bacteriology, hematology, clinical chemistry, and urinalysis, used in assessing health.

ENV-218 Wastewater Treatment Plant Operator - Grades I and II (2-5-4)

ENV-224 Chemistry of Wastewater (1-6-4)
Course content is designed to teach routine laboratory analysis of wastewater. Laboratory procedures include routine testing for temperature, pH, solids, DO, BOD, COD, oil and grease, ammonia, and coliform bacteria.

ENV 229 Meteorology (3-4-5)
A study of atmospheric phenomena and regional weather patterns of North America, with emphasis on atmospheric composition and structure; wind systems; air masses, fronts and cyclones; cloud types and precipitation; weather modification and application. Labs emphasizing weather forecasting accompany lectures.

FRE-101 Beginning French (5-0-5)
A course in the fundamentals of pronunciation, grammar, conversation and sight reading.

FRE-102 Intermediate French (5-0-5)
A continuation of the fundamentals of French pronunciation, grammar, conversation and sight reading. Prerequisite: French 101 or equivalent.

ENV-230 Environmental Quality, Laws, and Enforcement (3-0-3)
A study of local, state, and federal laws and acts concerning environmental quality standards and the use of resources, legal procedure for enforcing laws, and problems concerning enforcement. Included will be environmental standards dealing with polluting sources such as industry, agriculture, municipalities, and individuals.

ENV-231 Environmental Project (1-12-5)
This course consists of a supervised work project concerning an environmental problem in the area which would enable the student to put to use some of the COPY MISSING.

FSO-101 Orientation to Food Service (1-0-1)
The study of the skills and attitudes needed for successful employment in the food service industry. Detailed information is provided on training requirements, responsibilities, and duties of various food service jobs.

FSO-102 Food Preparation I (2-9-5)
The first in a series of food preparation courses designed to train the student in short order and quantity food preparation. Emphasis is placed on the development of manual skills and work organization through the preparation of sandwiches, soups, sauces, and salads for service in the college dining room.

FSO-103 Equipment Use and Care (3-0-3)

Designed to teach the student how to safely operate, maintain, and clean most standard resturant equipment, particularly that in the food preparation laboratory.

FSO-104 Sanitation and Safety (3-0-3)

A study of standard sanitation and safety practices to prevent health hazards and avoid injuries.

FSO-106 Dining Room Procedures (1-3-2)

A course designed for service personnel which covers the following subjects: equipment, personnel responsibilities, organization, customer relations, sanitation, table arrangements and set-ups, and service techniques for American service.

FSO-107 Baking I (2-6-4)

A study of the basic tools, equipment, and ingredients necessary for baking as well as baking terminology. Students gain practical experience by baking quick breads and yeast breads for service in the college dining room.

FSO-109 Production Management (3-0-3)

A study of production systems. The establishment of objectives, guidelines, and policies is stressed as well as effective personnel management.

FSO-110 Supervised Work Experience (0-30-3)

Allows the student to gain practical experience by working in an approved food service establishment. Students must have instructor approval before registering for the course.

FSO-112 Food Preparation II (2-9-5)

The first in a series of food preparation courses designed to provide training in meal preparation and service. Different techniques of beef and vegetable cooking will be studied. Meals will be served in the college dining room.

FSO-114 Menu Planning (3-0-3)

Offers the student an introduction into nutrition as well as menu writing basics.

FSO-117 Baking II (2-6-4)

Emphasis is placed on dessert preparations. Students prepare pies and cakes for service in the college dining room.

FSO-118 Orientation and Evaluation (4-0-4)

Designed to measure the progress and capability of each student by combining the evaluations of employer, instructor, and student.

FSO-122 Food Preparation III (2-9-5)

Provides the student with additional training in meal preparation and service. Different techniques of pork, poultry, and vegetable cooking will be studied. Meals will be served in the college dining room.

FSO-141 Hospitality Management (3-0-3)

Acquaints the student with the general functions of a manager: planning, organizing, staffing, controlling, and directing. Different segments of the hospitality industry are also studied with particular emphasis on the future as well as the present.

FSO-202 Food Preparation IV (2-9-5)

A study of the cooking process in relation to nutrition, organic chemistry, and thermodynamics. In addition, students prepare meals for service in the college dining room.

FSO-204 Food Purchasing and Cost Control (5-0-5)

An introduction to the subjects of cost and sales control designed to instill in the student an awareness of the increasing need for controls in the highly diversified food service industry.

FSO-207 Food Merchandising (4-2-5)

A study of creative marketing techniques and strategies for the food service enterprise. The proper display of food and effective use of the menu is stressed in the practical lab.

FSO-212 Food Preparation V (2-9-5)

Students continue to study the cooking process and modern cooking approaches. Meals are planned, prepared, and served by students in the college dining room.

FSO-214 Specialty Cooking (2-4-3)

Designed to expose the student to international cuisine. Food will be prepared and served in the college dining room.

GEO-105 Population Geography (3-0-3)

A study of population groups in various parts of the world with emphasis on basic demographic theory, the composition of populations, and the relationship of population and the environment including such factors as health, land utilization and the internal development of particular nations.

GEO-108 Cultural Geography (3-0-3)

Interrelationships between man, the earth and culture; the geography of race, language, religion, political and economic patterns; settlement types and the cultural landscape; population growth and movements.

HIS-101 World Civilization I (3-0-3)

A survey of world history with special emphasis on European background and development in three time periods: Ancient and early Medieval, later Western and early Modern, and the Modern period.

HIS-102 World Civilization II (3-0-3)

World history from the emergence of modern Europe through the start of the Industrial Revolution and the development of the imperial system.

HIS-103 World Civilization III (3-0-3)

World history from 1812 to the present, covering imperialism, nationalism, and the major social and technological changes which have occurred since 1945.

HIS-104 Cherokee History I (3-0-3)

Role of the Indian in shaping American history; the Indian background; religion, cultural, economics, and political institutions.

HIS-105 Cherokee History II (3-0-3)

Post removal development of the Cherokee Nation. Comparison of the eastern and western tribes.

HIS-211 United States History I (3-0-3)

Emphasis will be upon the backgrounds of discovery, settlement, constitutional development and union. Manifest destiny and the developing sectionalism up until the end of the Civil War.

HIS-212 United States History II (3-0-3)

The continuing study of the development of the United States will cover the Reconstruction, imperialistic tendencies, the progressive movement, World War I and World War II, Korea, Vietnam, and significant issues to the present. Prerequisite: HIS 211 or permission of instructor.

ISC-1101 Industrial Safety (3-2-4)

A study of the development of industrial safety; accident occurrence and prevention; analysis of accident causes and costs; basic factors of accident control; safety education and training; accident reporting and records; employer and employee responsibility; safety organizations; first aid; mechanical safeguards; personal protective equipment use; materials handling; fire prevention and protection; safety codes; and accident statistics.

LEX-100 Paralegal Orientation (5-0-5)

This course is a brief overview of criminal law, civil procedure, legal research, techniques of investigation and preparation and presentation of a trial brief.

LEX-103 Legal Research I (3-3-4)

Methods of legal research, proper citation of authority, acquaintance with legal treaties, text, and reporter, shephardizing cases.

LEX-106 Constitutional Law (5-0-5)

Instruction to provide an understanding of the United States Constitution as the basis for our criminal justice system, and to include constitutional rights of accused persons and the limitations on the criminal justice system. Designed to present the evolution of the criminal law and the state and Federal Court systems.

LEX-107 Criminal Evidence and Procedure (3-0-3)

A study of the rules of evidence and admissibility of evidence in court; the kinds of evidence, judicial notice, opinion evidence and the hearsay rule; evidence distinguished from proof and the burden of proof. The law of arrest; search and seizure will be emphasized coupled with the civil liabilities that may accrue. North Carolina Criminal Procedure from arrest to trial will be examined in depth with the problems of nontestimonial identification.

LEX-110 Civil Procedure (5-0-5)

Introduction to basics of civil litigation; N.C. Courts, venue, jurisdiction. In-depth study of Rules of Civil Procedure of North Carolina.

LEX-111 Torts (3-0-3)

Civil wrongs or violations of private rights. Emphasis on more common forms of negligence actions and their legal elements.

LEX-112 Supervised Work Experience (3-30-6)

Approximately the last 6 weeks of final quarter, each student is placed in a working situation for not less than 20 hours per week, to work under the direct supervision of an attorney. A short review of the work accomplished is conducted at the conclusion of the program.

LEX-113 Family Law (3-4-5)

The legal obligations in a marriage contract, its rights and privileges upon the contracting parties; the statutory grounds for divorce; defenses to divorce actions; elements of a legal separation will be studied; drafting of pleadings and contractual agreements; study of family problems, juvenile courts, adoption, custody cases, alimony, enforcement of alimony and support orders.

LEX-114 Orientation and Evaluation (6-0-6)

Classes designed for specific meeting times for students doing their work experiences. Organization, planning and procedural sessions for instructor and students. Evaluation and discussion of work experience.

