SANDHILLS COMMUNITY COLLEGE

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PINEHURST, N.C. 28374

Issue No. 12/Spring, 1986

Published by

SANDHILLS COMMUNITY COLLEGE
Route 3, Box 182-C
Carthage, North Carolina 28327

Accredited by

The Southern Association of Colleges and Schools

The provisions of this publication are not to be regarded as an irrevocable contract between the student and Sandhills Community College. The College reserves the right to change any provision or requirement at any time within the student's term of residence, or to add or withdraw course offerings. The College further reserves the right, at any time, to request that a student withdraw when such action is considered to be in the best interest of the institution.

VISITORS

Visitors to the college are welcome. Administrative offices are open Monday through Friday from 8 a.m. until 5 p.m.

NON-DISCRIMINATION STATEMENT

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LIBRARIES

SANDHILLS COMMUNITY COLLEGE

GENERAL CATALOG
1986 - 1988

SANDHILLS
COMMUNITY COLLEGE

Dr. Raymond A. Stone, President

CALENDAR 1986

JANUARY

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ACADEMIC CALENDAR

1986-87

FALL QUARTER - 1986

Aug 28	Thursday	Faculty Meetings
Sep 1	Monday	Labor Day Holiday
Sep 2	Tuesday	Orientation and Course Planning
Sep 3	Wednesday	Orientation/Course Planning/ Registration
Sep 4	Thursday	Registration; Drop/Add Period Begins
Sep 5	Friday	First Day of Classes
Sep 10	Wednesday	Drop/Add Period Ends
Oct 27-Nov 7		Winter Quarter Course Planning
Nov 14	Friday	Last Day to Withdraw
Nov 17-20	Monday-Thursday	Last Class Sessions; Prepayment of Tuition and Fees
Nov 20	Thursday	Quarter Ends

WINTER QUARTER - 1986-87

Nov 24	Monday	Registration
Nov 25	Tuesday	First Day of Classes; Drop/Add Period Begins
Nov 27-30	Thursday-Sunday	Thanksgiving Holidays
Dec 2	Tuesday	Drop/Add Period Ends
Dec 19	Friday	Last Day of Classes Before Christmas Vacation
Jan 5	Monday	Classes Resume
Feb 2-13		Spring Quarter Course Planning
Feb 19	Thursday	Last Day to Withdraw
Feb 20-25	Friday-Wednesday	Last Class Sessions; Prepayment of Tuition and Fees
Feb 25	Wednesday	Quarter Ends

SPRING QUARTER - 1987

Feb 26	Thursday	Registration
Mar 2	Monday	First Day of Classes; Drop/Add Period Begins
Mar 5	Thursday	Drop/Add Period Ends
Apr 17	Friday	Last Day of Classes Before Easter Vacation*
Apr 27	Monday	Classes Resume
Apr 27-May 8		Summer and Fall Quarter Course Planning
May 18	Monday	Last Day to Withdraw
May 19-22	Tuesday-Friday	Last Class Sessions; Prepayment of Tuition and Fees
May 22	Friday	Quarter Ends
May 24	Sunday	Commencement

*It may be necessary to use a portion of the Easter vacation to make up days lost due to inclement weather.

SUMMER QUARTER - 1987

May 26	Tuesday	Registration

Session	Classes Begin	- End	Last Day to Drop/Add	Last Day to Withdraw
Full	May 27	Aug 12	Jun 1	Aug 11
1st Half	May 27	Jul 2	May 28	Jul 1
2nd Half	Jul 6	Aug 12	Jul 7	Aug 11
1st Third	May 27	Jun 19	May 28	Jun 18
2nd Third	Jun 22	Jul 17	Jun 23	Jul 16
3rd Third	Jul 20	Aug 12	Jul 21	Aug 11

Jul 3	Friday	Independence Day Holiday
Aug 14	Friday	Commencement

Registration for all sessions of the 1987 Summer Quarter will be held on Tuesday, May 26, and on the first day of classes of each session.

Some summer courses are taught in the full session (11 weeks), some in half sessions (5-1/2 weeks), and some in third sessions (3-2/3 weeks). The hours in a half or third session are equal to the hours in a full session. Consult the Summer Quarter Schedule of Classes for specific dates of course offerings.

ACADEMIC CALENDAR

1987-88

FALL QUARTER - 1987

Aug 31	Monday	Faculty Meetings
Sep 1	Tuesday	Orientation and Course Planning
Sep 2	Wednesday	Orientation/Course Planning/ Registration
Sep 3	Thursday	Registration; Drop/Add Period Begins
Sep 4	Friday	First Day of Classes
Sep 7	Monday	Labor Day Holiday
Sep 9	Wednesday	Drop/Add Period Ends
Oct 26-Nov 6		Winter Quarter Course Planning
Nov 16	Monday	Last Day to Withdraw
Nov 17-20	Tuesday-Friday	Last Class Sessions; Prepayment of Tuition and Fees
Nov 20	Friday	Quarter Ends

WINTER QUARTER - 1987-88

Nov 23	Monday	Registration
Nov 24	Tuesday	First Day of Classes; Drop/Add Period Begins

Nov 26-29	Thursday-Sunday	Thanksgiving Holidays
Dec 1	Tuesday	Drop/Add Period Ends
Dec 18	Friday	Last Day of Classes before Christmas Vacation
Jan 4	Monday	Classes Resume
Feb 1-12		Spring Quarter Course Planning
Feb 18	Thursday	Last Day to Withdraw
Feb 19-24	Friday-Wednesday	Last Class Sessions; Prepayment of Tuition and Fees
Feb 24	Wednesday	Quarter Ends

SPRING QUARTER - 1988

Feb 25	Thursday	Registration
Feb 29	Monday	First Day of Classes; Drop/Add Period Begins
Mar 3	Thursday	Drop/Add Period Ends
Apr 1	Friday	Last Day of Classes Before Easter Vacation*
Apr 11	Monday	Classes Resume
Apr 25-May 6		Summer and Fall Quarter Course Planning
May 16	Monday	Last Day to Withdraw
May 17-20	Tuesday-Friday	Last Class Sessions; Prepayment of Tuition and Fees
May 20	Friday	Quarter Ends
May 22	Sunday	Commencement

*It may be necessary to use a portion of the Easter vacation to make up days lost due to inclement weather.

SUMMER QUARTER - 1988

May 24	Tuesday	Registration

Session	Classes Begin	Classes End	Last Day to Drop/Add	Last Day to Withdraw
Full	May 25	Aug 10	May 30	Aug 9
1st Half	May 25	Jul 1	May 26	Jun 30
2nd Half	Jul 5	Aug 10	Jul 6	Aug 9
1st Third	May 25	Jun 17	May 26	Jun 16
2nd Third	Jun 20	Jul 15	Jun 21	Jul 14
3rd Third	Jul 18	Aug 10	Jul 19	Aug 9

Jul 4	Monday	Independence Day Holiday
Aug 12	Friday	Commencement

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Kennedy Hall

Stone Hall

GENERAL INFORMATION

College History

Sandhills Community College was established in December 1963 under authority of the 1963 State Community College Act. Following the leadership of Representative H. Clifton Blue, Moore County citizens petitioned the State Board of Education and gained approval to establish a community college in the county and voted overwhelmingly for a one million dollar bond issue for construction and a tax levy for operation and maintenance of facilities. Before the end of 1963, a board of trustees had been named, an organizational meeting held, an architect selected, and Dr. Raymond Stone chosen as first president of the College.

In 1964, construction of facilities began on land given for the campus by Mrs. Mary Luman Meyer of Pinehurst. Temporary College offices were located in downtown Southern Pines. Classes began on October 1, 1965 in nine scattered locations.

Today, the College provides students complete facilities for study and extracurricular activities. The campus features seven major buildings, several modular units, a picnic shelter, and physical education facilities for a variety of activities.

Sandhills has been fortunate in attracting a highly competent faculty and staff. Experienced faculty members bring to the classroom a spirit of dedication to teaching and a willingness to advise students in course selection and academic planning. Professional counselors provide assistance with admissions, counseling, financial aid, and student life.

The College's accreditation was reaffirmed by the Southern Association of Colleges and Schools in 1983.

Purpose

Sandhills Community College has as its purpose to provide appropriate educational opportunities to all eligible citizens and to make available support services to assist all students in developing skills and in acquiring information and knowledge, both as ends in themselves and as required for advanced study. In addition to one and two-year occupational, avocational, and academic programs, the College provides comprehensive educational opportunities in basic education and high school equivalency studies to students who are not high school graduates or who are beyond the compulsory age limit of the public school system and who have left the public schools. In addition to vocational and technical training for career preparation, the College also offers two-year college-level liberal arts, science, and fine arts instruction for transfer to four-year colleges and universities or for fulfillment of the two-year, general education degree requirements.

Areas of Study

Classes and programs are offered for citizens with varied educational needs and backgrounds. Courses are taught day and evening throughout the year both on and off the main campus.

Adult Basic Education. Courses are offered both on and off campus at several levels for students who need to develop reading, English, and mathematics skills.

At the first level, students with very limited formal education may enter an Adult Basic Education (ABE) class. After developing basic skills, these students may earn a high school equivalency certificate by enrolling in one of several area classes or by attending the College's Learning Center on campus.

College Developmental Studies. Students who wish to enroll in regular college courses but need to strengthen English, mathematics, reading, or study skills may enter developmental courses which are designed to prepare students for entrance into curriculum programs.

College Transfer Program. Courses at the freshman and sophomore levels are offered which lead to the Associate in Arts, Associate in Fine Arts, and Associate in Science degrees. Credits earned in college transfer courses may be transferred to senior colleges and universities where students may pursue a program of study leading to a baccalaureate degree. Advisers assist students in selecting courses that will be appropriate for baccalaureate degree programs at senior institutions.

General Education Program. The College offers a non-transferable general education degree for students who want only a two-year college degree. General education students are assisted in the selection of courses that will meet their own special needs and are awarded the Associate in General Education degree upon completion of the program requirements.

Special Credit Courses. The College encourages the enrollment of students who are not seeking a degree but wish to further their education by taking courses of special interest. Courses may be audited or taken for college credit.

Occupational Education Programs. Two-year technical programs are offered leading to the Associate in Applied Science degree. These programs are comprised of specialized and related courses required for successful employment in business, industry, health, horticulture, and human services.

One-year vocational diploma programs are offered leading to employment in health, business, industry, and service occupations. These programs include vocational specialty and related courses selected to give students the knowledge and skills needed for successful employment.

Certificate Options. Several of the vocational programs have a certificate option which includes specialized courses but omits related and general educational courses. Students who complete these programs are awarded a program certificate.

Students not seeking a college degree, diploma, or certificate may enroll in selected technical and vocational courses. Individual course enrollments require the student to meet course prerequisites.

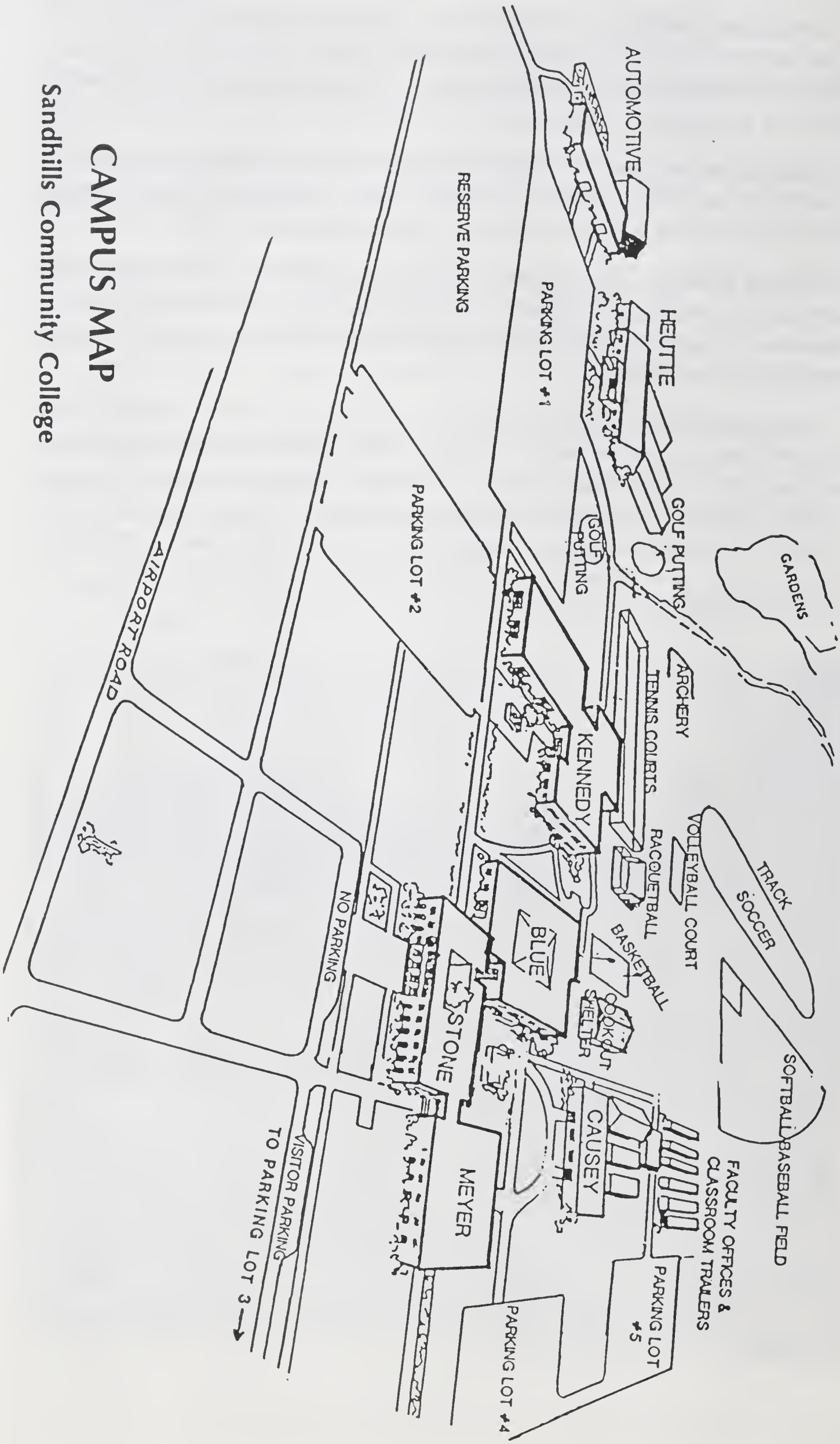
Evening College. Courses are offered in the evenings for students desiring to pursue degree, diploma, or certificate programs as well as areas of special interest or self-improvement. Counseling services for evening students are provided.

Continuing Education Programs. Courses are offered on and off campus to meet the expressed needs of adults who wish to continue their education. These non-credit courses contribute to the social, cultural, and intellectual development of the adult population. Occupational education courses are made available to adults who need job training or retraining. Such courses are offered on and off campus at hours compatible with the work schedules of students.

Blue Hall

CAMPUS MAP

Sandhills Community College



Physical Facilities

A modern, air-conditioned, five-building complex forms the heart of the beautifully landscaped campus. Also located within easy walking distance are an automotive trades building, landscape gardening facility, physical education field, and several mobile units.

Stone Hall houses administrative and faculty offices, the Data Processing Center, the library, the audiovisual center, general classrooms, the learning center, and a large lecture room.

Meyer Hall is devoted primarily to instruction in science and technology. This building contains classrooms and laboratories for chemistry, physics, biology, engineering technologies, computer science, and music. The counseling center is also located in this building.

Kennedy Hall houses the departments of Health Sciences, English, Mathematics, and Behavioral Sciences. Facilities for ceramic and studio arts are located on the ground floor. Conference rooms are available for community meetings and activities.

Blue Hall is the focal point for student activities and features a large multipurpose area for dining, drama, music, and social events. A spacious lounge for study and conversation features an open fireplace. The College food service located here provides breakfast and lunch and convenient vending machines. The College bookstore and a large classroom for physical education courses are located in this building.

Causey Hall houses the Cosmetology and Electronics programs. Plans have been completed to expand this building to include facilities for the engineering technologies and microcomputer applications programs.

The Automotive Building provides classroom and laboratory space for the Automotive Mechanics and Automotive Body Repair programs. These learning areas are well-equipped with up-to-date tools and machines.

Heutte Hall, the facility for landscape gardening, consists of two classrooms, a design studio, a library-reference room, and faculty offices. Three greenhouses are attached to the building. The building also includes an apartment for landscape gardening students who provide care for the plant material. The Ebersole Holly Garden (containing one of the finest collections of hollies in the United States and listed as an official holly arboretum) is located behind Heutte Hall. In addition, initial construction has begun on the Sir Walter Raleigh Historical Garden which will be completed in phases over the next five years. Both gardens are open daily to the public.

The Maintenance Building houses the College maintenance and service shops and serves as the central point for shipping and receiving.