LEX-201 NC Legal Systems I (5-0-5)

This course deals specifically with 15 particular types of legal processes, including federal actions.

LEX-202 NC Legal Systems II (5-0-5)

This course is a continuation of LEX 201 and deals with an additional 15 particular types of legal processes.

LEX-205 Surveying (3-0-3)

A study of the principles of surveying as it relates to real property transactions.

LEX-208 Criminal Law (5-0-5)

A study of the elements required for specific crimes; classification of various crimes. Emphasis on case research for interpretation of North Carolina Criminal Code. The study of the evolution of criminal law, parties to crime, capacity to commit a crime, and criminal defenses.

LEX-210 Mechanics of Property Transactions (3-0-3)

Includes the study of the preparation of simple contracts for sale of real estate; ordering title search; examining title searches and preparing simple titles, ordering title insurance; preparation of settlement sheet and holding closing. (1) Inform purchaser of needed documents and funds; (2) disbursement of funds and recording documents; (3) search continuation and preparation of certificate of title for lawyer's signature.

LEX-211 Title Abstracting (2-3-3)

An examination will be made of the applicable statutory and common law principles including the form and adequate execution of documents; the functions of judgments and estates in the determination of whether a title to real estate is marketable; the study and function of various documents, indices and files on public records and summaries thereof will be included. Various typical problems and errors which may render a title unmarketable will be included.

LEX-212 Real Property (3-3-4)

Practical introduction to real estate law with emphasis on matters correlating with LEX-211—Title Abstracting. Estates in land; conveyances; drafting of instruments.

LEX-215 The Law Office (2-2-3)

This course includes the study of the organization of a law office, office forms and legal forms, filing equipment and system, accounting systems for a lawyer's time, fees, and filing, client relations and office procedure. This will also familiarize the student with the operation of office machines and equipment.

LEX-220 Legal Research II (2-4-5)

Advanced research into particular points of law together with the writing of briefs and presentation of various materials.

LEX-225 Litigation Preparation (2-2-3)

This course will teach the paralegal how a lawyer presents his briefs prior to entering court proceedings. The student will be taught how to review a file, prepare subpoenas ready for the lawyer's signature, prepare exhibits for court, file pleadings, index interrogatories, depositions, admissions, pleadings. The course will prepare the student to interview witnesses and record statements in writing and on tape.

LEX-227 Paralegal Profession (3-3-4)

Overview of the ethical standards of the legal profession directed toward familiarizing the legal assistant with conduct expected and required. Particular emphasis on the North Carolina Code of Professional Responsibility.

LEX-232 Estate Administration (3-0-3)

In this course, the student will be instructed in the drawing of wills, making arrangements with the probate office for probate of will, or issuance of Letter of Administration, preparing simple transfer of inheritance tax forms, marshaling of assets, payment of debts of Estate, preparations of interim and final accounting and preparation of refunding bonds and releases.

MAS-1000 Masonry Shop I (6-18-12)

History of brick and block laying, fundamental skills, laying to line, use and care of tools and equipment. Mortar mixing techniques and general masonry procedures.

MAS-1001 Masonry Shop II (6-18-12)

Development of fundamental skills, bond layout, projects with various types of masonry units, fireplaces, ornamental work, recent developments in the masonry field.

MAS-1004 Fireplace Construction (6-6-8)

Layout and erection of various fireplace designs, outdoor barbecue pits, and chimney-pit combinations.

MAS-1005 Rock Construction (6-18-12)

A thorough study of rock construction and the unique techniques and tools required for quality work.

MAS-1008 Advanced Masonry Shop (3-6-5)

Development of skills, projects with various types of masonry units.

MAS-1014 Block Masonry (6-6-8)

History of block laying, building corners, laying to the lines, bond layout, mortar mixing techniques, and general block laying procedures.

MAS-1015 Brick Masonry (6-6-8)

History of brick laying. Building corners, laying to the line, different bond layout, and general brick laying procedures.

MAS-1020 Related Trowel Trades (6-18-12)

To develop the basic understanding of the trowel trades, care and use of tools and equipment. Raw material use and manufacturing processes for plastering, tile setting, and concrete finishing, as related to general masonry.

MAT-080 Developmental Math I (0-5-2)
MAT-090 Developmental Math I (0-10-5)

A self-paced individualized mathematics course designed to develop the basic skills necessary for entrance into the chosen technical or vocational curriculum. Topics depend on the student's entrance level and rate of progress.

MAT-081 Developmental Math II (0-5-2)
MAT-091 Developmental Math II (0-10-5)

A second quarter continuation of MAT 080. A self-paced individualized format in the developmental lab. Topics depend on student's entrance level, rate of progress and chosen curriculum. Prerequisite: MAT 081.

MAT-082 Developmental Math III (0-5-2)
MAT-092 Developmental Math III (0-10-5)

A continuation of MAT 081. A self-paced individualized format in the developmental lab. Topics depend on the student's entrance level, rate of progress and chosen curriculum. Prerequisite: MAT 082.

MAT-083 Developmental Math IV (0-5-2)
MAT-093 Developmental Math IV (0-10-5)

A continuation of MAT 082. A self-paced individualized format in the developmental lab. Topics depend on the student's entrance level, rate of progress and chosen curriculum. Prerequisite: MAT 082.

MAT-100 Basic Math (5-0-5)

Fundamental elements of mathematics with emphasis on applied problem solving. Topics include: review of computation with fractions and decimals, percents, metric system, geometry, ratio and proportion, elementary equations.

MAT-103 Foundation Skills for Algebra (3-0-3)

A course for students who have mastered arithmetic skills but desire a gradual introduction to algebra. Topics: real number arithmetic, polynomials, linear equations with applications.

MAT-104 Statistics (3-0-3)

An introduction to elementary probability and statistics. Topics include descriptive methods, probability, the binomial and normal distributions, hypothesis testing, correlation and regression. Prerequisite: MAT 100 or MAT 101.

MAT-105 Introduction to Algebra (5-0-5)

Fundamental concepts of algebra: real numbers, exponents, scientific notation, the metric system, polynomials, linear equations and graphs, factoring, algebraic fractions, quadratics. Prerequisite: MAT 100 or equivalent.

(5-0-5)

MAT-106 Contemporary Mathematics

A general survey of the scope of mathematics including functions, matrices, logarithms, sequences, combinations, and statistics.

(5-0-5)

MAT-108 College Algebra

Advanced algebra topics: functions, factoring, algebraic fractions, roots and radicals, linear and quadratic equations and inequalities and their graphs, solving linear equations. Prerequisite: MAT 105 or equivalent.

(5-0-5)

MAT-110 Business Mathematics

Applications of mathematics in the field of business: percents, discounts, borrowing and banking, wages and payrolls, markup and retailing, insurance and financial statements.

(5-0-5)

MAT-111 Applied Trigonometry

An abbreviated treatment of trigonometry emphasizing applications: trigonometric functions and their graphs, radian measure, fundamental identities, solutions of triangles, vectors, complex numbers. Prerequisite: MAT 105 or equivalent.

(5-0-5)

MAT-115 Electrical Math I

A basic introductory algebra course with emphasis on applications in electronics. Topics include real numbers, basic elements of algebra, exponents and radicals, scientific notation, the metric system, dimensional analysis, linear equations, logarithms.

(5-0-5)

MAT-116 Electrical Math II

A study of the fundamental trigonometry concepts required in basic electronics applications: trigonometric functions and their graphs, basic identities, solutions of triangles, complex numbers, and the j-operator. Prerequisite: MAT 115 or equivalent.

(5-0-5)

MAT-117 Electrical Math III

Intermediate algebra topics: functions, graphs, factoring, algebraic fractions, fractional equations, quadratics, simultaneous equations. Prerequisite: MAT 115 or equivalent.

(3-0-3)

MAT-119 Mathematics of Computer Systems

Topics which provide the basis of digital computer architecture: binary and hexadecimal arithmetic, logic gates, Boolean algebra. Prerequisites: MAT 105, MAT 115 or equivalent.

(3-0-3)

MAT-120 Math for Food Services

Provides the student with mathematical skills needed in food preparation and operation of a food establishment. Topics include costing servings, metric units, determining quantities needed, business forms (purchase orders, register receipts, etc.), menu pricing, inventory, income statement, balance sheet, wages and taxes.

(3-0-3)

MAT-145 Metrology

A study of topics necessary for effective preparation and administration of medications, computation of dosages and solutions according to the metric, apothecary, and household systems.

MAT-1101 Fundamentals of Mathematics (5-0-5)

Practical number theory. Analysis of basic operation: addition, subtraction, multiplication and division. Fractions, decimals, power 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-1109 Estimating: Building Trades (2-0-2)

Estimating quantities of material and labor costs related to the building construction trades. Emphasis on uniform construction index and organization of cost data.

MAT-1112 Mathematics: Building Trades (2-0-2)

Analysis of basic operations, addition, subtraction, multiplication, and division. Fractions, decimals, powers and roots, percentages, ratio and proportion. Plane and solid geometric figures, measurements of surface and volumes, basic algebra related to usage in the trades.