Resources for Learning

Library. Located in Stone Hall, the library provides comfortable, pleasant surroundings for study and leisure reading. Open stacks for easy access to materials invite browsing and the pursuit of non-academic interests as well as curricular requirements. Individual carrels, large tables, and lounge chairs permit student choice of study facilities.

Professional librarians instruct students in the use of library materials and assist with reference problems and book selection. Formal classroom study is provided through Bibliographic Instruction (LIB 110), a course open to all Sandhills students.

Library materials are selected to support and to supplement academic programs and to encourage students to become informed citizens. Materials are also selected to satisfy interests in various careers and to stimulate reading as a leisure-time activity. The collection includes over 56,000 volumes and subscriptions to 300 current periodicals and newspapers. A pamphlet file with information on topics often requested is maintained for student use.

The microfilm collection, totaling about 8,000 reels, includes the *New York Times* from its beginning in 1851 and an increasing number of retrospective runs of magazines and journals, many complete and dating before 1900.

The Library provides exhibits of the accomplishments, hobbies, and interests of both students and faculty. Presentations may center, also, on specific subjects or on collections of rare or unusual books which have been contributed to the library.

Audiovisual Center. Audiovisual services for faculty and students are available in Room S214 of Stone Hall. The Center is available to assist students and faculty with their audiovisual needs from 8 a.m. to 5 p.m. Monday through Friday. Audiovisual services are also provided in Kennedy Hall, Room 146.

Data Processing Services. The College has two minicomputers which are used for the maintenance of student and financial records, institutional research, and faculty and student research. These computers are housed in the Data Processing Center located in Room 204 of Stone Hall.

The College also maintains five microcomputer laboratories and a minicomputer laboratory for student use.

In addition the College is linked to the Triangle Universities Computation Center, located in the Research Triangle Park, and has access to national data bases using telecommunications.

Learning Center. The Learning Center is open to individuals who desire to complete elementary education, high school education, or strengthen

skills in a wide variety of courses. The Center is staffed by coordinators who help students find their present level of learning before placing them in programmed texts for self-instruction. Students may prepare for the high school equivalency examination, improve skills used on the job, study subjects for personal advancement, or take refresher courses designed to make the transition to college or technical-level work easier. The Learning Center is located in Stone Hall in Room S209 and is open from 8 a.m. to 5:00 p.m., and 6 p.m. to 10 p.m., Monday through Thursday, and 8 a.m. to 2 p.m. on Friday.

The Small Business Center. The Small Business Center provides technical and managerial assistance to small business owners and prospective owners by providing: (1) information (2) education and training (3) counseling and referral, and (4) other technical/managerial assistance as appropriate.

Mathematics Laboratory. The Mathematics Laboratory was established to provide instructional aid to students enrolled in mathematics courses. Self-instructional materials enable students to listen to taped lectures while following written instructions. Basic math courses are provided in the lab through self-instructional formats. The laboratory is staffed by instructors and tutors and is located in Room K144 in Kennedy Hall. Students may be referred to the laboratory by a mathematics instructor or may seek instruction on their own.

Tutorial Services. An organized program of free tutorial assistance is provided to supplement the instruction given in the classroom. Students may contact the coordinator of tutorial services (whose office is located in the Testing Center) to arrange tutoring sessions. These services are provided by faculty members, paraprofessionals, community volunteers, and students.

Testing Center. The Testing Center, located in Kennedy Hall, K101B, administers the General Education Development (G.E.D.) high school equivalency test, the Comparative Guidance and Placement Test (C.G.P.) for students entering college programs, and a variety of academic achievement and screening examinations requested by instructional departments. Tests may be arranged by contacting the Testing Center coordinator.

POLICIES ON ADMISSION TO THE GENERAL COLLEGE

Full Admission

Sandhills Community College maintains an "open door" admission policy for both high school graduates and others who are eighteen or older but who are not high school graduates. Full admission to associate degree, diploma and certificate programs requires the submission of the official application form and one of the following: an official transcript

indicating graduation from an accredited secondary school, a high school diploma, a High School Equivalency certificate (G.E.D.), or an Adult High School diploma. Failure to submit *the appropriate documents* will result in a student being classified as a special student. Students can become candidates for degrees, diplomas or certificates when these documents are supplied.

Applicants who are eighteen or older but who do not have a high school diploma are accepted for admission to a program of study that will lead to a High School Equivalency certificate.

Applicants are considered for admission to certain vocational programs upon presentation of a transcript indicating an appropriate number of accredited units to meet Southern Association standards.

Admission to the College does not guarantee placement into the instructional program of the applicant's choice. (See section on Program Testing and Placement.)

An applicant who is between the ages of sixteen and eighteen may have special educational needs and may be admitted to appropriate courses or programs in accordance with the State Board of Education policy which requires the following:

(1) That the applicant has left the public schools no less than six calendar months prior to the last day of regular registration of the quarter;
(2) That the application is supported by a notarized petition of the applicant's parent, legal guardian or other person or agency having legal custody and control, which petition certifies the place of residence and date of birth of the applicant, the parental or other appropriate legal relationship of the petitioner to the applicant, and the date on which the applicant left the public schools. However, all or any part of the six-month waiting period may be waived by the superintendent of the public schools of the administrative unit in which the applicant resides;
(3) That such admission will not preempt facilities and staff to such an extent as to render the College unable to admit all applicants who have graduated from high school or who are eighteen or older.

Conditional Admission

Conditional admission status may be granted to the student who has not yet submitted official evidence of high school graduation or an official record of school units completed.

Re-Admission

Any former student who has not attended the fall, winter, or spring quarter in the last academic year should re-apply in the Office of Admissions.

Admission of Foreign Applicants

Proficiency in the English language and satisfactory academic records are important factors in the admission decision for all applicants from outside the United States. Foreign students must have graduated from a secondary school that is equivalent in number of grades to secondary schools in the United States. Further, the Test of English as a Foreign Language (TOEFL) and the Comparative Guidance and Placement Program (CGP) are required of all foreign applicants. Students should contact a university in their native country for information about the Test of English as a Foreign Language (TOEFL). Foreign applicants should write to the Office of Admissions at Sandhills Community College for additional information.

Transfer Students

A transfer student is a student pursuing a degree at Sandhills Community College who has earned credits at another institution and wishes to apply these credits toward a Sandhills degree or diploma. In addition to submitting all other application materials, a student desiring to receive transfer credit must have an official transcript sent to Sandhills by the institution which originally granted the credit. A transfer student may not be required to take the placement test. Based on the program the student wishes to enter and evaluation of all transcripts showing previously earned credit, the registrar will determine if the placement test is required.

Sandhills Community College will consider granting credit for work done at all other institutions of higher education. Courses accepted for transfer credit must parallel course offerings at Sandhills Community College as determined by the registrar and/or the appropriate department chairperson. Transfer credit may be allowed for courses in which a student has made a grade of "C" or higher.

Special Students

A special student is defined as one who is enrolled in curricular credit courses but who is not planning to earn a degree, diploma, or certificate. Such a student must be eighteen or older and not enrolled in high school. The student may register for courses if prerequisite requirements have been met and if such registration does not preempt students enrolled in degree, diploma, or certificate programs. For admission to Sandhills Community College, the special student need only complete an application form which is available in the Office of Admissions. The special student, however, will be asked to submit proof of high school graduation and to meet certain placement criteria upon a later decision to pursue a degree, diploma, or certificate at Sandhills Community College.

Visiting Students

A visiting student is a student pursuing a degree at another institution who takes courses at Sandhills Community College with the intent of transferring credit for those courses to the home institution. A visiting

student must submit an application and written permission from the institution from which graduation is planned. If a permission letter is not obtainable, the visiting student may enroll as a special student.

Concurrently Enrolled High School Students

In compliance with State law, Sandhills Community College will cooperate with public school superintendents and private school headmasters in arranging for high school students between the ages of sixteen and eighteen to be concurrently enrolled in college courses. High school students shall initiate planning for enrollment in college courses by seeking approval from high school officials. Students granted approval for concurrent enrollment must complete a college application form and submit an approval letter signed by high school officials. Grades will be recorded, and permanent academic records will be established at the College. Grades will be sent to the student's high school upon request of the student. High school officials will decide how students will be credited with courses taken at the College.

Establishing State Residency

To qualify for in-state tuition, legal residents must have maintained domicile in North Carolina for at least the twelve months immediately prior to classification as residents for tuition purposes. In order to be eligible for such classification, individuals must establish that their presence in the state during such twelve-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.

The Office of Admissions has the authority and responsibility for determining residency for tuition purposes. The office will use *A Manual to Assist the Public Higher Education Institutions of North Carolina In The Matter of Student Residence Classification For Tuition Purposes* in making residency determination. Copies of the manual are available on request.

Any student who wishes to appeal the residency decision may originate that appeal with the dean of students. Students may be asked to provide more detailed information in the appeal process.

Students intending to transfer from Sandhills Community College should explore the residency practices of the college or university to which they intend to transfer.

FINANCIAL INFORMATION

Tuition and Fees

Tuition for all programs is $4.25 per credit hour each quarter up to a maximum of $51 for twelve or more credit hours. For out-of-state students, tuition is charged at the rate of $21.25 per credit hour each quarter up to a maximum of $255 for twelve or more credit hours.

In addition to tuition, all students are charged a student fee which covers the cost of a parking sticker, an I.D. card, accident insurance coverage, library and audiovisual privileges, and activities sponsored by the Student Government Association.

Student Fees are calculated as follows:

Fall, Winter, and Spring Quarters
8 or more credit hours.....$8.00
Fewer than 8 hours.....4.00

Summer Quarter
8 or more credit hours.....4.00
Fewer than 8 hours.....2.00

North Carolina residents who are sixty-five or older do not pay tuition but are charged a student fee.

The basic tuition and fee structure at Sandhills Community College is in accordance with policies established by the State Board of Community Colleges. Tuition and fees must be paid at the time of registration.

Special Program Expenses

Some programs require miscellaneous expenses for supplies, tools, uniforms, and equipment. Instructors in the following programs will provide specific information about such costs:

Architectural Technology
Associate Degree Nursing
Automotive Body Repair
Automotive Mechanics
Civil Engineering Technology
Cosmetology
Human Services Technology
Landscape Gardening
Medical Laboratory Technology
Practical Nursing
Radiologic Technology
Respiratory Therapy Technology
Surgical Technology
Surveying Technology

Graduation Fee

Graduating students are required to participate in commencement exercises. Requests for any exception to this requirement must be submitted in writing to the Registrar's Office and approved by the dean of students.

Costs of graduation, for cap, gown, and diploma, will be approximately $20.

Refund of Tuition and Fees

Requests for refunds must be made to the business manager during the first ten calendar days after the first day of classes as shown in the College calendar. Refunds can only be granted when withdrawal is due to unavoidable circumstances.

Automobile Registration

All students who park vehicles on campus must register their vehicles at the time of course registration.

DIVISION OF STUDENT DEVELOPMENT

The purpose of the Division of Student Development is to improve the quality of life for students. Included in the division are the offices of the dean of students, recruiting, admissions, registrar, financial aid, counseling/career center, veterans affairs, and testing/tutorial center.

Dean of Students

The dean of students is responsible for all phases of the non-instructional life of students: recruitment, admissions, assessment, financial aid, program placement, records, orientation, counseling, extracurricular activities, career development, scholarship and awards program, and administration and enforcement of the student judicial code. In addition, students may seek information and receive support for concerns about student life from the dean of students.

Office of Recruiting

The Office of Recruiting welcomes inquiries about the college and disseminates information relevant to college programs and student life. Recruiting personnel provide a follow-up system of communication to all prospective students.

Office of Admissions

The Office of Admissions interprets admissions policies and procedures to all applicants. Personal attention is given to ensure a smooth transition into student life.

Office of the Registrar

The Registrar's Office maintains all official academic and admission records. The registrar is responsible for all transcript evaluation, grade maintenance, and certification for graduation requirements.

Students are encouraged to visit the office for record review and clarification.

Registration. Registration dates for each quarter are stated in the academic calendar located in the front of this catalog. Admission and program placement requirements must be met before students may register. Students are not officially registered for classes until tuition and fees have been paid.

Records. The personal records of students are supervised by the dean of students. Material contained in students' personal folders, with the exception of confidential letters of recommendation written prior to January 1, 1975, may be reviewed by students upon request to the Office of the Dean of Students. In accordance with the Family Rights and Privacy Act of 1974, certain student information categorized as "Directory Information" may be provided to persons other than the student. Directory information includes the student's name, address, telephone number, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height, membership on athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. A student who desires that any or all of the above named directory information not be released must sign a request in the Registrar's Office no later than two weeks after registration.

Grades. Grades are provided directly or by mail to the student. Grades are provided to other schools, parents, guardians or others only with the written authorization of the student. This authorization must be given to the registrar.

Verification and Certification. Letters verifying and certifying enrollment or academic progress should be obtained from the registrar.

Transcripts. Two Sandhills Community College transcripts will be provided free of charge to currently enrolled students, either personally or to designated institutions. A fee of $1 will be charged for each succeeding transcript requested by an enrolled student.

A fee of $1 will be charged for each transcript requested by former students.

Transcripts will be issued only upon the student's written authorization to the registrar. The registrar's office requires a 24-hour advance notice of this request. No official transcript may be issued to or for an enrolled student or former student who is indebted to the College.

Financial Aid

The quality of academic life at Sandhills Community College is regularly enhanced by students whose academic goals exceed their financial abilities. In an effort to assure that no potential student be denied an education

because of financial need, the College offers qualified candidates the following financial resources: Pell Grants, Supplemental Educational Opportunity Grants, State Incentive Grants, Guaranteed Student Loans, College Work Study, and Institutional Scholarships.

Students desiring financial assistance through the College should obtain a formal application from the financial aid director.

Scholarships

The College, often through the generosity of individuals and groups in the area, makes available a variety of scholarships each year. Specific information on the nature of these scholarships is disseminated at relevant times through campus publications by the dean of students. Lists of scholarships are available in the Financial Aid and Dean of Students offices.

Counseling

Counselors are available to assist students in coping with any concerns or difficulties they may experience while attending college. Counselors help with personal, academic, and career counseling; academic assessment; program placement and program change; course recommendations; orientation programs; housing information; and employment opportunities. Counseling sessions provide opportunities for students to ask questions or share concerns about college life.

Assessment Testing. Assessment testing is necessary to provide the counselor, the faculty adviser, and the student with information to assist in decision making about the college experience. Assessment is made before counseling so that meaningful activities for each student can be defined, including program selection and placement, course selection, financial planning, and exposure to other knowledge believed essential for success and satisfaction. Assessment testing information can be obtained by contacting the Counseling Center.

Orientation and Program Placement. Shortly after assessment testing has been completed and prior to enrollment, each student is asked to meet with the counseling staff for orientation and program placement. Orientation consists of a general session dealing with College policies and procedures, followed by a walking tour of the campus. Program placement identifies the area of study appropriate for the student. Placement is discussed during an individual, confidential meeting with a counselor. Certain programs require reasonable test score levels that indicate academic readiness. Students not meeting these test score levels may need to enroll in developmental courses and apply for program placement at a later time.

Career Center

Counseling and guidance are offered in the areas of personal growth and self-awareness, career exploration, job seeking skills, and employment opportunities. These services are available to both Sandhills Community College students and the community at large.

Veterans Affairs

The veterans coordinator provides information and assistance to persons applying for educational benefits under the policies of the Veterans Administration. Students receiving V.A. benefits should notify the veterans coordinator of any change in program, credit hours, status or address. The coordinator must also be advised of program interruptions and/or withdrawal from a program.

Handicapped Students

Sandhills Community College strives to provide an equal educational opportunity to all students. The campus is basically barrier-free and accessible for wheelchairs. Special services for the visually impaired and hard of hearing are provided as available. The coordinator for handicapped students is located in K101B. Students who demonstrate a legitimate need for handicapped parking privileges may obtain a special parking placard from the coordinator.

STUDENT LIFE

The student activities program at Sandhills is sponsored by the Student Government Association. Efforts are made to provide students with cultural, social, recreational, and service oriented activities.

The Student Government Association plans, executes, and supervises all student fee expenditures. Included in these expenditures is the College accident insurance program providing blanket accident insurance for all students.

Bookstore

Students can purchase textbooks, school supplies, sportswear, and other accessories at the College bookstore, which is open from 8:30-3:30, Monday through Friday, and from 5:30-7:30 Tuesday evenings. During registration (and the drop/add period) the bookstore will keep hours comparable to those of day and evening registration.

During exam week at the end of every quarter, the bookstore will buy back textbooks used every quarter at half of the purchase price.

The bookstore also cashes checks (up to $5 with a student ID), orders class rings, and displays for sale the work of campus artists and writers.

Cafeteria

Breakfast and lunch are available in the College cafeteria for students, employees, and visitors. This food service is supplemented by extensive vending machine selections.

Housing

Since Sandhills Community College was established to provide education for students within commuting distance, it has no dormitories. Students are responsible for arranging their own housing. The College assists students who desire local housing by providing information about realtors and by maintaining a bulletin board in the Counseling Center which lists available rentals.

Student Conduct

The administration of Sandhills Community College prefers to emphasize the importance of guidance, counseling, and example in promoting the development of acceptable student conduct. When these fail, disciplinary action will be taken consistent with the regulations and procedures set forth in the "Judicial Code."

ACADEMIC POLICIES AND PROCEDURES

Program Testing and Placement

Students who desire to enter a specific instructional program and who meet the testing and placement criteria will be placed in the program of their choice as long as vacancies exist. Placement of qualified candidates into programs will be made according to the date the candidates successfully meet testing and placement criteria and all required records are received by the College.

Entering students who do not meet academic program placement criteria are encouraged to enroll in developmental courses designed to prepare them for program placement at a later date.

Academic Advising

Upon enrollment at Sandhills, students are assigned a faculty adviser to assist in course scheduling and curriculum planning and to periodically evaluate academic progress.

Courses selected by students must be approved by the faculty adviser prior to registration. The adviser also must approve all changes in registration, such as dropping, adding, or withdrawing from courses.

The faculty adviser will assist the student in becoming familiar with degree and diploma requirements in a chosen field. College transfer students should become familiar with the requirements of both Sandhills Community College and the transferring institution.

The role of the adviser and the procedures for academic advising are given in the publication, *Academic Advising System Handbook*.

Credit by Examination

Students enrolled in Sandhills Community College may have developed knowledge and skills which match the knowledge and skills to be achieved in certain courses in the College. These achievements may be the result of work experience, military service, or informal study.

To receive credit by examination, students must demonstrate proficiency by taking challenge examinations developed by departmental faculty or a standardized examination such as the College Level Examination Program (CLEP) or the United States Armed Forces Institute (USAFI).

Although any faculty adviser or counselor may initiate a credit by examination request, the specific courses to which credit by examination applies will be determined by the instructional departments. Students who decide that credit by examination is appropriate in their situations must obtain permission from the chairman of the department in which the course is offered. The chairman will arrange for the examination to be administered. The dean of instruction must approve all credit awarded by challenge examination.

Students who wish to receive credit by examination through CLEP or USAFI should submit such certifications to the registrar. The registrar will evaluate the certifications in consultation with the appropriate department chairman.

Upon successful completion of credit by examination, the symbol "CE" will be shown on academic transcripts, and credit hours will be awarded; however, no quality points will be assigned.

Academic Petition

The Academic Petition is used to request substitution or waiving of course or institutional requirements. It may be used when unusual circumstances indicate the need for special consideration.

The Academic Petition is initiated through the faculty adviser and requires the approval of the appropriate department chairman and the dean of instruction.

Course Load Policy

The normal course load for students in college transfer programs is 16 hours; for students in the technical-vocational programs, 18 hours. The maximum course load for students in college transfer programs is 19

hours; for students in technical-vocational programs, 20 hours. Registration for more than 19 hours in college transfer or more than 20 hours in technical-vocational programs must carry the approval and signature of the adviser and the dean of instruction. Course load will be computed as follows:

Regular quarters: 1 credit hour = 1 course load hour
Half summer sessions: 1 credit hour = 2 course load hours
Third summer sessions: 1 credit hour = 3 course load hours

Attendance Policy

Students are expected to attend all class sessions, laboratories, and clinical experiences. Faculty members are responsible for informing students in writing of class attendance expectations and identifying all classes, laboratories, and clinical experiences which must be attended at the scheduled times. This information will be given to students at the first class meeting of the quarter.

Unsatisfactory attendance may adversely affect a student's grade for the course. Absence from class must be explained satisfactorily to the instructor, and students are held responsible for all work missed. Students who violate the attendance policy of an instructor are subject to receive an "F" grade for the course.

Class sessions missed by late-enrolling students may be counted as absences. In cases where violations occur and a grade of "F" is given, the instructor will notify the dean of students.

Students should not be charged when an absence is due to participation in an activity approved by the dean of instruction or the dean of students.

Faculty members should inform students at the first class period if tardiness is to be computed as an absence.

Schedule of Last Class Sessions

The last four days of each quarter are used to provide each class with a two-hour concluding session. A meeting time for each class during the last four days of the quarter is given in a Schedule of Last Class Sessions which is prepared at the beginning of the quarter. The last class session is used for final examinations or for other activities that are designed to bring the course to a successful conclusion. Last class sessions must meet whether or not a final examination is to be given.

Grading Policy

Grading the performance of students in course work is the responsibility of individual faculty members. Evaluation of student performance, in essence, is the exercise of professional judgment by individual faculty members.

Categories of institutional grades and symbols for students who have met minimum course requirements are:

Superior	A	— superior academic performance.
Good	B	— good academic performance.
Average	C	— average academic performance.
Passing	D	— academic performance that has met minimum course requirements and that will allow students to enter the following course or courses in a series.
Credit by Examination	CE	— credit earned by examination procedures of the College.
Audit	AU	— participation as an auditor of a course.

Categories of institutional grades and symbols for students who have not met minimum course requirements are:

Failure to Meet Course Requirements	F	— student performance judged to require repetition of the course.
Incomplete	I	— used when the instructor determines that at least the minimum course requirements may be met by a student during the next consecutive quarter without repeating the course.
Withdrawal-Passing	WP	— used when a student withdraws from class while in the process of successfully meeting course requirements.
Withdrawal-Failing	WF	— used when a student withdraws from class while failing to meet course requirements.

WP (Withdrawal-Passing) and WF (Withdrawal-Failing) appearing on transcripts will not be considered in the computation of grade point averages.

I (Incomplete) grades appearing on transcripts will be considered in the computation of grade point averages.

Grade Point Average

Grade point averages are computed on all course work attempted with the exception of WP's and WF's. Grade point averages are based on points assigned as follows:

Grade	Grade Points
A	4
B	3
C	2
D	1
F	0
I	0

A minimum overall grade point average of 2.0 in all course work attempted is required for graduation. In addition, students enrolled in health science programs will be required to achieve a minimum overall average of "C" (or 2.0) in all required specialty and clinical courses.

Academic Progress

Students enrolled in degree, diploma, or certificate programs are expected to maintain satisfactory progress toward completion of requirements for their programs. Since a minimum 2.0 grade point average is required for graduation in all programs, students are expected to maintain progress toward this average to be considered in good academic standing.

To achieve minimum academic progress, students must maintain the following minimum grade point average in relation to the number of credit hours attempted:

GRADE POINT AVERAGE TO DETERMINE CONTINUANCE IN PROGRAM

TWO-YEAR CURRICULA

All Quarter Hours Credit Attempted	Grade Point Average Below Which Student Is on Academic Probation
0-22	1.3
23-42	1.5
43-62	1.7
63-81	1.9
82-Over	2.0

ONE-YEAR CURRICULA

All Quarter Hours Credit Attempted	Grade Point Average Below Which Student Is on Academic Probation
0-16	1.3
17-38	1.6
39-51	1.9
52-Over	2.0

This scale will be used to determine academic progress at Sandhills Community College and for certification to the Veterans Administration; Social Security Administration; Division of Vocational Rehabilitation; student grant, loan, scholarship, and financial aid agencies; or other public and private agencies requiring such information.

Students enrolled in health science programs should see sections on academic progress and academic probation for health science programs.

Academic Probation

Students whose academic progress is unsatisfactory as determined by the cumulative grade point average will be placed on academic probation by the dean of instruction and will be required to have a conference with their adviser before registering for the next quarter. The purpose of the conference is to plan a strategy for improving academic progress and for removing the probationary status. Advisers may require students on academic probation to reduce course load, repeat courses, or register for special programmed studies to strengthen their educational background.

Students who remain on academic probation for two consecutive quarters of enrollment will be subject to program suspension. The registrar will certify the failure of students to meet minimum levels of academic progress and will notify advisers, department chairmen, the dean of students, and the dean of instruction. Program suspensions will be made by the dean of instruction after conferring with the appropriate department chairman and the dean of students.

Students suspended from programs will be referred to a student development counselor for assistance in choosing another area of study.

Academic Progress for Students in Health Science Programs

Students must have a minimum, overall grade point average of 2.0 in all required specialty and clinical courses to meet the requirements for graduation in all health science programs. Students must also progress toward a 2.0 average in all other course work to be considered in good academic standing.

To remain in good academic standing, students in health science programs must maintain the following minimum grade point average in relation to the number of credit hours attempted in the required specialty courses:

GRADE POINT AVERAGE TO DETERMINE CONTINUANCE IN HEALTH SCIENCE PROGRAMS

All Specialty Hours Credit Attempted*	Grade Point Average Below Which Student Is on Academic Probation
0-12	1.5
13-30	1.8
over 31	2.0

* Specialty courses required for graduation.

Academic Probation For Students in Health Science Programs

The College's policy on academic probation will also apply to the "Grade Point Average to Determine Continuance in Health Science Programs." A student whose academic progress is unsatisfactory as determined by the cumulative grade point average in the specialty and clinical courses required for graduation from a health science program will be placed on academic probation by the dean of instruction.

Removing Incomplete "I" Grades

1. When grades are reported, it is the responsibility of the instructor to inform the appropriate department chairman in writing of the reasons for an "I" grade and the conditions which must be met to remove it.
2. It is the student's responsibility to contact the instructor or department chairman regarding work to be completed for the removal of the "I" grade.
3. When removing an "I" grade during the next consecutive quarter, a student should continue working under the instructor's direction. It is not necessary to again register for the course.
4. If a student has not removed the "I" grade by the end of the next consecutive quarter, it will be necessary to re-register and re-take the course. "I" grades not removed during the allowed time will remain on the student's record.
5. When a student removes the grade of "I," it will be deleted from the transcript and the new grade will be entered.
6. If a student receives an "I" and the instructor is not at the institution the next consecutive quarter, the student should meet the requirements of the course under the supervision of the department chairman.

7. A grade of "I" may be replaced by a grade of "F" if a student, in attempting to remove an "I," completes the work required but averages an "F" in the course.

Auditing Courses

Auditing is a privilege which requires the student to meet prerequisites of the course and to obtain prior approval of the instructor. Students will follow the usual procedures for registration, will receive no credit or grade, and will be charged the same tuition and fees as students taking courses for credit. Requirements for auditing will be determined by the instructor. Audit status may not be established in a course after the drop/add period.

Classification of Students

For purposes of administration, the following student classifications have been specified:

Full-time student	—	the student enrolled in 12 or more credit hours.
Part-time student	—	the student enrolled in fewer than 12 credit hours.
Freshman	—	the student who has successfully completed less than 48 credit hours.
Sophomore	—	the student who has successfully completed 48 or more credit hours.

Independent Study

Under unusual circumstances, a student may have a need to enroll in a course on independent study under the guidance of an instructor. A student must first substantiate the need and then secure the written approval of the instructor and adviser. Next, an independent study contract form must be prepared with and approved by the instructor with whom the work will be done. Finally, written approval must be obtained from the chairman of the department from which the course is requested. One copy of the signed independent study contract should be given to the student, one copy retained by the instructor, and one copy attached to the registration form. The registration form should also indicate that the course will be taken by independent study. The registration process cannot be initiated unless a copy of the contract accompanies the registration form.

Enrollment in more than one independent study course per quarter will be allowed only under exceptional circumstances.

Adding and Dropping Courses

Courses may be added or dropped only during the days indicated in the College academic calendar. Neither the instructor of the course nor the student's adviser is required to sign the drop/add form. However, the student is encouraged to see his/her adviser before dropping or adding a course. Courses officially dropped through the registrar's office and business office during the drop/add period will not appear on the student's permanent transcript.

Withdrawal from a Course, Program, or the College

When a student finds it necessary to discontinue a course, a program, or all college work, a conference with the academic adviser should be held to initiate withdrawal proceedings. A student may withdraw at any time after the drop/add period and before the deadline to withdraw listed in the College academic calendar. To officially withdraw, a student must obtain the instructor's signature on the withdrawal form. This form must be processed by the registrar's office and validated by the business office prior to the deadline indicated in the College academic calendar. Students who do not officially *withdraw* from a course will receive an "F."

Change of Program

If the adviser feels that a student is not making satisfactory progress or has reason to doubt the validity of the program placement of the student, the adviser, with approval of the department chairman, may refer the student to the Counseling Center for a change in program.

If a student wishes to change from one instructional program to another, the adviser will refer the student to a counselor. The counselor will then work with the student to secure a program change within the program placement policies of the College.

Re-entry Into Program

When a student wishes to be considered for re-entry into an instructional program, these procedures will be followed:

1. The student should confer with a counselor in the Counseling Center.
2. The counselor may recommend to the appropriate department chairman that the student be permitted to re-enter the program. Such recommendation should be based upon the student's demonstration that remedial action has been taken which would prevent a repeat of earlier failure to succeed in the program.
3. The department chairman will have responsibility for approving a student's re-entry into a program within the department.

Courses Repeated for Credit

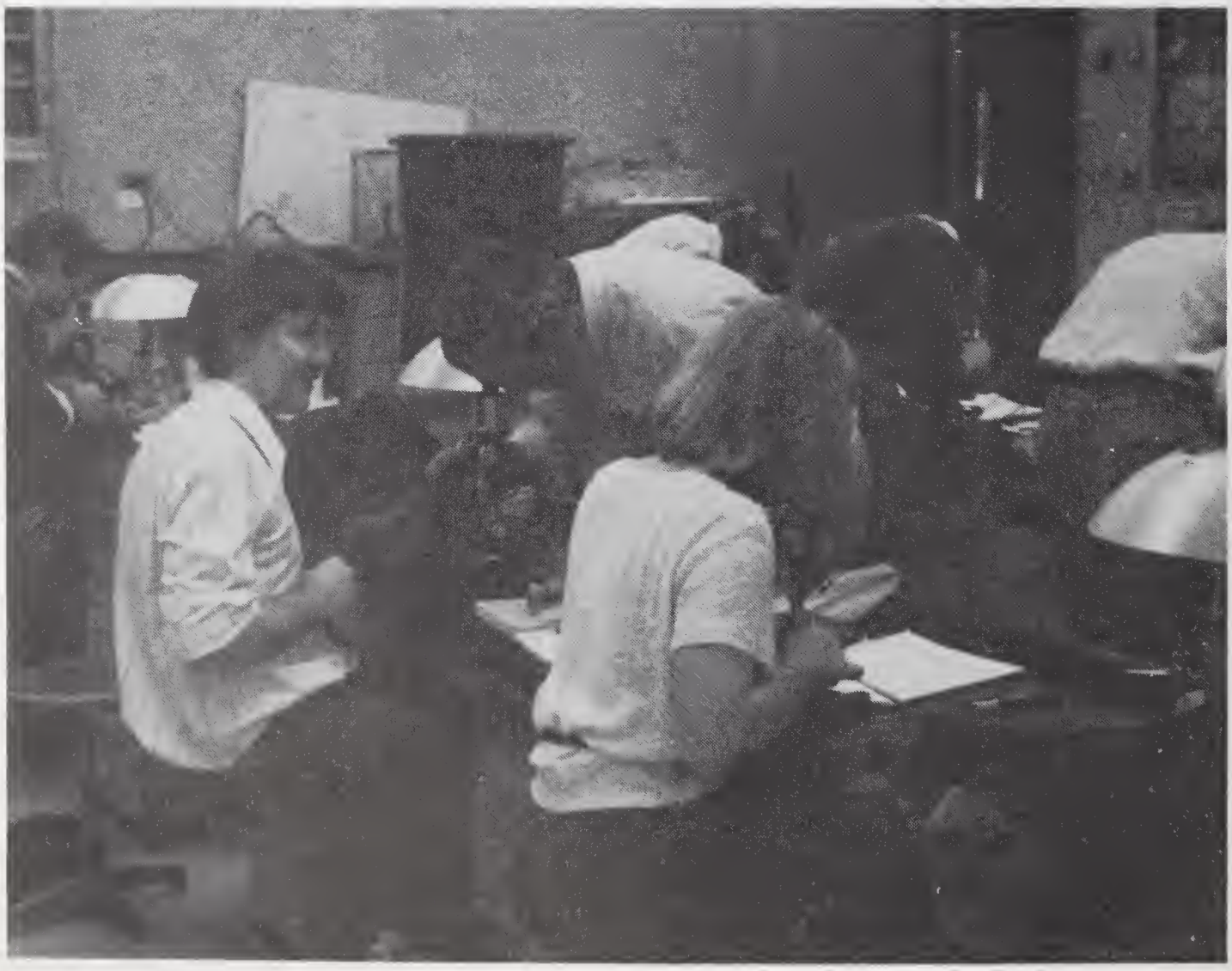
When a course is repeated, only the higher grade will be counted in determining the hours earned and the grade point average.