MAT-1113 Estimating: Mechanical (4-0-4)

Determination of probable cost of any mechanical project. In addition to the quantity take off and cost analysis, emphasis will be placed on contract documents, types of agreements, overhead, and organization of data.

MAT-1114 Math for Pipefitters and Plumbers (5-0-5)

Emphasis is placed upon the development of usable skills in the layout, measurements and computations of pipe lengths, including fitting allowance, volumes, pressure, capacities, cylinder stretchouts and angular piping offsets.

MAT-1115 Electrical Math (4-0-4)

A study of fundamental concepts of algebra; basic operations of addition, subtraction, multiplication, and division; solution of first order equations, use of letters and signs, grouping, factoring, exponents, ratios and proportions, solution of equations, algebraically and graphically; a study of logarithms and use of tables; an introduction to trigonometric functions and their application to right angles; and a study of vectors for use in alternating current.

MAT-1118 Estimating: Electrical (2-0-2)

The student uses actual construction blueprints and specifications to prepare estimates and material purchase lists needed for a total electrical contract or bid. Labor costs, insurance, and other "overhead" expense items are all included in accordance with a current "National Job Cost" pricing scheme. Upon completion of the course the student should be able to prepare a legal bid proposal by using standard structural/electrical blueprints and specifications. Prerequisite: DFT 1104 Blueprint Reading: Electrical or equivalent.

MAT-1120 Estimating: Structural (1-3-2)

Determination of probable cost of any general construction. In addition to the quantity take off and cost analysis, emphasis will be placed on contract documents, types of agreements, overhead, and organization of data.

MAT-1123 Machinist Mathematics (3-0-3)

Trigonometric ratios; solving problems with right triangles, using tables and interpolating; solution of oblique triangles using law of sines and law of cosines; graphs of the trigonometric functions; inverse functions; trigonometric equations. All topics are applied to practical problems. Prerequisite: MAT 1101.

MEC-160 Computer Mechanisms (3-3-4)

Fundamental concepts as found in basic mechanical and electromechanical mechanisms. Functions, specifications, and operating characteristics. Input and output comparisons. Emphasis on practical application of principles.

MEC-235 Hydraulics and Pneumatics (3-3-4)

The basic theories of hydraulics 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.

MEC-1101 Machine Shop Theory and Practice I (3-12-7)

An introduction to the metalworking trade as it relates to machining operations. The student will be oriented to the machine shop, safety, basic hand tools, and shop measuring instruments. Operations on engine lathes, drilling machines, metal cutting saws, milling machines, and bench grinders will also be covered.

MEC-1102 Machine Shop Theory and Practice II (3-12-7)

An introduction to the assembly of parts, fits, hand broachs, screw and tap extractors; set-up equipment, inspection tools, gauges, buffing and polishing, and surface grinders. Continued instruction in the use of precision measuring tools, selection of speeds and feeds, reciprocating and continuous band cut-off saws, contour band saws, lathes, power drills, and milling machines. Prerequisite: MEC 1101.

MEC-1103 Machine Shop Theory and Practice III (3-12-7)

Additional instruction and practice in the use of precision measuring tools, milling machines, and surface grinders. Practice in setting up and operating machine tools, including the selection and use of work holding devices, feeds and speeds, special heads and tables, cutting tools, and coolants. Instruction and practice in the use of power feed drills and abrasive saws. Prerequisite: MEC 1102.

MEC-1104 Machine Shop Theory and Practice IV (3-12-7)

The student will work to required tolerances setting up and operating machine tools. An introduction to turret lathes, advanced milling machine operations, special machining operations, and special machines. Also covered will be grinding specific surfaces using hand, surface and cylindrical grinders, and lapping and honing parts to specified tolerances.

MEC-1118 *Introduction to Metals* (3-2-4)

This course is designed to familiarize the student with the different properties of ferrous and non-ferrous metals. It provides a background for understanding the physical changes and chemical metallurgy of producing metals. Explains the material designation system, classification of steels, trade names and cross reference information for comparable materials. Common shop terms used in treatment of metals will be explained.

MEC-1119 Applied Metallurgy (2-3-3)

Covers practical metallurgy theory and practice in the treatment of ferrous and non-ferrous metals. Actual practice of heat treatment will be performed on sample materials with emphasis on low and high carbon steels. Relationships between part design and heat treatment will be applied. Testing equipment for verification of correct treatment will be used. Prerequisite: MEC 1118.

MLT-101 Pathophysiology (3-4-5)

Introductory course dealing with basic disease processes and their mechanisms of action in the human body. Gross material will be presented to students for observation. Students will be oriented to the medical laboratory through discussion of basic laboratory tests which correlate test results with specific disease states. Some basic medical terminology will also be included.

MLT-102 Clinical Hematology (3-4-5)

A comprehensive study of the origin, maturation sequence, and physiology of cellular components of the blood. Emphasis will be placed on quantitation of cells and other hematological parameters in the laboratory section. Normal hemopoietic functions are studied, as well as the effect of various disease
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MLT-103 Clinical Microbiology (3-4-5)

A study of medically important disease producing microbes, fungi, and parasites. Included will be a review of specific mechanism of disease production and resistance to infection, as well as identification of medically important bacteria using current clinical laboratory procedures. Course emphasis will be directed toward taxonomic classification, identification by culture, biochemical testing, antimicrobial susceptibility testing, and historical considerations in the fields of bacteriology, mycology and parasitology. Prerequisite: BIO 104.

MLT-104 Clinical Chemistry (3-4-5)

The student will become acquainted with various human metabolic cycles and how they interrelate. The student should be able to associate specific disease states with changes in chemical constituents in body fluids and be able to quantitate biochemical levels in human fluids utilizing known standards and quality control. The laboratory section will deal with procedures for quantification of body chemical constituents of both normal and abnormal metabolism. Prerequisites: CHM 101 and CHM 102.

MLT-122 Clinical Microscopy (3-4-5)

A concentrated course with lecture and laboratory components designed to acquaint the student with the analysis of various body fluids to include urine, semen, transudates, exudates, and others. One of the main goals of this course is to correlate abnormal findings in urine and other body fluids with theory learned in other MLT disciplines.

MLT-123 Immunohematology (3-4-5)

This course will develop the concepts of immunology as they relate to serological determinations of disease states in the clinical laboratory, as well as their applications to the processing and administration of blood and blood components in the clinical laboratory blood bank.

MLT-129 Instrumentation (3-0-3)

A study of theory and principles of operation and troubleshooting of any clinical instruments. This course will include actual operation and preventive maintenance of instrumentation, as well as recognition and solution of malfunctions.

MLT-130 Clinical Practicum A (3-30-6)

Each major MLT discipline will have a clinical practice component whereby the student will gain valuable knowledge and experience in the hospital laboratory. Each student will be supervised by a Medical Technologist at the bench in the hospital laboratory. Areas covered in the clinical practicum

include Hematology, Microbiology, Chemistry, Urinalysis, Blood Banking and Serology. Prerequisites: MLT 101, 102, 103, 104, 122, 123 and 129.

MLT-131 Clinical Practicum B (3-30-6)

Each major MLT discipline will have a clinical practice component whereby the student will gain valuable knowledge and experience in the hospital laboratory. Each student will be supervised by a Medical Technologist at the bench in the hospital laboratory. Areas covered in the clinical practicum include Hematology, Microbiology, Chemistry, Urinalysis, Blood Banking and Serology. Prerequisites: MLT 101, 102, 103, 104, 122, 123, 129, 130 and 132.

MLT-132 Orientation & Evaluation (6-0-6)

Students will be oriented to general hospital rules and given their assignments for their clinical rotations. Also, the learning experiences gained at the clinical facilities will be shared and evaluated. Prerequisites: MLT 101, 102, 103, 104, 122, 123 and 129.

MLT-133 Seminar (6-0-6)

Special topics on Medical Laboratory Technology will be discussed. Also, review procedures for the national board test will be discussed. Prerequisites: MLT 101, 102, 103, 104, 122, 123, 129, 130 and 132.

MUS-101 Music Appreciation (3-0-3)

A broad introduction to the basic materials and use of music. Development of musical forms, elements, stylistic features, aural awareness, and the role of music in society. Emphasis on providing the student with a frame of reference which can increase his ability to understand and enjoy music of different styles and periods.

MUS-106 Creative Listening Experiences (0-3-1)

A non-technical approach to the enjoyment of music. Emphasis on an intelligent listening procedure with materials from standard works from music history. Introduction to the basic concepts in music and their evolution: texture, form, tonality, etc. This course is designed for non-music majors or minors.

MUS-108 Chorus (0-3-1)

Study-activity course designed to give the student a deeper understanding, appreciation, and enjoyment of choral music, its practice and performance. Open to all students by permission of the instructor. May be taken six quarters for credit.