Dean's List

A student is placed on the Dean's List by achieving a 3.3 grade point average on twelve or more quarter hours of work. The student can have no grade below a "C" on any course taken. The grade point average is computed on all work attempted. The Dean's List will be published following the report of quarterly grades.

Honor Graduates

A student may achieve honor graduate recognition during graduation exercises by maintaining a 3.5 grade point average on all work attempted while enrolled at Sandhills Community College.



COLLEGE TRANSFER PROGRAMS

GENERAL INFORMATION

The college transfer programs offered at Sandhills Community College lead to the following degrees: Associate in Arts, Associate in Fine Arts, and Associate in Science. After earning these degrees, students may transfer academic credits earned at Sandhills to four-year colleges and universities and continue work toward baccalaureate degrees. Academic advisers work closely with college transfer students in course selection. It is the responsibility of students, however, to become acquainted with particular baccalaureate program requirements at senior institutions to which they intend to transfer.

An Associate in General Education degree is awarded to students who complete the two-year general education program. This program is designed primarily to meet the educational needs of students who desire only two years of college-level work.

ASSOCIATE DEGREE REQUIREMENTS

The requirements for an associate degree are as follows:

1. Completion of at least 96 quarter hours of credit, including all requirements applicable to a particular degree program. (See below)
2. Completion of 24 quarter hours of credit at Sandhills.
3. In residence at Sandhills Community College on a full-time basis for two quarters immediately prior to graduation. (NOTE: In some cases, students who leave Sandhills Community College with less than 96 hours may enroll in another institution and have appropriate credits earned there applied to a Sandhills Community College degree. This exception would be allowed only if the hours to be taken at the other institution and applied to a Sandhills degree did not exceed 12.)

Requirements for the Associate in Arts Degree

The Associate in Arts degree is recommended for students who plan to transfer to senior colleges and universities to pursue programs of study in business administration, business education, education, law, liberal arts, or any other areas leading to the Bachelor of Arts degree.

Associate in Arts degree candidates must complete the following requirements:

Courses	Quarter Hours
English	15
(ENG 110, 111, and 112 and two of the following: ENG 205, 206, 207, 208, 209, 210, 214, 215, 216, 217, 222, and 223)	(9) (6)
Mathematics	5
(MAT 103 Basic Concepts of Mathematics I or MAT 110 College Algebra or MAT 110A or higher level mathematics course)	(5)
History	10
(HIS 110 and 111 or HIS 151 and 152)	
Science	12
(A 3-quarter laboratory science course sequence in biology, chemistry, or physics.)	
Physical Education (Activity Courses)	3
(Not required for physically disabled students.)	
Behavioral Sciences	5
(To be selected from the following: psychology, sociology, economics, or political science. See "Course Descriptions.")	
***Humanities**	13
(To be selected from the following: art appreciation, drama, foreign languages, history, literature, motion picture appreciation, music appreciation, music history, philosophy, religion, and speech. See "Course Descriptions.")	
Electives	33
(To be selected from the following: humanities, mathematics, drama, speech, reading, science, behavioral sciences, physical education, ceramics, studio arts, music, photography, and other courses designated in the section on "Course Descriptions." The same course cannot satisfy both the specific disciplinary and the general elective requirements.)	
Total Requirements in Quarter Hours	96

* Students who plan to transfer to a senior institution should determine the humanities and foreign language requirements of the institution they plan to attend. Although Sandhills does not have a foreign language requirement, many institutions require between 10 and 25 quarter hours on the freshman and sophomore levels.

Requirements for the Associate in Fine Arts Degree

The Associate in Fine Arts degree is offered for those students who plan to transfer to senior institutions (1) to pursue programs in art that lead to the degrees of Bachelor of Fine Arts, Bachelor of Arts, or Bachelor of Science in Art Education or (2) to pursue programs in music that lead to the degrees of Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Music, Bachelor of Music Education, or Bachelor of Science in Music Education.

Associate in Fine Arts degree candidates must complete the following requirements:

Courses	Quarter Hours
English (ENG 110, 111, and 112)	9
***Humanities** (To be selected from the following: art appreciation, drama, foreign languages, history, literature, motion picture appreciation, music appreciation, music history, philosophy, religion, and speech. See "Course Descriptions.")	12
Mathematics or Science	8
Social Studies (To be selected from the following disciplines: economics, history, political science, psychology, and sociology. See "Course Descriptions.")	10
Physical Education (Activity Courses) (Not required for physically disabled students.)	3
Electives (The same course cannot satisfy both the specific disciplinary and the general elective requirements.)	3-18
Professional Program Courses (Requirements for the art and music programs differ. Course planning is essential to determine which courses are necessary to complete either program. Students must consult their adviser before undertaking any professional program courses.)	36-51
Total Requirements in Quarter Hours	96

* Students who plan to transfer to a senior institution should determine the humanities and foreign language requirements of the institution they plan to attend. Although Sandhills does not have a foreign language requirement, many institutions require between 10 and 25 quarter hours on the freshman and sophomore levels.

ASSOCIATE IN FINE ARTS DEGREE WITH A CONCENTRATION IN STUDIO ARTS OR CERAMIC DESIGN

The Associate in Fine Arts degree program is expressly designed to permit students of art to devote a greater portion of their academic studies to a field of specialization and, at the same time, to provide a wide range of electives that are related to their field.

The Studio Arts program includes courses in color and design, drawing, painting, and composition. The Ceramic Design program includes six studio courses in ceramics that cover forming techniques, firing, and glaze formulation, as well as additional elective studio arts courses. Each concentration is intended to develop a basic understanding of the elements of visual expression (color, line, texture, form, and harmony) and their application to various media.

PROFESSIONAL COURSE REQUIREMENTS FOR THE ASSOCIATE IN FINE ARTS DEGREE WITH A CONCENTRATION IN STUDIO ARTS

	Quarter Hours Credit
ART 101/Art Appreciation	5
ART 121, 122, 123/Color and Design I, II, III	12
ART 131, 132, 133/Drawing and Composition I, II, III	9
ART 155, 156, 157/Painting I, II, III	9
(ART 151, Watercolor, may be substituted for Painting III)	
ART 171, 172/Ceramic Design I, II	8
	43

PROFESSIONAL COURSE REQUIREMENTS FOR THE ASSOCIATE IN FINE ARTS DEGREE WITH A CONCENTRATION IN CERAMIC DESIGN

ART 101/Art Appreciation	5
ART 171, 172, 173, 271, 272, 273/Ceramic Design I-VI	24
ART 121/Color and Design I	4
ART 131/Drawing and Composition I	3
ART 155/Painting I or ART 151/Watercolor	3
ART Elective (including PHO 110 and 111)	4
	43

ASSOCIATE IN FINE ARTS DEGREE WITH A CONCENTRATION IN MUSIC

Students wishing to pursue a degree program with a major in music at a senior institution may do so by completing the Associate in Fine Arts degree. This degree is expressly designed to permit students of music to devote a greater portion of their academic studies to a field of specialization.

Music students may study any band or orchestra instrument as well as piano, voice, or organ. They will have an opportunity to perform in vocal and instrumental ensembles, choirs, concert band, jazz band, and orchestra.

An interview by and audition for the music faculty are required of all freshmen and transfer students. Placement tests in music theory will be given to determine the level at which study will begin. Preparatory work to remove deficiencies in music will be required of all students unable to meet entrance requirements in theory and primary instrument. This work will not apply toward the Associate in Fine Arts degree.

Prospective music majors are required to have a primary and secondary instrument which may be chosen from the following: keyboard, voice, strings, woodwinds, brass, or percussion. The choice of a secondary instrument should be piano unless keyboard proficiency can be demonstrated. Other secondary instruments may be elected concurrently with the study of keyboard or following a demonstration of piano proficiency.

ASSOCIATE IN FINE ARTS DEGREE WITH A CONCENTRATION IN MUSIC

First Year

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
MUS	111	Music Theory I	3	4	5
MUS	140-149	Primary Performance	1	2	2
MUS	120-129, and/or	Secondary Performance	0	2	1
MUS	130-139				
ENG	110	English Composition I	2	3	3
—	—	Elective (Math/Science)	5	0	5
PED	—	(Activity Course)	0	2	1
			11	13	17

SECOND QUARTER (Winter)					
MUS	112	Music Theory II	3	4	5
MUS	140-149	Primary Performance	1	2	2
MUS	104,108 109,110 208	Ensemble Performance	0	2	1
ENG	111	English Composition II	2	3	3
—	—	Elective (Social Studies)	5	0	5
PED	—	(Activity Course)	0	2	1
			11	13	17
THIRD QUARTER (Spring)					
MUS	113	Music Theory III	3	4	5
MUS	140-149	Primary Performance	1	2	2
MUS	104,108 109,110 208	Ensemble Performance	0	2	1
ENG	112	English Composition III	2	3	3
—	—	Elective (Social Studies)	5	0	5
PED	—	(Activity Course)	0	2	1
			11	13	17

Second Year

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FOURTH QUARTER (Fall)					
MUS	211	Music Theory IV	3	4	5
MUS	240-249	Primary Performance	1	2	2
MUS	201	Survey of Music History and Lit. I	1	2	2
—	—	Elective (Math/Science)	3	0	3
—	—	Elective (Humanities)	2	0	2
			10	8	14
FIFTH QUARTER (Winter)					
MUS	212	Music Theory V	3	4	5
MUS	240-249	Primary Performance	1	2	2
MUS	202	Survey of Music History and Lit. II	1	2	2
—	—	Elective	3	0	3
—	—	Elective (Humanities)	5	0	5
			13	8	17
SIXTH QUARTER (Spring)					
MUS	213	Music Theory VI	3	4	5
MUS	240-249	Primary Performance	1	2	2
MUS	203	Survey of Music History and Lit. III	1	2	2
—	—	Elective (Humanities)	5	0	5
			10	8	14

Total Required Minimum Quarter Hours: 96

Requirements for the Associate in Science Degree

The Associate in Science degree is recommended for students who plan to transfer to senior colleges and universities to pursue programs of study in agriculture, dentistry, engineering, forestry, mathematics, medicine, pharmacy, science, textiles, or other areas leading to a Bachelor of Science Degree.

Candidates for the Associate in Science degree must complete the following requirements:

Courses	Quarter Hours
English (ENG 110, 111, and 112)	9
Mathematics and Science	44
Math (Math 110 or Math 110A and Math 120 or higher level courses)	(20)
Science (laboratory)	(24)
Behavioral Sciences (To be selected from the following: economics, political science, psychology, and sociology. See "Course Descriptions.")	9
***Humanities** (To be selected from the following: art appreciation, drama, foreign languages, history, literature, motion picture appreciation, music appreciation, music history, philosophy, religion, and speech. See "Course Descriptions.")	6
Physical Education (Activity Courses) (Not required for physically disabled students.)	3
Total General Requirements	71
Electives (To be selected from the following: humanities, mathematics, drama, speech, reading, science, behavioral sciences, physical education, ceramics, studio arts, music, photography, and other courses designated in the section on "Course Descriptions." The same course cannot satisfy both the specific disciplinary and the general elective requirements.)	25
Total Requirements in Quarter Hours	96

* Students who plan to transfer to a senior institution should determine the humanities and foreign language requirements of the institution they plan to attend. Although Sandhills does not have a foreign language requirement, many institutions require between 10 and 25 quarter hours on the freshman and sophomore levels.

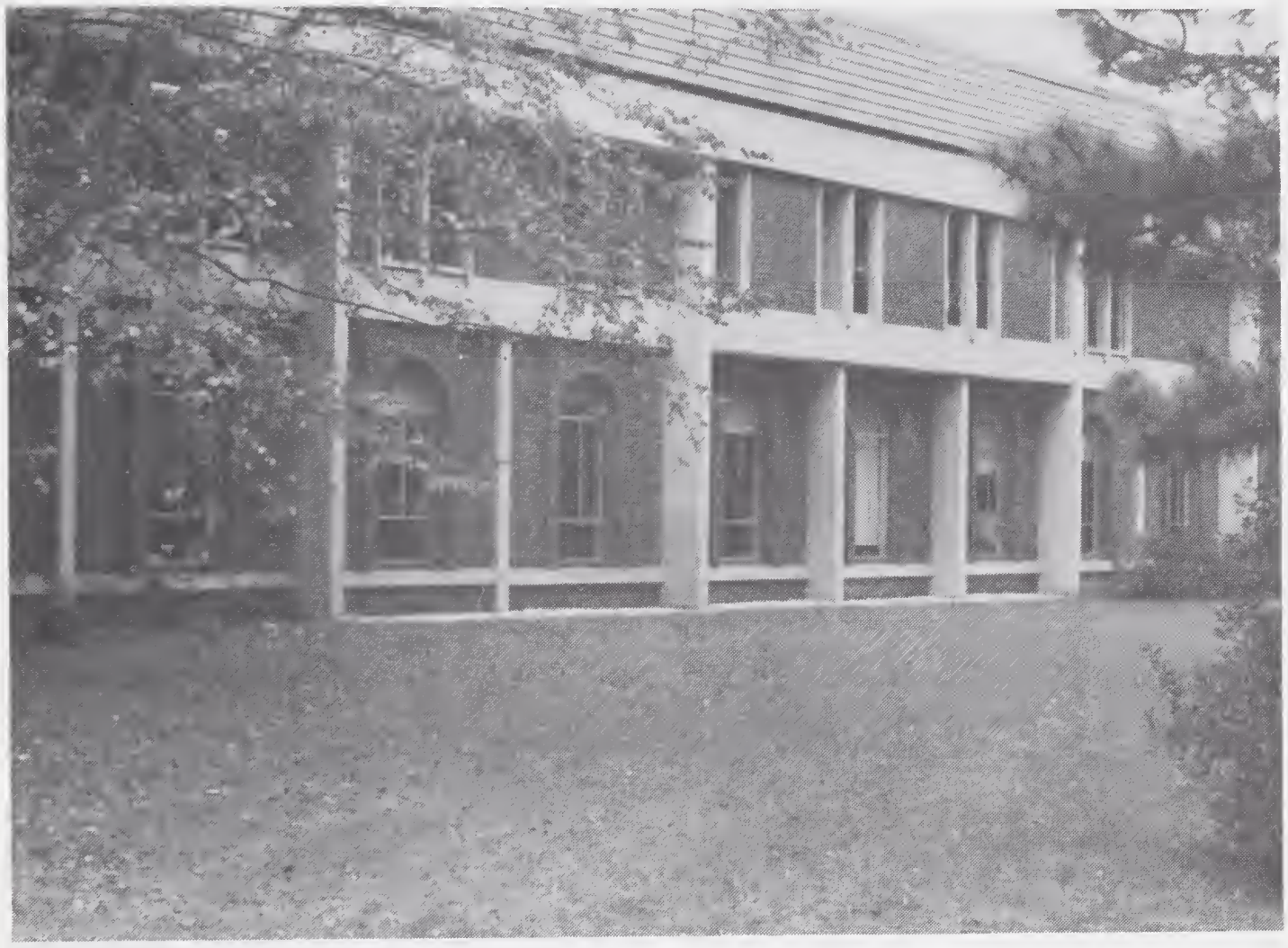
Requirements for the Associate in General Education Degree

The Associate in General Education degree is primarily designed for those students who desire only two years of college-level study and to meet the needs of students who wish to have more freedom of choice in a college degree program. Students who decide to continue their studies at a senior institution may receive transfer credit for many of the courses taken at Sandhills. The acceptance of any particular course for transfer credit is decided by the institution to which admission is sought.

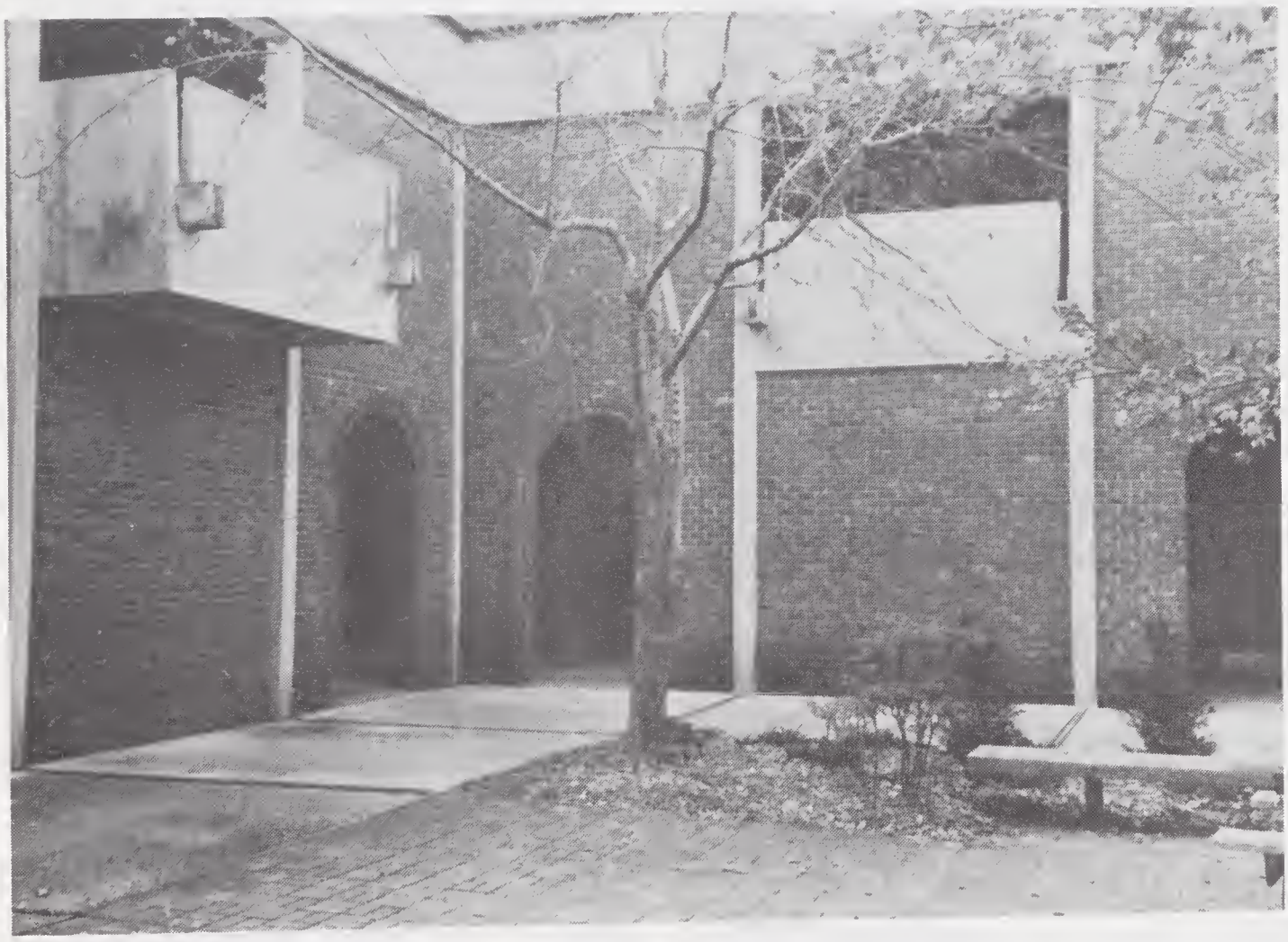
The Associate in General Education degree requires a minimum of 96 quarter hours. Courses for the Associate in General Education degree must include nine quarter hours in English composition and three quarter hours from each of the other disciplinary areas listed below. Beyond these basic requirements, the student may elect curriculum courses acceptable for all other degrees offered by the college.

Students who have received or are candidates to receive other associate degrees are not eligible to be awarded an Associate in General Education degree.

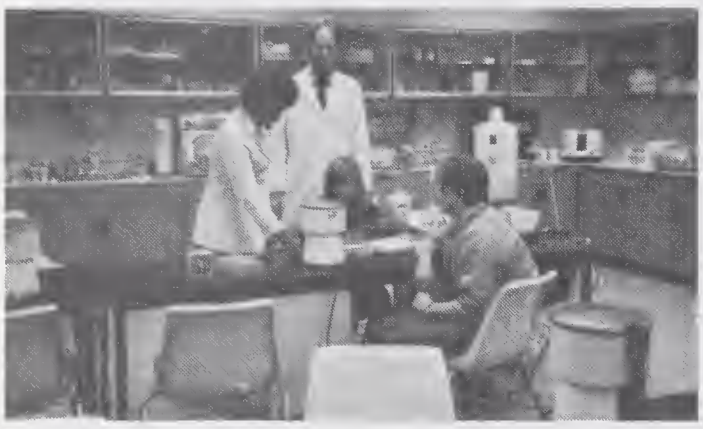
Disciplinary Areas	Quarter Hours
English Composition (ENG 110, 111, and 112)	9
Behavioral Sciences (To be selected from the following: economics, political science, psychology, and sociology. See "Course Descriptions.")	3
Humanities (To be selected from the following: art, drama, foreign languages, history, English, music, philosophy, religion, and speech. See "Course Descriptions.")	3
Science or Mathematics	3
Electives (The same course cannot satisfy both the specific disciplinary and the general elective requirements.)	78
Total Requirements in Quarter Hours	96



Meyer Hall



Courtyard of Meyer Hall



TECHNICAL PROGRAMS

The acceleration of technological developments has necessitated the creation of many new technical programs at the College. These programs provide the training necessary to enter increasingly complex and sophisticated jobs in business, industry, health, and public service. The technicians and/or paraprofessional workers who graduate from these programs assume key roles in today's modern technological society.

The technical programs are designed to provide a solid foundation in general education and in the specialized knowledge and skills needed for employment after graduation. Students are awarded an Associate in Applied Science degree upon completion of one of the two-year technical programs listed below.

Certain technical programs offer transferable relationships with four-year institutions. Technical students are encouraged to consult program coordinators and instructors regarding degree transferability.

PROGRAMS OF STUDY

Page

Department of Behavioral Sciences
Human Services Technology 47
Department of Business and Economics
Accounting 48
Business Administration 50
Business Computer Programming 51
General Office 53
Secretarial - Executive 56
Department of Engineering Technologies
Architectural Technology 58
Civil Engineering Technology 60
Computer Engineering Applications Technology 62
Surveying Technology 64
Department of Health Sciences
Associate Degree Nursing 65
Medical Laboratory Technology 67
Radiologic Technology 69
Respiratory Therapy Technology 71
Department of Science
Landscape Gardening 73

Requirements for the Associate in Applied Science Degree

Candidates for the Associate in Applied Science degree must complete at least 96 quarter hours of course work. Also, a minimum of 45 quarter hours of course credit, including the last 15 quarter hours, must be completed at Sandhills.

Descriptions of technical programs and specific courses required for the Associate in Applied Science degree in each technical program are listed on the following pages. Each technical program of study must meet the general education course requirements listed below:

Courses	Quarter Hours
English	9
Behavioral Sciences (To be selected from the following: psychology, sociology, economics, or political science. See "Course Descriptions.")	5
Humanities (To be selected from the following: art appreciation, drama, foreign languages, history, literature, motion picture appreciation, music appreciation, music history, philosophy, religion, and speech. See "Course Descriptions.")	5
Electives (To be selected from the following: humanities, English, mathematics, drama, speech, reading, science, behavioral sciences, business, physical education, engineering, photography, ceramics, studio arts, music, and other general interest or specialty courses listed in the section on "Course Descriptions" for which the student can meet the prerequisites. The same course cannot satisfy both the specific disciplinary and the general elective requirements.)	5

DESCRIPTIONS OF TECHNICAL PROGRAMS

DEPARTMENT OF BEHAVIORAL SCIENCES

HUMAN SERVICES TECHNOLOGY

The Human Services Technology curriculum is designed to prepare graduates for entry into a variety of positions in institutions and agencies which provide social, community and educational services. Along with the human services courses, the curriculum provides for electives that allow the student to specialize in a specific work interest area. During the last five quarters, emphasis is placed on the development of relevant knowledge and skills pertinent to the chosen area. Internships in one or more areas of human services are included in the final phases of the curriculum.

Graduates may find employment in child care agencies, family services agencies, hospitals, mental health centers, public welfare departments, schools and rehabilitation agencies.

Individuals desiring a career in human services technology should, if possible, take biology, psychology and sociology courses prior to entering the program.

HUMAN SERVICES TECHNOLOGY (T-136)

First Year

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
HST	100	Intro. to Human Services Tech.	4	3	5
HST	101	Social & Group Processes I	2	3	3
PSY	201	Principles of Psychology	5	0	5
SOC	201	Principles of Sociology	5	0	5
—	—	Elective (Learning Skills)*	3	0	3
			19	6	21
SECOND QUARTER (Winter)					
ENG	110	English Composition I	2	3	3
HST	102	Social & Group Processes II	2	3	3
PSY	202	Developmental Psychology	5	0	5
PSY	203	Behavior Disorders I	3	0	3
SOC	213	Social Agency Interviewing	3	3	4
			15	9	18

* Includes Study Skills, Reading, Listening, etc. RDG 100 required if reading placement test score is not satisfactory.

THIRD QUARTER (Spring)					
ENG	111	English Composition II	2	3	3
HST	103	Social & Group Processes III	2	3	3
PSY	204	Behavior Disorders II	3	3	4
PSY	209	Intro. to Study of Exceptional Children	4	3	5
SOC	203	Social Problems	5	0	5
			16	12	20
FOURTH QUARTER (Summer)					
SOC	110	Life and Career Planning	2	2	3
SOC	204	Community Organization, Conflict & Change	4	3	5
SOC	212	Sociology of the Family	5	0	5
			11	5	13

Second Year

FIFTH QUARTER (Fall)					
HST	251	Field Placement I	0	3	1
PSY	206	Intro. to Personality	4	3	5
PSY	210	Intro. to Counseling	3	3	4
SPH	101	Principles of Speech	5	0	5
—	—	Elective (Humanities)	5	0	5
			17	9	20
SIXTH QUARTER (Winter)					
HST	207	Area of Specialization	1	6	3
HST	252	Field Placement II	0	3	1
PSY	207	Intro. to Psychological Testing	4	3	5
PSY	212	Behavior Modification	2	3	3
—	—	Elective	5	0	5
			12	15	17
SEVENTH QUARTER (Spring)					
HST	205	Internship in Human Services Tech.	0	30	3
HST	208	Internship Seminar	3	0	3
			3	30	6

Total Required Minimum Quarter Hours: 115

DEPARTMENT OF BUSINESS AND ECONOMICS

The Department of Business and Economics is committed to excellence in education. It welcomes serious students and offers day and evening programs in Accounting, Business Administration, Business Computer Programming, General Office, and Secretarial - Executive, which culminate in the Associate in Applied Science degree.

ACCOUNTING

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

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

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

The curriculum has been designed for students who wish to attend college in the day or evening. A schedule of classes is published prior to each quarter announcing times and places of class meetings.

ACCOUNTING (T-016)

First Year

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
BUS	101	Introduction to Business	5	0	5
BUS	130	Business Mathematics	5	0	5
BUS	131	Principles of Accounting I	5	0	5
ENG	110	English Composition I	2	3	3
			17	3	18
SECOND QUARTER (Winter)					
BUS	115	Business Law I	5	0	5
BUS	132	Principles of Accounting II	5	0	5
ENG	111	English Composition II	2	3	3
—	—	Elective (Behavioral Science)	5	0	5
—	—	Elective	5	0	5
			22	3	23
THIRD QUARTER (Spring)					
BUS	102	Keyboarding I	3	2	4
BUS	116	Business Law II	5	0	5
BUS	133	Principles of Accounting III	5	0	5
SPH	101	Principles of Speech	5	0	5
			18	2	19

Second Year

FOURTH QUARTER (Fall)					
BUS	222	Intermediate Accounting I	5	0	5
BUS	229	Taxes	5	0	5
ECO	220	Introduction to Macroeconomics	5	0	5
—	—	Elective (Humanities)	5	0	5
			20	0	20
FIFTH QUARTER (Winter)					
BUS	220	Business Communication	5	0	5
BUS	223	Intermediate Accounting II	5	0	5
BUS	225	Cost Accounting	5	0	5
BUS	235	Principles of Management	5	0	5
			20	0	20

SIXTH QUARTER (Spring)					
BUS	230	Microcomputer Accounting	3	2	4
BUS	249	Fund Accounting (Governmental)	5	0	5
BUS	269	Auditing	5	0	5
ECO	230	Economics of Money and Banking	5	0	5
			18	2	19

Total Required Minimum Quarter Hours: 119

BUSINESS ADMINISTRATION

The Business Administration curriculum is designed to prepare an individual for entry into middle-management occupations in various businesses and industries. The curriculum provides an overview of the business and industrial world - its organization and management.

The purpose of the curriculum will be fulfilled through courses designed to develop competency in: (1) understanding the principles of organization and management in business operations (2) utilizing modern techniques to make decisions (3) understanding the economy through study and analysis of the role of production and marketing (4) communicating orally and in writing, and (5) interpersonal relationships.

Through these skills and through development of personal competencies and qualities, the individual will be able to function effectively in middle-management activities in business or industry.

The curriculum has been designed for students who wish to attend college in the day or evening. A schedule of classes is published prior to each quarter announcing times and places of class meetings.

BUSINESS ADMINISTRATION (T-018)

First Year

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
BUS	101	Introduction to Business	5	0	5
BUS	130	Business Mathematics	5	0	5
BUS	131	Principles of Accounting I	5	0	5
ENG	110	English Composition I	2	3	3
			17	3	18
SECOND QUARTER (Winter)					
BUS	102	Keyboarding I	3	2	4
BUS	115	Business Law I	5	0	5
BUS	132	Principles of Accounting II	5	0	5
BUS	244	Personal Money Management	3	0	3
ENG	111	English Composition II	2	3	3
			18	5	20

THIRD QUARTER (Spring)

BUS	116	Business Law II	5	0	5
BUS	133	Principles of Accounting III	5	0	5
EDP	147	Introduction to Computer Concepts	3	0	3
SPH	101	Principles of Speech	5	0	5
—	—	Elective	5	0	5
			23	0	23

Second Year

FOURTH QUARTER (Fall)

BUS	220	Business Communication	5	0	5
BUS	229	Taxes	5	0	5
ECO	210	Introduction to Microeconomics	5	0	5
—	—	Elective (Humanities)	5	0	5
			20	0	20

FIFTH QUARTER (Winter)

BUS	230	Microcomputer Accounting	3	2	4
BUS	235	Principles of Management	5	0	5
BUS	256	Personnel Administration	5	0	5
ECO	220	Introduction to Macroeconomics	5	0	5
			18	2	19

SIXTH QUARTER (Spring)

BUS	239	Marketing	5	0	5
BUS	255	Management & Organizational Behavior	5	0	5
ECO	230	Economics of Money and Banking	5	0	5
—	—	Elective (Behavioral Science)	3	0	3
			18	0	18

Total Required Minimum Quarter Hours: 118

BUSINESS COMPUTER PROGRAMMING

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

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

The curriculum has been designed for students who wish to attend college in the day or evening. A schedule of classes is published prior to each quarter announcing times and places of class meetings.

BUSINESS COMPUTER PROGRAMMING (T-022)

First Year

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
BUS	101	Introduction to Business	5	0	5
BUS	102	Keyboarding I	3	2	4
EDP	147	Introduction to Computer Concepts	3	0	3
EDP	148	Introduction to Computer Programming	3	0	3
ENG	110	English Composition I	2	3	3
			16	5	18
SECOND QUARTER (Winter)					
BUS	131	Principles of Accounting I	5	0	5
EDP	100	Microcomputers in Business	1	2	2
EDP	149	Compiler Language - COBOL I	3	2	4
ENG	111	English Composition II	2	3	3
MAT	130	Finite Mathematics	5	0	5
			16	7	19
THIRD QUARTER (Spring)					
BUS	132	Principles of Accounting II	5	0	5
EDP	151	Compiler Language - COBOL II	3	2	4
EDP	153	BASIC Language	3	2	4
ENG	113	Technical Writing	3	0	3
—	—	Elective (Technical)	3	2	4
			17	6	20
FOURTH QUARTER (Summer)					
EDP	280	Compiler Language - COBOL III	3	2	4
EDP	283	Systems Analysis & Design I	3	2	4
			6	4	8

Second Year

FIFTH QUARTER (Fall)					
BUS	133	Principles of Accounting III	5	0	5
BUS	220	Business Communication	5	0	5
EDP	284	Systems Analysis & Design II	3	2	4
—	—	Elective (Technical)	3	2	4
			16	4	18
SIXTH QUARTER (Winter)					
ECO	210	Introduction to Microeconomics			
		or	5	0	5
ECO	220	Introduction to Macroeconomics			
EDP	260	Advanced BASIC	3	2	4
—	—	Elective (Humanities)	5	0	5
—	—	Elective (Technical)	3	2	4
			16	4	18
SEVENTH QUARTER (Spring)					
EDP	288	Business Systems Applications	1	6	3
—	—	Elective (Behavioral Science)	5	0	5
—	—	Elective (Technical)	3	2	4
—	—	Elective	5	0	5
			14	8	17

Technical Electives

Technical Electives will be chosen from the following courses:

			Quarter Hours Credit
EDP	105	Classroom Management with Microcomputers	2
EDP	130	Microcomputer Business Applications	3
EDP	150	Principles of Operating Systems	4
EDP	152	Compiler Language - RPG II-I	4
EDP	155	Microcomputer Operating Systems	4
EDP	270	Data Management	4
EDP	275	Data Management for Microcomputers	4
EDP	277	Building Business Models	4
EDP	279	Integrated Software in Business	4
EDP	281	Compiler Language - RPG II-II	4
EDP	285	Computer Operations	4
EDP	290	Advanced Data Management	2

Total Required Minimum Quarter Hours: 118

GENERAL OFFICE

The purposes of the General Office curriculum are to: (1) prepare the individual to enter clerical-office occupations (2) provide an educational program for individuals wanting education for upgrading (moving from one position to another) or retraining (moving from a present position to a clerical position), and (3) provide an opportunity for individuals wanting to fulfill professional or general interest needs.