MUS-109 Music Today/Pop Rock Culture (3-0-3)

Designed to offer students an in-depth view of the music of today in order to more fully understand the influence of the different types of music on our culture, and assist them in gaining a broader comprehension of the sociological, psychological and cultural implications of the popular music scene.

NUR-101 Fundamentals of Nursing (6-4-3-9)

A presentation of basic nursing knowledge and skills with an overall emphasis in meeting basic patient needs with a broad overview of the scope of nursing practice within the health delivery system. The student is introduced to the concept of the health-illness continuum as a basis for implementing the nursing process. Principles of therapeutic communication, knowledge of biological systems, and interpersonal relationships are integrated throughout the courses. Provisions are made for the application of theoretical knowledge and

skills in on-campus laboratory and hospital settings where the emphasis is on planning and implementing nursing care. The student is expected to develop beginning confidence in performance of skills utilizing appropriate theory. Prerequisite: BIO 105 must be taken prior to or concurrently with NUR 101.

NUR-102 Medical-Surgical Nursing I (6-0-12-10)

Provides beginning knowledge of basic concepts of nursing and care of patients with problems caused by common illnesses. Symptoms of illness, classification of diseases, pre- and post-operative care, long-term illness, and concepts of preventive and maintenance health care are included. Principles relating to care of patients in geriatric situations, during rehabilitation as well as the patient with cancer and the dying patient are introduced. Objective-centered clinical learning experiences are planned on selected patients in the medical-surgical units of the hospital. Self-care concepts are stressed. Additional observational experiences provide application of nursing theories and skills relevant to patients experiencing less complex medical-surgical problems as well as therapeutic nursing intervention with patients having infectious diseases, musculoskeletal, gastrointestinal, reproductive, and endocrine disorders. Prerequisites: NUR 101, BIO 105, NUT 101, PSY 103.

NUR-103 Medical-Surgical Nursing II (6-0-15-11)

This course continues the study of Medical-Surgical Nursing I, especially the pathophysiological process and therapeutic intervention pertinent to disorders of the endocrine, respiratory, cardiovascular, urinary, nervous, and integumentary systems, and allergic reactions. Integrated rehabilitation concepts are continued. Objective-centered learning experiences are continued in medical-surgical units of the local hospitals. Important aspects of this experience are functioning as a member of the nursing team and the utilization of all health team members to promote and achieve total patient care. Prerequisite: NUR 102.

NUR-104 Maternal and Child Health Nursing I (6-0-15-11)

Maternal and Child Nursing applies the nursing process to assisting adaptation of the emerging family. The maternity cycle and child care from birth through adolescence are emphasized. The physiology and nursing care during the normal antepartal, labor, delivery, and postpartal periods as well as the needs of the normal newborn are presented. Some complications and deviations from normal are introduced. During child care, the etiology, treatment and nursing care in common disorders and illnesses that affect the infant, child, and adolescent are presented. Objective-centered clinical experiences are planned using selected patients in obstetric and pediatric units within community settings. NUR 107 must be taken prior to or concurrently with NUR 104. Prerequisites: NUR 102, PSY 203.

NUR-107 Pharmacology (3-0-3)

Presents facts concerning sources, effects, legalities and usage of drugs as therapeutic agents, a brief review of metrology, prescriptions of medications, drug classifications and nursing implications are covered. Emphasis is placed on the nurse's responsibilities in relation to drug administration. Prepares the student to compute dosages and administer drugs. Practice opportunities are provided in classroom and in clinical area. Prerequisite: MAT 145.

NUR-108 Nursing Seminar I

Presentation of the nurse's legal and ethical responsibilities, standards of nursing, nursing history, nursing organizations, and job opportunities are

stressed. The Nurse Practice Act and its relation to legal practices and licenses is examined. The responsibilities and roles of the practical and associate degree nursing are emphasized. Continuing education to improve nursing competencies is included. Prerequisites: NUR 103, NUR 104; or permission of Nursing Director.

NUR-202 Medical-Surgical Nursing III (5-0-15-10)

This advanced Medical-Surgical Nursing course is a comprehensive study of biological, social and emotional components of more complex problems of clients. Emphasis is placed on adaptive process and implementation of the nursing process within critical care settings. Aspects of nutrition, pharmacology and patient teaching as they relate to the conditions studied are integrated throughout the course. Complex disorders of the cardiovascular, urinary and renal, respiratory and neurological systems are explored. Clinical learning experiences are selected on the basis of the students' needs in order to meet the stated objectives. BIO 206 must be taken prior to or concurrently with NUR 202. Prerequisites: NUR 103, NUR 104, NUR 107; or by permission of Nursing Director.

NUR-203 Medical-Surgical Nursing IV (5-0-15-10)

The study of bodily aberrations begun in Med-Surg III is continued with emphasis placed on complex gastrointestinal disorders, endocrine, orthopedic and integumentary disorders. Learning experiences are selected to assist the student in developing skills necessary to give comprehensive nursing care to patients in a variety of situations based on previously and concurrently acquired skills. The student is given the opportunity to plan, direct, and evaluate total patient care for individuals and groups to aid in preparation for the transition from student or practical nurse to professional staff nurse. Prerequisites: NUR 202, NUR 204, NUR 205, BIO 206, or by permission of nursing director.

NUR-204 Advanced Maternal-Child Health Nursing (6-0-15-11)

Nursing 204 is designed to provide the student with theoretical knowledge in more complex client problems. Emphasis is on implementation of the nursing process in assisting adaptation of the family and/or individual to stressors created by complications and/or illnesses during the maternity cycle and/or growth and development of the child from conception through adolescence. Objective-centered clinical learning experiences are provided within the community setting. BIO 205 must be taken prior to or concurrently with NUR 204. Prerequisites: PSY 203, NUR 103, NUR 104; or by permission of Nursing Director.

NUR-205 Psychiatric Nursing (5-0-15-10)

A study of the therapeutic role of the nurse in emotional or developmental disturbances in individuals. Implementation of the nursing process is emphasized in meeting the adaptive needs of the client. This course includes mental health/illness continuum, personality identification, organic and functional clinical syndromes, therapeutic process, and community mental health resources. Clinical experience emphasizes observation and interpretation of overt and covert behavior within acute care facilities and mental health agencies. BIO 205 must be taken prior to or concurrently with NUR 205. Prerequisites: PSY 103, PSY 203, NUR 103, NUR 104, NUR 107; or by permission of Nursing Director.

NUR-206 Nursing Seminar II (2-0-0-2)

Nursing 206 is concerned with relationships, opportunities and responsibilities of the Registered Nurse in and to the nursing profession. Attention is given to transition from the role of student to graduate nurse. Consideration will be given to legal, ethical, and educational aspects of current nursing trends. NUR 203 must be taken prior to or concurrently with NUR 206. Prerequisites: NUR 203, NUR 204, NUR 205; permission of Nursing Director.

NUT-101 Nutrition and Diet Therapy (3-0-0-3)

Designed to give practical study of nutrients, how they are used by the body, sources and types of food necessary for the balanced diet in developmental and ethnic variations. The mechanics and physiological processes of digestion, absorption, and metabolism are presented. Principles of meal planning and buying for nutritional requirements for all age groups modified by religious, cultural, social, and psychological factors are discussed. An introduction to the most commonly used hospital diets is included.

NUT-102 Nutrition and Health for Young Children (5-0-5)

Study of basic nutrition with emphasis on methods of helping young children and their families attain the basic nutrition concepts and the planning of balanced diets.

PED-102 Physical Fitness (0-2-1)

A course designed to assess and improve the individual's physical fitness; and to convey essential health-fitness knowledge related to the individual's needs.

PED-113 White-water Canoeing (0-2-1)

Handling, carrying, and paddling the canoe.

PED-116 Backpacking (0-2-1)

Backpacking covers the usage of modern backcountry equipment and new ethics. Excursions are taken to show techniques in trip planning, hiking, site selection, the camp, and how to deal with the natural elements.

PED-204 Badminton (0-2-1)

A course designed to give the beginner skills in the basic strokes and a general knowledge of the history, rules and strategy of the game.

PED-207 Golf (0-2-1)

A course designed for teaching beginners the grip, stance, swing and use of the various clubs, along with the history and etiquette of play.

PED-209 Tennis (0-2-1)

A course designed to teach the fundamental skills and strategy of tennis and to give a thorough knowledge of the history and rules of the game.

PED-210 Basketball (0-2-1)

A course designed to teach the fundamental skills of basketball, along with the history, rules and strategy of the game.

PED-212 Volleyball (0-2-1)

A course designed to include the fundamental skills, history, rules and strategy of the game.

PED-214 Cross-country Skiing (0-2-1)

Equipment, techniques and safe practices.

PHI-101 Introduction to Philosophy (3-0-3)

This course is designed to acquaint the student with the great original thinkers from Plato to modern philosophers.

PHY-090 Basic Principles of Physics (0-2-1)

Techniques for solving physics problems; graphical methods; algebraic manipulation; dimensional analysis and unit conversions; use of the calculator. Prerequisite: MAT 105.

PHY-101 Physics I: Mechanics (3-2-4)

Conversion of units; vectors; translational and rotational equilibrium; kinematics; Newton's laws; analysis of motion; work, energy, and power; impulse and momentum; rotational kinematics and dynamics. Prerequisites: MAT 105 and MAT 111 or equivalent.

PHY-102 Physics II: Heat, Sound and Light (3-2-4)

Temperature; thermal energy; heat transfer; thermodynamics; waves; sound; light waves; refraction and reflection; lenses and mirrors; interference and diffraction. Prerequisite: MAT 105 or equivalent.

PHY-103 Physics III: Electricity and Magnetism (3-2-4)

Nature of electric charge; electric forces and fields; electric potential; capacitance; current, resistance and dc circuits; forces and torques in magnetic fields; electromagnetic induction. Prerequisite: MAT 105 or equivalent.

PHY-104 Physics IV: Modern Physics (3-0-3)

Quantization of energy; hydrogen atom; wave-particle duality; uncertainty principles; special and general relativity; and particle physics.

PHY-111 Observational Astronomy (1-0-1)

An introduction to observations of the sun, moon, and stars that can be made without the use of large telescopes. The emphasis will be on the understanding of everyday observations of the sky.

PHY-112 Structure of the Universe (1-0-1)

An introduction to the components, evolution and structure of the universe, with an emphasis on stars, star clusters, galaxies, pulsars, black holes, and quasars and an understanding of how information about them is obtained.

PHY-1101 Applied Science I (3-2-4)

An introduction to physical principles and their application in industry. Topics in this course include measurement; properties of solids, liquids, and gases; basic electrical principles.

PHY-1102 Applied Science II (3-2-4)

The second course in applied physical principles. Topics introduced are heat and thermometry and principles of force, motion, work, energy, and power. Prerequisite: PHY 1101.

PHY-1104 Physical Principles of Building Construction (1-3-2)

An introduction to the practical application of the physical principles used in the construction of residential and commercial buildings. Emphasis will be placed on demonstration and examples related to each of the building trades.

PLU-1000 Basic Plumbing (2-6-4)

The development of skills to provide the student with a knowledge to perform copper pipe sweating, handling of pvc pipe, replacement of water

valves and faucets, and a familiarization with internal components of valves and faucets.

PLU-1005 Solar Pipework (1-3-2)

Exercise in cutting and joining types of pipe found in solar energy systems; naming and selection of fittings; use of plumbing tools.

PLU-1105 Estimating: Plumbing Trades (3-0-3)

Estimating quantities of material and labor cost for installation of plumbing systems in residential and commercial buildings.

PLU-1110 Plumbing Pipework (5-15-10)

Introduction to the various types of plumbing tools, fittings, pipe and equipment used in the plumbing industry. The student will perform operations such as cutting, threading, caulking and soldering various kinds of pipe as required by the N.C. Plumbing Code Book.

PLU-1111 Domestic Hot and Cold Water Systems (5-12-9)

Introduction to hot and cold water systems for residential and commercial buildings. This course will cover the installation of water distribution systems beginning with the source of supply and including the locations of pipes, valves, and pumps in both single-story and multi-story buildings. Plumbing installations will be made to provide practical applications. N.C. Plumbing Code Book will be emphasized.

PLU-1112 Installation of Plumbing Fixtures (2-6-4)

The differences in materials and styles of lavatories, bathtubs, sinks, water closets, and the many ways that these fixtures can be installed, will form the basis of this course. The proper use of traps is included. The student will get actual practice by making installations.

PLU-1115 Drainage Systems: Residential (5-7-7)

This course will introduce students to the principles that govern the installation of sanitary drainage—soil and waste piping, vent piping, and storm drainage piping. Drainage System layouts and testing methods will be covered.

PLU-1116 Commercial Systems (5-12-9)

A study of the different types of drainage and venting systems that are installed in residential and commerical buildings. Procedures for layout and sizing of the piping systems as required by N.C. Plumbing Code will be covered.

POL-103 National, State and Local Government (3-0-3)

A study of the organization and functions of national, state, and local governments, intergovernmental relationships, and contemporary significant problems.

POL-104 Political Perspectives on Energy Use (2-0-2)

Amount and distribution of energy use in the U.S.: type and amount of remaining energy resources; available resources of direct and indirect solar energy; role of energy conservation in reducing demand; economic and political implications of energy use; potentials for local and regional energy resource utilization.

PSC-100 Basic Law Enforcement (0-20-7)

A basic introductory course to acquaint the student with a variety of tools and techniques for law enforcement. Designed to introduce a potential officer with minimal basic needs for more involved courses.

PSC-101 Introduction to Law Enforcement (0-25-12)

An introduction to the development of law enforcement, court, and correctional procedures and philosophies from ancient to modern times. Explanation of the American concept of criminal justice as a heritage of Anglo-Saxon England. A survey of the primary duties and responsibilities of the various law enforcement agencies, and an orientation relative to criminal justice as a career.

PSC-102 Science of Fingerprinting (3-4-5)

A study of the history of fingerprints, and of the problem of fingerprint pattern interpretation, classification and comparison. Examination of latent impressions and developing and maintaining fingerprint files by classification.

PSC-103 Investigative Photography (2-6-4)

An introduction to the field of photography. A study of the fundamental techniques of the camera and its role in the investigative process. Assigned photo projects within the field of investigation, use of the darkroom and preparation of a complete photo case for court presentation.

PSC-110 Crime and Delinquency (5-0-5)

A brief survey of crime in the United States: trends, economic impact and victimization. Uniform crime reporting and crime statistics as they relate to the criminal justice system, and emphasis on organized crime. The responsibilities of law enforcement officers and their interaction with various juvenile agencies in the system. Delinquency preventive measures and specific problems, and the influence of the environment.

PSC-115 Constitutional Law (5-0-5)

Instruction to provide an understanding of the United States Constitution as the basis for our criminal justice system, and to include constitutional rights of accused persons and the limitations on the criminal justice system. Designed to present the evolution of the criminal law and the State and Federal Court systems.

PSC-205 Traffic Accident Investigation (3-4-5)

A study of the traffic enforcement problem. In-depth study of the North Carolina traffic code with the emphasis on enforcement and education and code. Instruction methods in procedures and reports applicable to traffic accidents. Particular emphasis will be on the interviewing of drivers and witnesses, as well as photography, measurements, and diagrams.

PSC-206 Police Community Relations (5-0-5)

A general orientation to the responsibilities of law enforcement in the areas of social protest, minority groups, and the problems of youth. This course will provide the student with an understanding of community structures as they relate to law enforcement. Prerequisites: PSC 110 and SOC 102.

PSC-209 Criminal Justice Field Training (0-32-8)

Provide supervised observation and participation in uniformed patrol duty, investigation, communication, records, corrections and crime laboratory work. This course is designed for the career student to bridge the gap between theory and practice, and requires a thirty-two hour minimum of field work experience. Enrollment by special permission of instructor.

PSC-210 CPR and First Aid (0-3-1)

Instruction in the immediate and temporary care in cases of accident, illness, poisoning, asphyxiation and emergency childbirth. Emergency rescue

procedures and procedures applicable to electrical and gas emergencies will also be emphasized.

PSC-211 Police Administration (5-0-5)

The principles of organization and administration in law enforcement agencies; recruitment, selection, training, discipline and promotion. Line and staff functions, chain of command, and the relationship between supervisor and subordinate.

PSC-212 Criminalistics (3-4-5)

This course will serve as an introduction to the forensic sciences, including trace element, examination, glass fragments, tool marks, blood samples, tire impressions, questioned documents, and polygraph examination procedures.

PSC-214 Criminal Law (5-0-5)

A study of the elements required for specific crimes; classification of various crimes. Emphasis on case research for interpretation of North Carolina Criminal Code. The study of the evolution of criminal law, parties to crime, capacity to commit a crime, and criminal defenses.

PSC-220 Criminal Justice Communications (5-0-5)

The development of communication models, message transmission, nonverbal communication, interviewing techniques, strategies for written reports, and other documentary information in criminal justice. Stresses skills that can be used in job performance to improve interaction both within and among components of the criminal justice system, as well as between clients and criminal justice professionals.

PSC-221 Police Operations and Techniques (5-0-5)

A study of police problems and responsibilities, including the operation, procedures, communications and records, police operations in disaster and disturbances arrest, search and seizure techniques. Answering of the in-progress call, responding to handling of the other special situation calls, and pursuit and defensive driving techniques.

PSC-223 Defensive Tactics and Firearms (2-3-3)

Instruction includes familiarization with handgun, shotgun, rifle, and tear gas weaponry. Applicable laws and safety will be emphasized. Includes the participation in learning techniques for the defensive control of arrested persons through a gymnasium environment.

PSC-224 Narcotics and Dangerous Drugs (3-0-3)

This course will familiarize the student with the North Carolina Drug Laws and introduce the student to the identification and classification of drugs. Emphasis will be placed upon the various effects that the different drugs have upon the human body and the effects it produces in the temperament of individuals.