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

The curriculum has been designed for students who wish to attend college in the day or evening. A schedule of classes is published prior to each quarter announcing times and places of class meetings.

GENERAL OFFICE (T-033)

First Year

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
BUS	101	Introduction to Business	5	0	5
BUS	102	Keyboarding I	3	2	4
BUS	130	Business Mathematics	5	0	5
ENG	110	English Composition I	2	3	3
			15	5	17

SECOND QUARTER (Winter)

BUS	103	Keyboarding II	3	2	4
BUS	115	Business Law I	5	0	5
BUS	131	Principles of Accounting I	5	0	5
—	—	Elective (Business Related)	5	0	5
			18	2	19

THIRD QUARTER (Spring)

BUS	104	Keyboarding III	3	2	4
BUS	120	Personal Development	3	0	3
BUS	132	Principles of Accounting II	5	0	5
ENG	111	English Composition II	2	3	3
—	—	Elective (Business Related)	3	0	3
			16	5	18

Second Year

FOURTH QUARTER (Fall)

BUS	112	Filing	3	0	3
BUS	204	Advanced Keyboarding	1	4	3
BUS	273	Intro. to Word Processing	2	3	3
SPH	101	Principles of Speech	5	0	5
—	—	Elective	5	0	5
			16	7	19

FIFTH QUARTER (Winter)

BUS	211	Machine Transcription	3	2	4
BUS	235	Principles of Management	5	0	5
BUS	274	Word Processing Applications	2	3	3
ECO	210	Introduction to Microeconomics			
		or	5	0	5
ECO	220	Introduction to Macroeconomics			
			15	5	17

SIXTH QUARTER (Spring)

BUS	213	Office Procedures	5	0	5
BUS	220	Business Communication	5	0	5
—	—	Elective (Behavioral Science)	5	0	5
—	—	Elective (Humanities)	5	0	5
			20	0	20

Business Related Electives

Business Related Electives will be chosen from the following courses:

			Quarter Hours Credit
BUS	106	Shorthand I	5
BUS	110	Office Machines	3
BUS	116	Business Law II	5
BUS	133	Principles of Accounting III	5
BUS	232	Sales Development	3
BUS	233	Insurance	3
BUS	239	Marketing	5
BUS	243	Advertising	3
BUS	244	Personal Money Management	3
BUS	255	Management and Organizational Behavior	5
BUS	256	Personnel Administration	5

Total Required Minimum Quarter Hours: 110

GENERAL OFFICE (TECHNICAL SPECIALTY) (T-165)

The General Office (Technical Specialty) curriculum is designed for the individual entering, upgrading or retraining in the office occupations relating to general and clerical duties. Special emphasis is on typing and basic office duties and responsibilities.

Through study in areas such as typewriting, oral and written communication, basic accounting, business machines and word processing, the individual will be able to function effectively as an office clerk, machine operator, typist or receptionist.

The curriculum has been designed for students who wish to attend college in the day or evening. A schedule of classes is published prior to each quarter announcing times and places of class meetings.

GENERAL OFFICE (TECHNICAL SPECIALTY) (T-165)

(One-Year Program)

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
BUS	102	Keyboarding I	3	2	4
BUS	112	Filing	3	0	3
BUS	130	Business Mathematics	5	0	5
—	—	Elective (Business Related)	5	0	5
			16	2	17
SECOND QUARTER (Winter)					
BUS	103	Keyboarding II	3	2	4
BUS	131	Principles of Accounting I	5	0	5
ENG	110	English Composition I	2	3	3
SPH	101	Principles of Speech	5	0	5
—	—	Elective (Business Related)	3	0	3
			18	5	20
THIRD QUARTER (Spring)					
BUS	104	Keyboarding III	3	2	4
BUS	120	Personal Development	3	0	3
BUS	220	Business Communication	5	0	5
BUS	273	Intro. to Word Processing	2	3	3
—	—	Elective (General Education)	3	0	3
			16	5	18
FOURTH QUARTER (Summer)					
BUS	204	Advanced Keyboarding	1	4	3
BUS	211	Machine Transcription	3	2	4
BUS	213	Office Procedures	5	0	5
BUS	274	Word Processing Applications	2	3	3
			11	9	15

Business Related Electives

Business Related Electives will be chosen from the following courses:

			Quarter Hours Credit
BUS	101	Introduction to Business	5
BUS	106	Shorthand I	5
BUS	110	Office Machines	3
BUS	115	Business Law I	5
BUS	132	Principles of Accounting II	5
BUS	232	Sales Development	3
BUS	233	Insurance	3
BUS	243	Advertising	3
BUS	244	Personal Money Management	3

Total Required Minimum Quarter Hours: 70

SECRETARIAL - EXECUTIVE

The purposes of the Secretarial - Executive curriculum are to: (1) prepare the individual to enter the secretarial profession (2) provide an educational program for individuals wanting education for upgrading (moving from one secretarial position to another) or retraining (moving from present position to secretarial position), and (3) provide an opportunity for individuals wanting to fulfill professional or general interest needs.

These purposes will be fulfilled through skill development in the areas of typewriting, shorthand, transcription and business machines. Through these skills the individual will be able to perform office-related activities and through the development of personal competencies and qualities will be provided the opportunity to enter the secretarial profession.

The curriculum has been designed for students who wish to attend college in the day or evening. A schedule of classes is published prior to each quarter announcing times and places of class meetings.

SECRETARIAL - EXECUTIVE (T-030)

First Year

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
BUS	101	Introduction to Business	5	0	5
BUS	102	Keyboarding I	3	2	4
BUS	130	Business Mathematics	5	0	5
ENG	110	English Composition I	2	3	3
			15	5	17

SECOND QUARTER (Winter)

BUS	103	Keyboarding II	3	2	4
BUS	106	Shorthand I	5	0	5
ENG	111	English Composition II	2	3	3
—	—	Elective (Humanities)	5	0	5
—	—	Elective	5	0	5
			20	5	22

THIRD QUARTER (Spring)

BUS	104	Keyboarding III	3	2	4
BUS	107	Shorthand II	5	0	5
BUS	110	Office Machines	1	4	3
BUS	120	Personal Development	3	0	3
BUS	131	Principles of Accounting I	5	0	5
			17	6	20

Second Year

FOURTH QUARTER (Fall)

BUS	108	Shorthand III	5	0	5
BUS	112	Filing	3	0	3
BUS	204	Advanced Keyboarding	1	4	3
BUS	273	Intro. to Word Processing	2	3	3
ECO	210	Introduction to Microeconomics			
		or	5	0	5
ECO	220	Introduction to Macroeconomics			
			16	7	19

FIFTH QUARTER (Winter)

BUS	206	Dictation and Transcription I	3	2	4
BUS	211	Machine Transcription	3	2	4
BUS	235	Principles of Management	5	0	5
BUS	274	Word Processing Applications	2	3	3
—	—	Elective (Behavioral Science)	3	0	3
			16	7	19

SIXTH QUARTER (Spring)

BUS	213	Office Procedures	5	0	5
BUS	220	Business Communication	5	0	5
SPH	101	Principles of Speech	5	0	5
—	—	Elective (Business Related)	5	0	5
			20	0	20

Business Related Electives

Business Related Electives will be chosen from the following courses:

BUS	115	Business Law I	5
BUS	132	Principles of Accounting II	5
BUS	239	Marketing	5
BUS	255	Management and Organizational Behavior	5
BUS	256	Personnel Administration	5

Total Required Minimum Quarter Hours: 117

SECRETARIAL - EXECUTIVE (T-030)

(ONE-YEAR PROGRAM)

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
BUS	102	Keyboarding I	3	2	4
BUS	112	Filing	3	0	3
BUS	130	Business Mathematics	5	0	5
BUS	131	Principles of Accounting I	5	0	5
ENG	110	English Composition I	2	3	3
			18	5	20
SECOND QUARTER (Winter)					
BUS	103	Keyboarding II	3	2	4
BUS	106	Shorthand I	5	0	5
BUS	220	Business Communication	5	0	5
SPH	101	Principles of Speech	5	0	5
			18	2	19
THIRD QUARTER (Spring)					
BUS	104	Keyboarding III	3	2	4
BUS	107	Shorthand II	5	0	5
BUS	213	Office Procedures	5	0	5
BUS	273	Introduction to Word Processing	2	3	3
			15	5	17
FOURTH QUARTER (Summer)					
BUS	108	Shorthand III	5	0	5
BUS	204	Advanced Keyboarding	1	4	3
BUS	211	Machine Transcription	3	2	4
BUS	274	Word Processing Applications	2	3	3
—	—	Elective (General Education)	1	0	1
			12	9	16

Total Required Minimum Quarter Hours: 72

DEPARTMENT OF ENGINEERING TECHNOLOGIES

ARCHITECTURAL TECHNOLOGY

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

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

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

ARCHITECTURAL TECHNOLOGY (T-041)

First Year

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
DFT	101	Technical Drafting	2	6	4
EGR	100	Introduction to Engineering Technology	2	3	3
ENG	110	English Composition I	2	3	3
MAT	110	College Algebra	5	0	5
—	—	Elective (Humanities)	5	0	5
			16	12	20
SECOND QUARTER (Winter)					
CIV	101	Surveying I	2	6	4
EGR	122	Computer Assisted Drafting I	2	3	3
ENG	111	English Composition II	2	3	3
MAT	120	College Trigonometry	5	0	5
PHY	201	General Physics I	3	3	4
			14	15	19
THIRD QUARTER (Spring)					
CIV	114	Statics	3	3	4
DFT	108	Residential Drafting I	2	6	4
ENG	113	Technical Writing	3	0	3
MAT	175	Applied Calculus & Analytic Geometry	5	0	5
PHY	202	General Physics II	3	3	4
			16	12	20
FOURTH QUARTER (Summer)					
CIV	111	Site Surveying	3	3	4
CIV	115	Strength of Materials	3	3	4
CIV	120	Plain Concrete and Asphalt	2	3	3
DFT	210	Architectural Design	2	6	4
			10	15	15

Second Year

FIFTH QUARTER (Fall)					
CIV	219	Structural Timber Design	1	3	2
CIV	228	Construction Methods, Equipment & Planning	3	3	4
DFT	208	Rendering and Modeling	1	6	3
PHY	203	General Physics III	3	3	4
—	—	Elective (Technical)	3	3	4
			11	18	17
SIXTH QUARTER (Winter)					
CIV	223	Codes, Specifications & Contracts	2	0	2
CIV	226	Architectural Mechanical Equipment	3	0	3
CIV	237	Construction Estimating	2	3	3
DFT	220	Structural Detailing	2	6	4
—	—	Elective (Behavioral Science)	5	0	5
			14	9	17

SEVENTH QUARTER (Spring)

DFT	230	Commercial Architectural Drafting	2	6	4
EGR	200	Research Project	0	3	1
—	—	Elective (Technical)	3	3	4
—	—	Elective	5	0	5
			10	12	14

Technical Electives

Students must complete a minimum of eight credit hours.

			Quarter Hours Credit
CIV	202	Properties of Soils	3
CIV	222	Structural Steel Design	4
CIV	224	Structural Concrete Design	4
DFT	109	Residential Drafting II	4
EGR	201	Special Topics	1-3

Total Required Minimum Quarter Hours: 122

CIVIL ENGINEERING TECHNOLOGY

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

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

CIVIL ENGINEERING TECHNOLOGY (T-038)

First Year

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
DFT	101	Technical Drafting	2	6	4
EGR	100	Introduction to Engineering Technology	2	3	3
ENG	110	English Composition I	2	3	3
MAT	110	College Algebra	5	0	5
—	—	Elective (Humanities)	5	0	5
			16	12	20
SECOND QUARTER (Winter)					
CIV	101	Surveying I	2	6	4
EGR	122	Computer Assisted Drafting I	2	3	3
ENG	111	English Composition II	2	3	3
MAT	120	College Trigonometry	5	0	5
PHY	201	General Physics I	3	3	4
			12	12	16
THIRD QUARTER (Spring)					
CIV	102	Surveying II	3	3	4
CIV	114	Statics	3	3	4
ENG	113	Technical Writing	3	0	3
MAT	175	Applied Calculus & Analytic Geometry	5	0	5
PHY	202	General Physics II	3	3	4
			17	9	20
FOURTH QUARTER (Summer)					
CIV	104	Topographic Mapping & Intro. to Photogrammetry	2	3	3
CIV	115	Strength of Materials	3	3	4
CIV	120	Plain Concrete and Asphalt	2	3	3
CIV	230	Hydraulics	2	3	3
			9	12	13

Second Year

FIFTH QUARTER (Fall)					
CIV	219	Structural Timber Design	1	3	2
CIV	228	Construction Methods, Equipment & Planning	3	3	4
CIV	241	Route Surveying	2	3	3
DFT	103	Civil Drafting	0	6	2
PHY	203	General Physics III	3	3	4
			9	18	15
SIXTH QUARTER (Winter)					
CIV	222	Structural Steel Design	3	3	4
CIV	223	Codes, Specifications and Contracts	2	0	2
CIV	237	Construction Estimating	2	3	3
—	—	Elective (Behavioral Science)	5	0	5
—	—	Elective (Technical)	3	3	4
			15	9	18

SEVENTH QUARTER (Spring)					
CIV	202	Properties of Soils	2	3	3
CIV	224	Structural Concrete Design	3	3	4
CIV	231	Environmental Analysis	3	3	4
EGR	200	Research Project	0	3	1
—	—	Elective	5	0	5
			13	12	17

Technical Electives

Students must complete a minimum of four credit hours.

			Quarter Hours Credit
CIV	111	Site Surveying	4
CIV	226	Architectural Mechanical Equipment	3
CIV	227	Construction of Roads & Pavements	4
CIV	242	Surveying Law	3
CIV	243	Advanced Surveying	3
CIV	244	Subdivision Planning & Drainage	6
EGR	201	Special Topics	1-3

Total Required Minimum Quarter Hours: 122

COMPUTER ENGINEERING APPLICATIONS TECHNOLOGY

This program is designed to provide training for technicians in many areas of computer applications. The technicians are involved in the programming and applications of computer systems in industrial settings. Technical courses cover the principles of designing, programming, and installing computer systems for industrial control, robotics, technical problem solving, and computer graphics.

Employment opportunities are available in business, industry, and government agencies in many areas requiring knowledge of computer operations and systems including industrial control, CAD, electronic communication, electronic monitoring, and data acquisition. Students are awarded the Associate in Applied Science degree and may be employed as technical programmers, computer graphics operators, systems design technicians, and microcomputer systems salespersons.

COMPUTER ENGINEERING APPLICATIONS TECHNOLOGY (T-181)

First Year

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
CSC	110	Introduction to Microcomputers	2	2	3
CSC	120	Microcomputer BASIC Language	2	2	3
DFT	101	Technical Drafting	2	6	4
ENG	110	English Composition I	2	3	3
MAT	110	College Algebra	5	0	5
			13	13	18

SECOND QUARTER (Winter)

CSC	125	Microcomputer Data Files	3	3	4
CSC	140	Introduction to Pascal	3	3	4
ENG	111	English Composition II	2	3	3
MAT	120	College Trigonometry	5	0	5
PHY	201	General Physics I	3	3	4
			16	12	20

THIRD QUARTER (Spring)

CSC	240	Advanced Pascal	3	6	5
ELN	110	Electronics for Microcomputers	5	3	6
ENG	113	Technical Writing	3	0	3
—	—	Elective	5	0	5
			16	9	19

FOURTH QUARTER (Summer)

CSC	150	Intro. to C Programming	3	3	4
EGR	122	Computer Assisted Drafing I	2	3	3
EGR	230	Intro. to Industrial Applications	3	3	4
MAT	130	Finite Mathematics	5	0	5
			13	9	16

Second Year

FIFTH QUARTER (Fall)

CSC	210	Microcomputer Arch. & Assembly Language	3	3	4
CSC	250	Advanced C Programming	3	6	5
DFT	110	Electro-Mechanical Drafting	2	6	4
EGR	212	Microcomputer Servicing	2	3	3
			10	18	16

SIXTH QUARTER (Winter)

CSC	220	Advanced Assembly Language	3	6	5
EGR	200	Research Project	0	3	1
EGR	222	Microcomputer Interfacing I	3	3	4
—	—	Elective (Behavioral Science)	5	0	5
—	—	Elective (Technical)	3	3	4
			14	15	19

SEVENTH QUARTER (Spring)

EGR	205	Research Project II	0	3	1
EGR	232	Microcomputer Interfacing II	3	6	5
EGR	245	Process Control Applications	3	6	5
—	—	Elective (Humanities)	5	0	5
			11	15	16

Technical Electives

Students must complete a minimum of four credit hours.