PSC-226 Criminal Investigation (3-4-5)

A course in the theory of investigative process, sources of information, and the investigation of specific offenses, such as arson, larceny, burglary, robbery, homicide and sex offenses. Methods of interrogation, as well as the techniques, are included. The search for physical evidence and the location, production, identification, collection, preservation, and transporting of evidence to the crime laboratory.

PSC-227 Special Topics I (0-10-5)

Intensive study of selected criminal justice areas of special or topical interest. Prerequisite: Approval of curriculum head. Variable credit, 1-10 hours.

PSC-228 Courtroom Techniques (3-4-5)

Particular emphasis is on preparation for the officer to appear in the courtroom, including demeanor and presentation. A practical application will include a mock trial with students serving as the participants. Concentration will be upon police professionalism and ethics.

PSC-229 Special Topics II (0-10-5)

Continuation of study topics of specific interest. Prerequisite: Approval of curriculum head.

PSC-230 Criminal Evidence (3-0-3)

A study of the rules of evidence and admissibility of evidence in court; the kinds of evidence, judicial notice, opinion evidence and the hearsay rule; evidence distinguished from proof and the burden of proof. The law of arrest; search and seizure will be emphasized coupled with the civil liabilities that may accrue. North Carolina Criminal Procedure from arrest to trial will be examined in depth with the problems of nontestimonial identification.

PSM-100 Postal Services History and Organization (3-0-3)

A study of the modes of delivery of written communications and merchandise from earlier eras to the present. The present U.S. Postal Service organization will be studied in relationship to its own structure, functions, policies, procedures, and relationship to other governmental agencies. Prerequisite: None.

PSM-105 Mail Processing I (3-0-3)

Designed to provide the student with a knowledge of the interrelated factors involved in the collection of mail and its separation into categories. Scheduling and staffing techniques as well as the systems employed in destination separation and the control of quality of mail flow are studied.

PSM-106 Mail Processing II (3-0-3)

Continuation of mail processing techniques devoted to the receipt processing and dispatch of second, third, and fourth class mail. The student will include definition of mail classification and rate determination, regulations regarding packaging size, shape and sealing techniques and an analysis of the organization, functions and layout of the Bulk Mailing System and a Bulk Mailing Center.

PSM-200 Postal Service Labor Management (3-0-3)

An overview of Labor-Management relationships in the U.S. Postal Service. The study includes an analysis of laws and regulations pertaining to Labor-Management relationships, current industrial relations issues, description of the National and Local labor agreements, grievance and disciplinary policy and the function of the National Labor Relations Board. Prerequisites: BUS 233 and PSM 100.

PSM-201 Postal Service Support (3-0-3)

A study of the ancillary functions such as office, accounting, administrative, warehousing, and distribution services that support the principal functions of the Postal Service. The planning of revenues and facilities and the control of operations is emphasized. Prerequisite: PSM 200.

PSM-202 Postal Employee Services (3-0-3)

A detailed coverage of the operation and functions of the Postal Service Personnel office. A review of policies relative to selection, placement, training, and promotion of employees. Salary and wage schedules, insurance and retirement benefits, awards program, and safety and health policies and procedures are also studied. Prerequisite: PSM 201.

PSM-203 Postal Customer Services (3-0-3)

An overview of all services provided to postal customers. Includes all mailing services and non-postal services such as Passport Applications, Migratory Birds. Also provides training in customer relations and retail marketing techniques. Prerequisite: PSM 205.

PSM-205 Postal Rural Delivery and Collection (3-0-3)

A study of methods, procedures, regulations and problems involved in routes and route analysis, casing, delivery, collections and surveys regarding mail for rural areas; and procedures involved in retailing postal services to rural patrons.

PSM-206 Postal Service Problem (3-0-3)

Requires the student to identify, analyze and specify the dimensions of problems; to identify possible causes and solutions; and to analyze and test alternative approaches. The student learns to use problem solving grids, decision by objectives, and other concepts of the systems analysis approach.

PSM-207 City Delivery and Collection (3-0-3)

A study of problems and solutions involved in collecting mail from multiple, diverse points and transporting it to collection centers for processing; and in distributing mail from one or more processing points to recipients in metropolitan areas or towns.

PSY-102 Introduction to Psychology (3-0-3)

An introduction to the principles of psychology and their application to social, home, and work environments. Prerequisite: None.

PSY-103 General Psychology (5-0-5)

A study of the various fields of psychology; the developmental process; motivation; emotion, frustration and adjustment, mental health, attention and perception; problems of group living. Attention is given to application of these topics to problems of study, self-understanding and adjustment to the demands of society and the working world.

PSY-107 Human Growth and Development (3-0-0-3)

A study of the basic principles of physiological and psychological growth stages of child from conception through adolescence and senescence. Emphasis is on the cause and effect of growth along the life cycle, drawing upon psychology, physiology, gerontology and sociology.

PSY-203 Human Growth and Development (5-0-5)

A study of the basic principles of physiological and psychological growth states of the child from conception through adolescence. Emphasis is on personality development, theories, and influences of family size and structure.

PSY-229 Abnormal Psychology (5-0-0-5)

An introduction to behavior pathology—descriptions, dynamics, and modifications of abnormal behaviors, including neurosis, psychoses and character

disorders. A study of symptoms, contributing factors, treatment and outcomes of the mentally ill as well as maladjusted and antisocial persons. Psychosomatic reactions are included as well as the behavior modification approaches to each disorder. Maintenance of mental health is stressed. Prerequisites: PSY 102, PSY 203.

PSY-240 Behavior Modification (5-2-0-6)

An introduction to the underlying assumptions, basic principles and techniques involved in behavior modification. A critical examination of behavior modification applied to various populations and across a wide range of conditions will be conducted in the course. Application of behavior modification principles and techniques is a necessary requisite of the course. Prerequisite: PSY 102.

PSY-1101 Human Relations (3-0-3)

A study of basic principles of human behavior. The problems of the individual are studied in relation to society, group membership, and relationships within the work situation.

REC-108 Introduction to Recreation (3-0-3)

Designed to introduce the history and fundamentals of organized recreation services, major program areas, organizations, special agencies and institutions which serve the recreation needs of our society.

REC-110 Recreation Activities—Youths, Teens, Adults (3-2-4)

Learning of organization and supervision of recreation activities with emphasis on trends, terminology, and skills. Activity areas to be covered include social, sports, cultural, and special events. Each area will be applied to the separate age groups.

REC-125 Recreation Leadership I (0-2-1)

Field work in a recreation setting giving the student hands on supervisory experience.

REC-129 Camping and Nature Activities (3-2-4)

Planning and leadership training in community, private, agency, and school camping. Areas covered include growth and objectives of camping, camp activities, overnight camp and trail skills, and camp counseling. History and trends in camping will be discussed.

REC-130 Legalities and Finance in Recreation (3-0-3)

Study of recreation and park fiscal administration and legislation affecting recreation. Topics will be sources of finance for current and capital expenditures, financial planning and budgeting, expenditure policies, laws governing recreation, and liabilities in recreation.

REC-134 First Aid and Safety (1-2-2)

Prevention of accidents, standard and advanced courses as organized by the American Red Cross. Safety precautions in various recreational areas and situations.

REC-138 Outdoor Education (3-2-4)

The teaching of basic naturalist techniques. Included will be organizing lectures and talks, planning of nature walks and guided tours, and building of nature exhibits. Field exercises to enable the student to describe and measure factors of the forest environment will occur.

REC-200 Swimming Pool Management (2-2-3)
Emphasis on pool sanitation, filtration, personnel, and safety. Also covered will be pool designing, events, and trends.

REC-215 Recreation Leadership II (0-2-1)
Field work in a recreation setting where the student must organize and supervise an agency.

REC-235 Recreation Leadership III (0-2-1)
Field work in a recreation setting where the student must organize, supervise, and formally evaluate an activity.

REC-249 Leadership Techniques in Recreation (3-0-3)
Leadership in various fields of recreation, analysis of factors associated with it, and techniques of leadership. Stresses proper use of leadership roles in specific recreation situations.

REC-250 Recreation Programming (3-2-4)
Study of the major program areas in recreation. Examine types of recreation opportunities available to individuals and groups and the modern methods of providing these opportunities.

REC-256 Conservation of Renewable Resources (3-0-3)
The concepts and problems of coordinated use and management of the renewable resources; namely soil, air, water, flora, and fauna. Field trips will be utilized to demonstrate the proper management as well as the misuse of renewable resources.

REC-259 Recreation Administration (5-0-5)
The administration process and responsibility in recreation. Topics will be organization, policy, personnel, planning, public relations, evaluation, research and more.

REC-260 Maintenance and Operations (3-2-4)
Methods of operation of various park and recreation facilities for public use, protection and law enforcement. Emphasis will be on job planning and scheduling, preventive maintenance, and modern maintenance techniques and materials.