			Quarter Hours Credit
CSC	101	Tech. Applications of Integrated Software	2
CSC	102	Intro. to Technical Databases	2
CSC	103	CP/M Applications	2
CSC	104	MS-DOS Applications	2
CSC	130	Microcomputer Applications	3
EGR	201	Special Topics	1-3

Total Required Minimum Quarter Hours: 124

SURVEYING TECHNOLOGY

This program is designed to provide training for technicians in the many areas of surveying. Surveyors are involved in land surveying, route surveying, photogrammetry, mapping, and other areas of land description and measurements. Nearly all construction of buildings, bridges, dams, highways, airfields, and other engineered projects requires one or more types of surveying.

Students will be trained as technicians to work with skilled professionals as instrument men, party chiefs, surveying aides, highway surveyors, mappers, and in many other surveying activities. Graduates of this program will be prepared to pursue the requirements necessary to become a registered land surveyor.

SURVEYING TECHNOLOGY (T-125)

First Year

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
DFT	101	Technical Drafting	2	6	4
EGR	100	Intro. to Engineering Technology	2	3	3
ENG	110	English Composition I	2	3	3
MAT	110	College Algebra	5	0	5
—	—	Elective (Humanities)	5	0	5
			16	12	20
SECOND QUARTER (Winter)					
CIV	101	Surveying I	2	6	4
EGR	122	Computer Assisted Drafting I	2	3	3
ENG	111	English Composition II	2	3	3
MAT	120	College Trigonometry	5	0	5
PHY	201	General Physics I	3	3	4
			14	15	19
THIRD QUARTER (Spring)					
CIV	102	Surveying II	3	3	4
ENG	113	Technical Writing	3	0	3
MAT	175	Applied Calculus and Analytic Geometry	5	0	5
PHY	202	General Physics II	3	3	4
			14	6	16
FOURTH QUARTER (Summer)					
CIV	104	Topographical Mapping & Intro. to Photogrammetry	2	3	3
CIV	111	Site Surveying	3	3	4
CIV	120	Plain Concrete and Asphalt	2	3	3
CIV	230	Hydraulics	2	3	3
			9	12	13

Second Year

FIFTH QUARTER (Fall)					
CIV	227	Construction of Roads & Pavements	3	3	4
CIV	235	Surveying Instrument Adjustment	3	3	4
CIV	241	Route Surveying	2	3	3
DFT	103	Civil Drafting	0	6	2
PHY	203	General Physics III	3	3	4
			11	18	17
SIXTH QUARTER (Winter)					
CIV	242	Surveying Law	3	0	3
CIV	243	Advanced Surveying	2	3	3
—	—	Elective (Behavioral Science)	5	0	5
—	—	Elective (Technical)	3	3	4
			13	6	15
SEVENTH QUARTER (Spring)					
CIV	202	Properties of Soils	2	3	3
CIV	231	Environmental Analysis	3	3	4
CIV	244	Subdivision Planning & Drainage	5	3	6
EGR	200	Research Project	0	3	1
—	—	Elective	5	0	5
			15	12	19

Technical Electives

Students must complete a minimum of four credit hours.

			Quarter Hours Credit
CIV	223	Codes, Specifications and Contracts	2
CIV	228	Construction Methods, Equipment & Planning	4
CIV	237	Construction Estimating	3
EGR	201	Special Topics	1-3

Total Required Minimum Quarter Hours: 119

DEPARTMENT OF HEALTH SCIENCES

ASSOCIATE DEGREE NURSING

The Associate Degree Nursing curriculum is designed to prepare graduates to integrate the principles and theories of nursing and the sciences in utilizing the nursing process in the practice of nursing. The practice of nursing by associate degree nursing graduates consists of: (1) assessing the patient's physical and mental health, including the patient's reaction to illness and treatment regimens (2) recording and reporting the results of the nursing assessment (3) planning, initiating, delivering, and evaluating appropriate nursing acts (4) teaching, delegating to or supervising other personnel in implementing the treatment regimen (5) collaborating with other health care providers in determining the appropriate health care for a patient (6) implementing the treatment and pharmaceutical regimen prescribed by any person authorized by State law to prescribe

such a regimen (7) providing teaching and counseling about the patient's health care (8) reporting and recording the plan for care, nursing care given, and the patient's response to that care, and (9) supervising, teaching, and evaluating those who perform or are preparing to perform nursing functions.

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

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

Students may choose to extend the course of study for a longer time period than the customary two years by completing non-nursing courses in a preparatory year and then completing nursing courses the next two years.

The Associate Degree Nursing program at Sandhills is accredited by the North Carolina Board of Nursing and the National League for Nursing.

ASSOCIATE DEGREE NURSING (T-059)

First Year

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
BIO	210	Human Anatomy and Physiology I	4	3	5
NUR	120	Introduction to Pharmacology	1	3	2
NUR	130	Introduction to Nursing	4	9	7
PSY	201	Principles of Psychology	5	0	5
			14	15	19
SECOND QUARTER (Winter)					
BIO	211	Human Anatomy and Physiology II	4	3	5
NUR	131	Nursing of Adults I			
		or	6	9	9
NUR	133	Psychiatric Nursing			
PSY	202	Developmental Psychology	5	0	5
			15	12	19
THIRD QUARTER (Spring)					
BIO	230	Microbiology	4	3	5
ENG	110	English Composition I	2	3	3
NUR	131	Nursing of Adults I			
		or	6	9	9
NUR	133	Psychiatric Nursing			
			12	15	17
FOURTH QUARTER (Summer)					
ENG	111	English Composition II			
		(1st Summer Session)	2	3	3
ENG	112	English Composition III			
		(2nd Summer Session)	2	3	3
NUR	220	Maternity Nursing			
		or	6	9	9
NUR	230	Nursing of Children			
			10	15	15

Second Year

FIFTH QUARTER (Fall)					
NUR	220	Maternity Nursing			
		or	6	9	9
NUR	230	Nursing of Children			
SOC	201	Principles of Sociology	5	0	5
—	—	Elective (Humanities)	5	0	5
			16	9	19
SIXTH QUARTER (Winter)					
NUR	232	Nursing of Adults II	7	18	13
—	—	Elective	5	0	5
			12	18	18
SEVENTH QUARTER (Spring)					
NUR	233	Nursing in Complex Situations	6	18	12
NUR	234	Trends in Nursing	2	0	2
			8	18	14

Total Required Minimum Quarter Hours: 121

MEDICAL LABORATORY TECHNOLOGY

The Medical Laboratory Technology curriculum prepares graduates to perform clinical laboratory procedures in chemistry, hematology, bacteriology, parasitology, serology, blood banking and body fluid analysis to develop data that may be used in the diagnosis of diseases and in evaluating the effectiveness of treatments.

The medical laboratory technician works under the supervision of a medical technologist and may be employed as a staff technician or assistant supervisor in a medical laboratory, or clinical instructor in an educational institution.

The graduate is eligible to take the registry examination given by the Board of Registry of Medical Technologists of the American Society of Clinical Pathologists for certification as a medical laboratory technician or the examination given by the National Certifying Agency as a clinical laboratory technician.

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

The MLT Program at Sandhills is accredited by the Committee on Allied Health Education and Accreditation of the American Medical Association.

Career mobility for graduates of the program is available through transfer to the baccalaureate Medical Technology program at Western Carolina University.

MEDICAL LABORATORY TECHNOLOGY (T-110)

First Year

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
BIO	210	Human Anatomy and Physiology I	4	3	5
CHM	110	General Chemistry I	3	0	3
CHM	110L	General Chemistry I Lab	0	3	1
ENG	110	English Composition I	2	3	3
MLT	110	Introduction to Medical Laboratory Technique I	2	3	3
—	—	Elective (Behavioral Science)	5	0	5
			16	12	20
SECOND QUARTER (Winter)					
BIO	211	Human Anatomy and Physiology II	4	3	5
CHM	111	General Chemistry II	3	0	3
CHM	111L	General Chemistry II Lab	0	3	1
ENG	111	English Composition II	2	3	3
MLT	111	Introduction to Medical Laboratory Technique II	2	3	3
—	—	Elective	5	0	5
			16	12	20
THIRD QUARTER (Spring)					
BIO	230	Microbiology	4	3	5
CHM	112	General Chemistry III	3	0	3
CHM	112L	General Chemistry III Lab	0	3	1
ENG	112	English Composition III	2	3	3
MLT	112	Medical Laboratory Instrumentation	2	3	3
—	—	Elective (Humanities)	5	0	5
			16	12	20
FOURTH QUARTER (Summer)					
MLT	201	Hematology and Urinalysis	4	0	4
MLT	221	Clinical Hematology and Urinalysis	0	33	11
			4	33	15

Second Year

FIFTH QUARTER (Fall)					
MLT	202	Clinical Chemistry	4	0	4
MLT	222	Clinical Biochemistry	0	33	11
			4	33	15
SIXTH QUARTER (Winter)					
MLT	203	Medical Microbiology	4	0	4
MLT	223	Clinical Microbiology	0	33	11
			4	33	15
SEVENTH QUARTER (Spring)					
MLT	204	Serology, Electrocardiogram and Blood Bank	4	0	4
MLT	205	MLT Special Topics	2	0	2
MLT	224	Clinical Immunohematology	0	33	11
			6	33	17

Total Required Minimum Quarter Hours: 122

RADIOLOGIC TECHNOLOGY

The Radiologic Technology curriculum prepares graduates to be competent Medical Radiographers. The radiographer is a skilled person qualified by technological education to provide patient services using imaging modalities (as directed by physicians qualified to order and/or perform radiologic procedures) by: (1) applying knowledge of the principles of radiation protection for the patient, self and others (2) applying knowledge of anatomy, positioning and radiographic techniques to accurately demonstrate anatomical structures on a radiograph (3) determining exposure factors to achieve optimum radiographic technique with a minimum of radiation exposure to the patient (4) examining radiographs for the purpose of evaluating technique, positioning and other pertinent technical qualities (5) exercising discretion and judgment in the performance of medical imaging procedures (6) providing patient care essential to radiologic procedures, and (7) recognizing emergency patient conditions and initiating life saving first aid.

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

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

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

The Radiologic Technology Program at Sandhills is accredited by the Committee on Allied Health Education and Accreditation of the American Medical Association.

RADIOLOGIC TECHNOLOGY (T-061)

First Year

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
BIO	210	Human Anatomy and Physiology I	4	3	5
RAD	100	Intro. to Radiologic Technology	4	0	4
RAD	101	Radiologic Technology I	6	3	7
RAD	102	Clinical Education I	0	6	2
—	—	Elective (Humanities)	5	0	5
			19	12	23

SECOND QUARTER (Winter)					
BIO	211	Human Anatomy and Physiology II	4	3	5
PSY	201	Intro. to Psychology			
		or	5	0	5
PSY	202	Developmental Psychology			
RAD	103	Radiologic Technology II	6	6	8
RAD	104	Clinical Education II	0	6	2
			15	15	20
THIRD QUARTER (Spring)					
ENG	110	English Composition I	2	3	3
RAD	105	Radiologic Physics	6	0	6
RAD	106	Radiologic Technology III	5	6	7
RAD	107	Clinical Education III	0	15	5
			13	24	21
FOURTH QUARTER (Summer)					
ENG	111	English Composition II (1st Summer Session)	2	3	3
ENG	112	English Composition III (2nd Summer Session)	2	3	3
RAD	108	Clinical Education IV	0	21	7
—	—	Elective (General Education-English, Behavioral Science or Humanities)	4	0	4
			8	27	17

Second Year

FIFTH QUARTER (Fall)					
RAD	201	Radiologic Technology IV	5	0	5
RAD	202	Clinical Education V	1	33	12
			6	33	17
SIXTH QUARTER (Winter)					
RAD	203	Radiologic Technology V	4	0	4
RAD	204	Clinical Education VI	1	33	12
			5	33	16
SEVENTH QUARTER (Spring)					
RAD	205	Radiologic Technology VI	4	0	4
RAD	206	Clinical Education VII	1	24	9
—	—	Elective	5	0	5
			10	24	18
EIGHTH QUARTER (Summer)					
RAD	207	Radiologic Technology Seminar	4	0	4
RAD	208	Clinical Education VIII	0	12	4
RAD	209	Quality Assurance in Radiologic Technology	2	0	2
RAD	210	Clinical Education IX	0	15	5
			6	27	15

Total Required Minimum Quarter Hours: 147

RESPIRATORY THERAPY TECHNOLOGY

The Respiratory Therapy Technology curricula offer career education options for respiratory therapists and/or respiratory therapy technicians.

The respiratory therapist specializes in the application of scientific knowledge and theory to practical, clinical problems of respiratory care. Knowledge and skills for performing these functions are usually achieved through two or more years of academic and clinical preparation. The respiratory therapist is qualified to assume primary clinical responsibility for all respiratory care modalities, including responsibilities involved in supervision of respiratory technician functions. The therapist is frequently required to exercise considerable independent, clinical judgment in the respiratory care of patients under the direct or indirect supervision of a physician. Further, the therapist is capable of serving as a technical resource person to the physician with regard to current practices in respiratory care, and to the hospital staff as to effective and safe methods of administering respiratory care.

The technician's role does not require the exercising of independent, clinical judgment; however, the technician is expected to adjust or modify therapeutic techniques within well-defined procedures based on a limited range of patient responses. Therefore, the effective use of the technician, especially in the critical care setting, requires the supervision of a respiratory therapist or a physician experienced in respiratory care. Knowledge and skills for performing these functions are usually achieved through one or more years of academic and clinical preparation.

Graduates of the technician and therapist curricula are eligible to apply for admission to the Entry Level Respiratory Therapy Practitioner (CRTT) examination by the National Board for Respiratory Care. Graduates of the therapist level curriculum are eligible to apply for admission to the Advanced Respiratory Care Practitioner (RRT) examination.

Graduates may be employed in a wide variety of health related areas including hospitals (in respiratory therapy, special services, cardiopulmonary, anesthesiology, or pulmonary medicine departments), respiratory equipment sales and rental companies, rehabilitation centers, skilled nursing care facilities, and educational and research institutions.

Individuals desiring a career in respiratory therapy technology should take biology, algebra, and chemistry courses prior to entering the program.

The program at Sandhills is accredited by the Committee on Allied Health Education and Accreditation of the American Medical Association.

RESPIRATORY THERAPY TECHNOLOGY (T-091)

First Year

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
BIO	210	Human Anatomy & Physiology I	4	3	5
ENG	110	English Composition I	2	3	3
MAT	110	College Algebra	5	0	5
RTH	102	Introduction to Respiratory Therapy	3	0	3
RTH	102L	Introduction to Respiratory Therapy Lab	0	3	1
			14	9	17
SECOND QUARTER (Winter)					
BIO	211	Human Anatomy and Physiology II	4	3	5
ENG	111	English Composition II	2	3	3
CHM	110	General Chemistry I	3	0	3
CHM	110L	General Chemistry I Lab	0	3	1
RTH	103	Respiratory Therapy I	3	0	3
RTH	103L	Respiratory Therapy I Lab	0	3	1
RTH	121	Physics for Respiratory Therapy	3	0	3
			15	12	19
THIRD QUARTER (Spring)					
BIO	230	Microbiology	4	3	5
ENG	112	English Composition III	2	3	3
CHM	111	General Chemistry II	3	0	3
CHM	111L	General Chemistry II Lab	0	3	1
RTH	104	Respiratory Therapy II	3	0	3
RTH	104L	Respiratory Therapy II Lab	0	3	1
RTH	216	Cardiopulmonary Anatomy and Physiology	3	0	3
			15	12	19
FOURTH QUARTER (Summer)					
RTH	211	Pharmacology for Respiratory Therapy	3	0	3
RTH	212	Respiratory Therapy III	3	0	3
RTH	212L	Respiratory Therapy III Lab	0	3	1
RTH	213	Respiratory Therapy IV	3	0	3
RTH	213L	Respiratory Therapy IV Lab	0	3	1
RTH	214	Pulmonary Pathophysiology	3	0	3
			12	6	14

Second Year

FIFTH QUARTER (Fall)					
RTH	251	Clinical Lecture I	3	0	3
RTH	261	Clinical Application I	0	33	11
			3	33	14
SIXTH QUARTER (Winter)					
RTH	252	Clinical Lecture II	3	0	3
RTH	262	Clinical Application II	0	33	11
			3	33	14
SEVENTH QUARTER (Spring)					
RTH	253	Advanced Topics in Respiratory Therapy	3	0	3
RTH	263	Clinical Application III	0	33	11
			3	33	14

EIGHTH QUARTER (Summer)					
RTH	254	Special Topics in Respiratory Care	2	0	2
—	—	Elective (Behavioral Science)	5	0	5
—	—	Elective (Humanities)	5	0	5
—	—	Elective	5	0	5
			17	0	17

Total Required Minimum Quarter Hours: 128

DEPARTMENT OF SCIENCE

LANDSCAPE GARDENING

The Landscape Gardening program, a two-year curriculum, emphasizes practical field training. Students are assigned periodic intervals of management responsibility whereby each student resides in the living quarters of the landscape gardening building managing the greenhouses and other assigned projects. The Landscape Gardening curriculum includes study and practical application in plant propagation, greenhouse crops, turf management, plant identification, arboriculture, diseases and pests of plants, landscape planning and maintenance, and repair of small equipment. During the spring quarter of the second year, the students participate in on-the-job field experiences under the supervision of the Landscape Gardening instructors.