REC-265 Campground Management (2-2-3)
Includes study of private, state and federal campgrounds. Specific topics will be programs, trends, franchises, costs and upkeep, user fees, and problems facing campgrounds. Field trips will be used to acquaint the student to the industry.

REC-266 Special Population Recreation (3-0-3)
An overview of special populations in recreation. Discussion on problem solving, leadership techniques, and meeting the recreational needs of special populations in the community will take place.

REC-272 Recreation Areas and Facilities (3-2-4)
Site design and layout; area types and standards; land acquisition and development; equipment and upkeep of recreation areas. Emphasis on planning.

REC-277 State and Federal Lands Management (3-2-4)

Survey of state and federal agencies involved in recreation. A study of their responsibilities, organization, and purpose in meeting the recreational needs of the general public.

RTV-116 Broadcast Announcing (3-2-4)

A study of the announcer's function, skills, characteristics and techniques with emphasis on the analysis, interpretation and communication of a variety of types of announcing-performance projects. The course is further designed to familiarize the student with basic broadcast studio equipment and broadcast procedures.

RTV-120 Control Room Procedures (3-2-4)

Familiarization with basic radio equipment, test instruments, station interconnects, balanced and unbalanced lines, reel to reel recorders, cart machines, mics, mixing boards, EGS receivers, RC circuitry, monitoring equipment, transmitters, cassette recorders, antenna systems, phone lines, remote units and teletype equipment.

RTV-201 Introduction to Broadcasting (5-2-6)

A survey course of radio and television broadcasting including history and development; station organization and procedures; and a practical introduction to the fundamentals of announcing, copy writing, production, promotion, programming, sales and administration.

RTV-202 Sales and Promotion (3-0-3)

An examination of rate cards and other sales tools, preparing and delivering sales presentations, obtaining and retaining accounts, and a look at agencies, administration and compensation.

RTV-203 Expression in the Media (5-0-5)

Students learn to express themselves clearly, quickly and to the point. A must for anyone in the communications field.

RTV-204 Radio Production (2-6-5)

Creation, development, production, and presentation of broadcast announcements, newscasts, interviews, commercials and dramatic program material with emphasis in the proper use of equipment to achieve effective idea communication.

RTV-205 Broadcast Programming (3-0-3)

Trends and requirements of broadcast programming. An analysis of community program needs and tastes, station image, and the effect of self-regulatory codes on broadcasting.

RTV-206 Writing for Broadcasting (3-0-3)

An introductory course in writing for the communications media. Includes fundamental writing techniques, commercials, public service announcements and news.

RTV-207 Television Production I (2-10-7)

An introduction to the elements of television; camera operation, use of microphones, lighting and some control room techniques.

RTV-209 Television Production II (2-10-7)

Advanced work in producing and directing television programs.

RTV-211 Broadcast Journalism (5-4-7)
An introduction to the field of broadcast journalism with special emphasis on the gathering, writing, delivery, editing and processing of news.

RTV-212 Broadcast Management (3-0-3)
The problems of managing a radio or television station stressing the social, economic, and legal responsibilities of a broadcast operation.

RTV-213 Station Operations I (0-10-3)
Operation of the school radio station.

RTV-214 Station Operations II (0-10-3)
Operation of the school television production facilities.

RTV-215 Station Management I (0-4-1)
Management of WSTI, the school radio station.

RTV-216 Station Management II (0-4-1)
Management and operation of the school television production facilities.

RTV-218 Broadcast Law (3-0-3)
The laws and regulations governing broadcasting, with a working knowledge of the relationship of governing agencies, such as Congress, committees, courts and the FCC. Historial and current developments in rules and regulations, law and self-regulation are examined.

RTV-220 Introduction to Television Systems (5-4-7)
Students become familiar with television telecasting and receiving equipment including cameras, VTR's (consumer and commercial), Eng. transmitters, film chains, switchers, receivers, character generators, computers, video processors, processing amps, test signals, dropout compensators, projectors, and tally lights.

RTV-221 Troubleshooting Broadcasting Equipment (3-2-4)
Troubleshooting and appreciation of broadcast equipment. Includes a basic understanding of studio equipment, schematics, and flow chart review. General repairs on common studio equipment found in radio and television stations.

RTV-225 Orientation and Evaluation (6-0-6)
During the first week of the quarter, the students will meet as a group with the school supervisor for work experience orientation. The students will meet again with the supervisor, both as a group and individually, at the end of the quarter for final evaluation discussions. The employer will fill out progress reports and rating sheets on each student to aid in final evaluation. Prerequisite: all course requirements of previous six quarters or approval of the department head.

RTV-226 Supervised Work Experience (3-30-6)
During the seventh quarter, students are assigned to work in a radio or television station for a minimum of thirty hours per week. The objective is to provide actual work experience for broadcasting students and the practical application of the skills and knowledge previously learned. Prerequisite: all course requirements of the first six quarters or approval of the department head.

SOC-102 Principles of Sociology (5-0-5)

A study in the principles of sociology, providing an understanding of culture, collective behavior, community life, social institutions and social change. Presents the scientific study of man's behavior in relation to others, the general principles affecting the organization of such relationships and the effects of social life on human personality and behavior.

SOC-103 Contemporary Social Problems (5-0-0-5)

A study of the nature and extent of major social problems of contemporary society, with emphasis given to such problems as family disorganization, crime and delinquency, minority groups, drug and alcohol abuse and addiction, industrialization and urbanization.

SOC-104 Marriage and Family Relations (3-0-0-3)

A practical consideration and discussion of the factors leading to successful marital adjustment; attention is given to the period from early dating to marriage, the coming of children, and the problems of child rearing. The course also deals with sex adjustment, in-law relationships, religion and money management.

SPA-101 Beginning Spanish (5-0-5)

An introduction to the basic patterns in the Spanish language. This is an eclectic course which emphasizes the spoken language as well as grammar.

SPA-102 Intermediate Spanish (5-0-5)

A continuation of Spanish 101 but with an increasing emphasis on individual programming according to the student's ability in the areas of speaking, understanding, reading, and writing. Prerequisite: Spanish 101 or equivalent.

SSC-201 Social Science I (5-0-5)

An integrated course in the social sciences drawing from the fields of anthropology, psychology, history and sociology.

SSC-202 Social Science II (5-0-5)

A further study of social sciences with emphasis on economics, political science, and social problems as they relate to the individual. Prerequisite: SSC 201.

WLD-1101 Beginning Welding (0-3-1)

Introduction to the history of oxyacetylene and arc welding, the principles of welding and cutting, nomenclature of the equipment and different types of welding, brazing and soldering processes. Welding procedures such as practice or puddling and carrying the puddle, running flat beads, butt welding in the flat position, and cutting of ferrous metals with the torch. Safety procedures are stressed throughout the program of instruction.

WLD-1102 Oxyacetylene Welding and Cutting (5-15-10)

Introduction and practical operations in the set up and use of oxyacetylene welding equipment. Welding procedures such as practice of making welded joints in the flat, horizontal, vertical and overhead positions are stressed throughout the program of instruction. Safety in the assembly and operation of equipment and worksite will be stressed.

WLD-1106 Advanced Arc and Pipewelding (5-12-9)

A continuation of WLD 1108 and WLD 1112. Introduction and practical operations in welding pressure pipe in the vertical fixed and horizontal fixed

positions following the certification procedures of section IX of the American Society of Mechanical Engineers (AMSE) boiler and Pressure Vessel Codes. Prerequisites: WLD 1108, WLD 1112.

WLD-1108 Basic Arc Welding (5-12-9)

Introduction to arc welding, the principles of welding and nomenclature of the equipment, assembly of unit. The operation of various AC transformers, AC and DC rectifiers, and DC motor generator arc welding units. Welding procedures such as practice of running beads and welding various structural joints in the flat, horizontal, vertical and overhead positions.

SCI-101 General Science (3-2-4)

Study of basic concepts from biological, physical and natural sciences. Laboratory experiences provide opportunities to develop projects for demonstrating simple science concepts to young children, utilizing materials from nature and simple equipment. Each student will develop a series of projects appropriate for a specific level of development.

WLD-1112 Advanced Arc and Inert Gas Welding (5-15-10)

A continuation of WLD 1108. Introduction and practical operation in the use of Tungsten Inert Gas (TIG) and Gas Metal Arc (MIG) welding. Methods applicable to general repair and open butt welding in the flat, horizontal, vertical and overhead positions will be performed. Prerequisite: WLD 1108.

WLD-1110 Metallurgy for Welders (0-0-0)

An introduction course in metallurgy; emphasizing the properties and manufacturing of metals, the purpose of heat treatment, annealing, hardening, and tempering.

WLD-1114 Practical Shop: SMAW Welding (Certification Procedures) (0-0-0)

This program is designed to provide the student with the opportunity to extend their skills in welding through minimum supervision. The student will practice making weldments in all positions on both plate and pipe. Through the use of the shielded metal arc welding methods, experience can be gained toward certification as required by the American Society of Mechanical Engineers (ASME—boiler and pressure vessel code.) Prerequisites: Previous work experience or welding school training.

WLD-1115 Practical Shop: Inert Gas Welding (Certification Procedures) (0-0-0)

This program is designed to provide the students with the opportunity to extend their skills in welding through minimum supervision. The student will practice making weldments in all positions of both plate and pipe. Through the use of Gas Tungsten (TIG) and Gas Metal (MIG) welding methods, experience can be gained toward certification as required by the American Society of Mechanical Engineers. (ASME—boiler and pressure vessel code.) Prerequisites: Previous work experience or welding school training.

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KATHLEEN COGGINS ..... Secretary

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ELAINE DENNEY ..... Secretary

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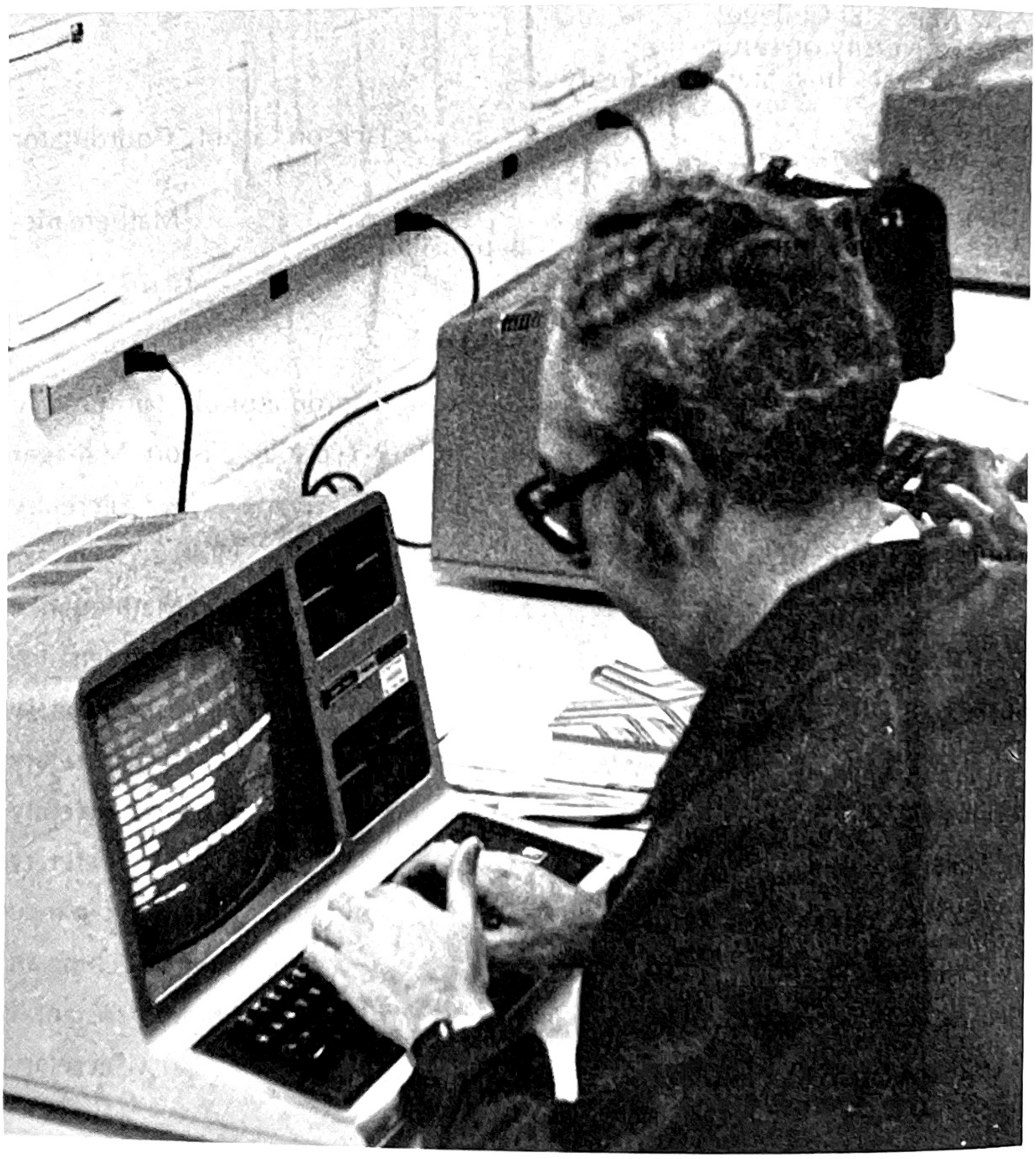
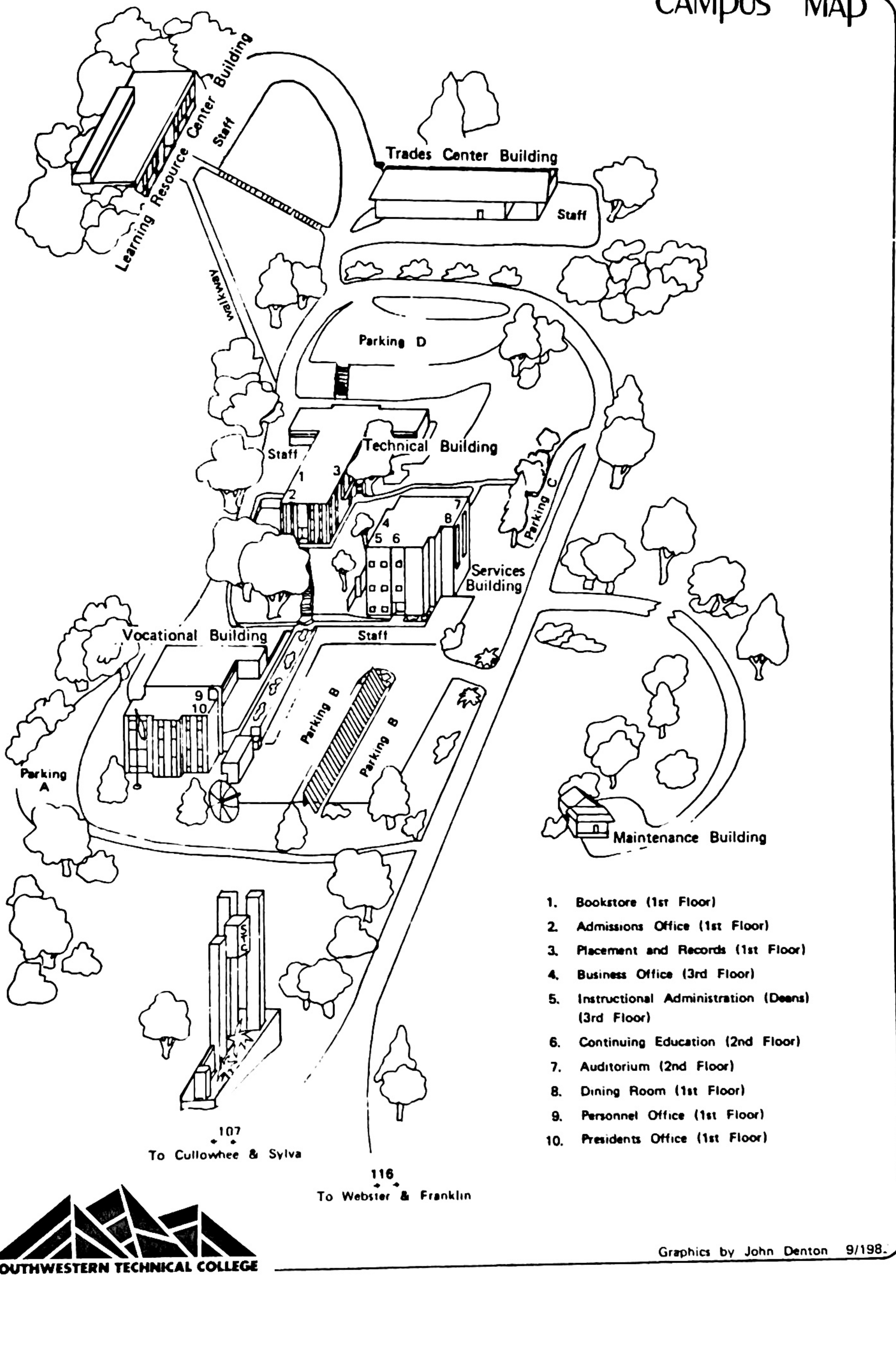


CAMPUS MAP



1. Bookstore (1st Floor)
2. Admissions Office (1st Floor)
3. Placement and Records (1st Floor)
4. Business Office (3rd Floor)
5. Instructional Administration (Deens) (3rd Floor)
6. Continuing Education (2nd Floor)
7. Auditorium (2nd Floor)
8. Dining Room (1st Floor)
9. Personnel Office (1st Floor)
10. Presidents Office (1st Floor)

SOUTHWESTERN TECHNICAL COLLEGE

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