The course of study in landscape gardening at Sandhills has been endorsed by the Professional Grounds Management Society.

LANDSCAPE GARDENING (T-184)

First Year

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
BIO	106	Applied Plant Morphology	3	0	3
ENG	110	English Composition I	2	3	3
LSG	111	Principles of Landscape Gardening	3	0	3
LSG	112	Fall Landscape Gardening Laboratory	0	6	2
MAT	115	Practical Methods of Measurement	3	0	3
—	—	Elective (Humanities)	5	0	5
—	—	Elective	2	0	2
			18	9	21
SECOND QUARTER (Winter)					
ENG	111	English Composition II	2	3	3
LSG	124	Agricultural Chemical Use	2	0	2
LSG	126	Fertilizers and Soils	5	0	5
LSG	127	Greenhouse Operations	3	2	4
LSG	128	Nursery Operations	3	3	4
LSG	137	Landscape Construction I	1	3	2
			16	11	20

THIRD QUARTER (Spring)

ENG	113	Technical Writing	3	0	3
LSG	125	Aboriculture	2	3	3
LSG	131	Plant Materials I	1	3	2
LSG	132	Plant Propagation I	3	3	4
LSG	133	Spring Landscape Gardening Laboratory	0	3	1
LSG	134	Resident Practicum I	0	10	1
LSG	135	Turfgrass Culture	3	3	4
LSG	136	Fruits and Vegetables I	1	3	2
			13	28	20

FOURTH QUARTER (Summer)

LSG	142	Pest Control	3	0	3
LSG	143	Plant Materials II	1	3	2
LSG	144	Resident Practicum II	0	10	1
LSG	145	Summer Landscape Gardening Laboratory	0	6	2
LSG	146	Fruits and Vegetables II	0	3	1
LSG	147	Landscape Construction II	1	3	2
LSG	148	Herbaceous Plants	2	0	2
LSG	149	Landscape Site Analysis	2	4	4
—	—	Elective	3	0	3
			12	29	20

Second Year

FIFTH QUARTER (Fall)

LSG	211	Greenhouse Production I	3	3	4
LSG	213	Plant Propagation II	3	3	4
LSG	214	Plant Materials III	1	3	2
LSG	215	Resident Practicum III	0	10	1
LSG	217	Landscape Design I	3	3	4
LSG	219	Landscape Cost Estimating	1	3	2
—	—	Elective (Technical - see below)	—	—	—
			11	25	17

SIXTH QUARTER (Winter)

LSG	224	Seminar	3	0	3
LSG	229	Resident Practicum IV	0	10	1
PSY	220	Applied Psychology	5	0	5
—	—	Elective (Technical-see below)	—	—	—
			8	10	9

SEVENTH QUARTER (Spring)

LSG	231	Apprenticeship	0	40	4

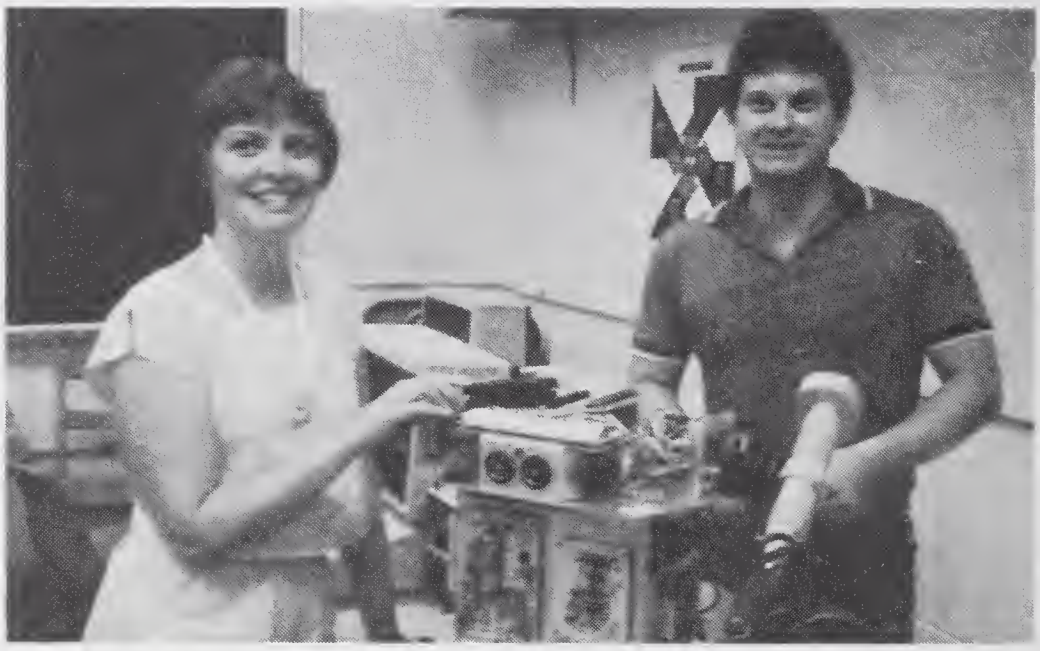
Technical Electives

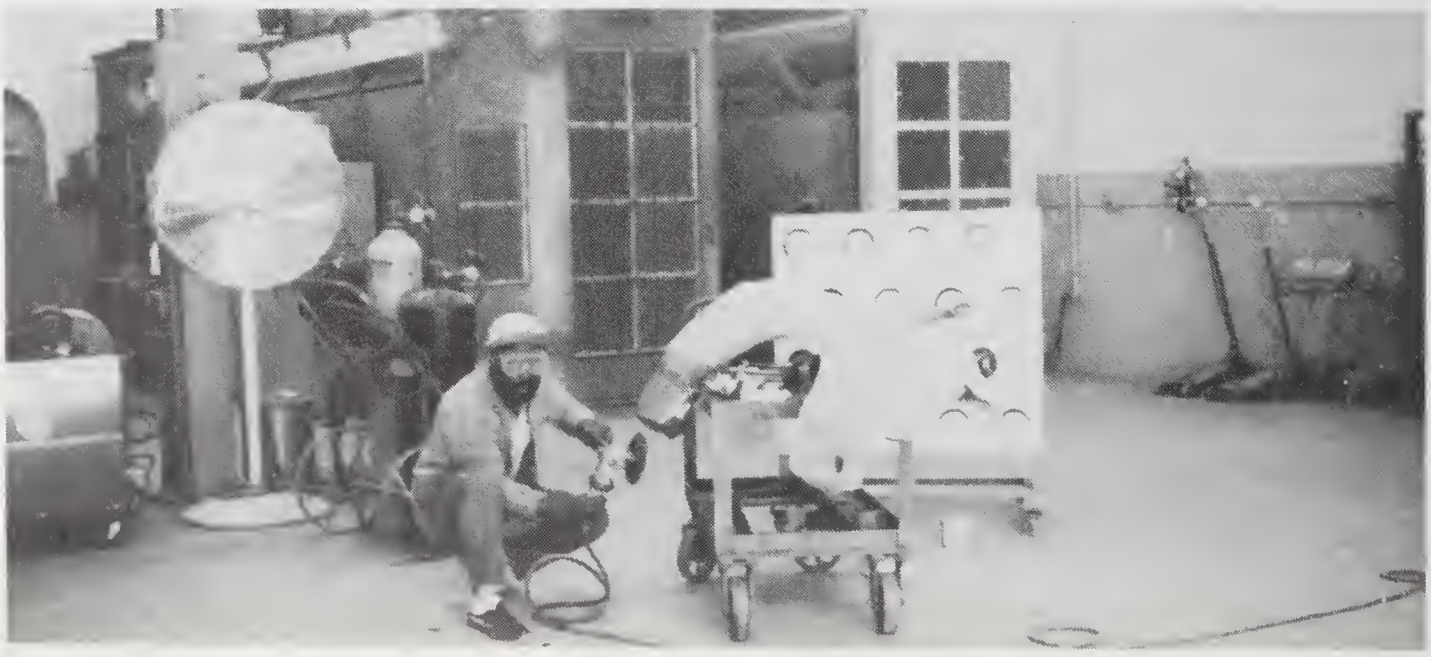
Students must complete a minimum of 11 credit hours from the following landscape gardening electives during the fifth and/or sixth quarters:

			Quarter Hours Credit
FIFTH QUARTER TECHNICAL ELECTIVES (Fall)			
LSG	225	Garden Center Operations	3
LSG	226	Landscape Management I	3
SIXTH QUARTER TECHNICAL ELECTIVES (Winter)			
LSG	220	Greenhouse Production II	4
LSG	222	Landscape Design II	4
LSG	223	Plant Materials IV	2
LSG	227	Landscape Management II	3

Total Required Minimum Quarter Hours: 122

Causey Hall





VOCATIONAL PROGRAMS

Vocational programs have been established at the College to prepare students for entrance to or advancement in skilled occupations. The programs are of one or two years' duration; some are offered in the evening as well as during the day.

A diploma is awarded to graduates of vocational programs, and a certificate is awarded to students who complete the vocational specialty courses in a curriculum.

The vocational programs that are offered by the College are named and described in the following sections.

PROGRAMS OF STUDY

	Page
Department of Health Sciences	
Practical Nursing	77
Surgical Technology	79
Department of Vocational Trades	
Automotive Body Repair	80
Automotive Mechanics	81
Cosmetology	84
Electronic Servicing	86
Industrial Electronics	88

Requirements for the Diploma

To qualify for a diploma, students must successfully complete the course requirements of the vocational program in which they are enrolled. A minimum of one-half the course work must be completed at Sandhills Community College.

DESCRIPTIONS OF VOCATIONAL PROGRAMS

DEPARTMENT OF HEALTH SCIENCES

PRACTICAL NURSING

The Practical Nursing curriculum graduates are prepared to take the National Council Licensure Examination required to practice as a licensed practical nurse. The Practical Nursing curriculum is designed to develop competencies in practicing the following five components of practice as defined by the North Carolina *Nursing Practice Act*, 1981: (1) participating in assessing the client's physical and mental health including the client's reaction to illnesses and treatment regimens (2) recording and

reporting the results of the nursing assessment (3) participating in implementing the health care plan developed by the registered nurse and/or prescribed by any person authorized by State law to prescribe such a plan, by performing tasks delegated by and performed under the supervision or under orders or directions of a registered nurse, physician licensed to practice medicine, dentist, or other person authorized by State law to provide such supervision (4) reinforcing the teaching and counseling of a registered nurse, physician licensed to practice medicine in North Carolina, or dentist, and (5) reporting and recording the nursing care rendered and the client's response to that care.

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

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

The Practical Nursing Program at Sandhills is accredited by the North Carolina Board of Nursing.

PRACTICAL NURSING (V-038)

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
BIO	210	Human Anatomy and Physiology I	4	3	5
NUR	121	Nutrition	3	0	3
NUR	1101	Fundamentals of Practical Nursing	5	9	8
PSY	202	Developmental Psychology	5	0	5
			17	12	21
SECOND QUARTER (Winter)					
BIO	211	Human Anatomy and Physiology II	4	3	5
NUR	1102	Medical-Surgical Nursing I	8	12	12
NUR	1103	Pharmacology	3	0	3
			15	15	20
THIRD QUARTER (Spring)					
ENG	110	English Composition I	2	3	3
NUR	1104	Pediatric and Obstetrical Nursing	7	15	12
NUR	1105	Ethics and Issues in Health Professions	2	0	2
NUR	1106	Seminar for Career Adjustment	2	0	2
			13	18	19
FOURTH QUARTER (Summer)					
NUR	1107	Medical-Surgical Nursing II	7	18	13
NUR	1108	Survey of Human Needs	3	0	3
—	—	Elective	2	0	2
			12	18	18

Total Required Minimum Quarter Hours: 78

SURGICAL TECHNOLOGY

The Surgical Technology curriculum prepares graduates to assist in the care of surgical patients in the operating room and in the functions of the surgical team by arranging supplies and instruments, maintaining aseptic conditions, preparing patients for surgery and assisting the surgeon during operations in the use of materials and equipment. First assisting the surgeon by a surgical technologist is permitted only by individual hospital policy.

Graduates are eligible to take the certification examination for Certified Surgical Technologists given by the Association of Surgical Technologists, Inc. Surgical technologists may practice in the hospital's operating, emergency, labor and delivery rooms, central sterile processing department, ambulatory surgical services and physicians' offices.

Individuals desiring a career in surgical technology should take biology and mathematics courses prior to entering the program.

SURGICAL TECHNOLOGY (V-071)

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
BIO	210	Human Anatomy and Physiology I	4	3	5
PSY	201	Principles of Psychology	5	0	5
SUR	1101	Principles of Operating Room Technique I	1	12	5
SUR	1110	Operating Room Theory I	5	0	5
			15	15	20
SECOND QUARTER (Winter)					
BIO	211	Human Anatomy and Physiology II	4	3	5
ENG	110	English Composition I	2	3	3
SUR	1102	Principles of Operating Room Technique II	1	12	5
SUR	1111	Operating Room Theory II	5	0	5
			12	18	18
THIRD QUARTER (Spring)					
SUR	1112	Operating Room Theory III	3	0	3
SUR	1202	Surgical Procedures I	5	0	5
SUR	1210	Clinical Application I	2	18	8
—	—	Elective	3	0	3
			13	18	19
FOURTH QUARTER (Summer)					
SUR	1203	Surgical Procedures II	5	0	5
SUR	1211	Clinical Application II	0	33	11
			5	33	16

Total Required Minimum Quarter Hours: 73

DEPARTMENT OF VOCATIONAL TRADES

AUTOMOTIVE BODY REPAIR

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

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

Students may enroll in either the diploma or the certificate program. Those who complete the certificate program may later earn a diploma by taking the required general education courses listed in the diploma program.

AUTOMOTIVE BODY REPAIR - DIPLOMA PROGRAM (V-001)

			Course Hours Per Week			Quarter Hours Credit
			Class	Lab	Man. Lab	
FIRST QUARTER (Fall)						
AUT	1111	Automotive Body Repair I	5	0	12	9
MAT	1119	Automotive Mathematics I	3	0	0	3
PHY	1101	Applied Science	3	2	0	4
WLD	1104	Automotive Body Welding I	2	0	3	3
			13	2	15	19
SECOND QUARTER (Winter)						
AUT	1112	Automotive Body Repair II	5	0	12	9
MAT	1120	Automotive Mathematics II	3	0	0	3
RDG	100	Reading	5	0	0	5
WLD	1105	Automotive Body Welding II	2	0	3	3
			15	0	15	20
THIRD QUARTER (Spring)						
AUT	1110	Automotive Suspension Systems	2	0	3	3
AUT	1113	Automotive Refinishing	5	0	12	9
BUS	1105	Small Business Operations	5	0	0	5
			12	0	15	17
FOURTH QUARTER (Summer)						
AUT	1109	Basic Automotive Air Conditioning	2	0	3	3
AUT	1114	Body Shop Applications	5	0	12	9
ENG	099	Grammar & Intro. to Composition II	2	3	0	3
			9	3	15	15

Total Required Minimum Quarter Hours: 71

AUTOMOTIVE BODY REPAIR - CERTIFICATE PROGRAM (V-001)

			Course Hours Per Week			Quarter Hours Credit
			Class	Lab	Man. Lab	
FIRST QUARTER (Fall)						
AUT	1111	Automotive Body Repair I	5	0	12	9
WLD	1104	Automotive Body Welding I	2	0	3	3
			7	0	15	12
SECOND QUARTER (Winter)						
AUT	1112	Automotive Body Repair II	5	0	12	9
WLD	1105	Automotive Body Welding II	2	0	3	3
			7	0	15	12
THIRD QUARTER (Spring)						
AUT	1110	Automotive Suspension Systems	2	0	3	3
AUT	1113	Automotive Refinishing	5	0	12	9
			7	0	15	12
FOURTH QUARTER (Summer)						
AUT	1109	Basic Automotive Air Conditioning	2	0	3	3
AUT	1114	Body Shop Applications	5	0	12	9
			7	0	15	12

Total Required Minimum Quarter Hours: 48

AUTOMOTIVE MECHANICS

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

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

The program is offered in the day and evening. Students are awarded either a diploma or a certificate depending upon whether the general education requirements are met. Students who earn a certificate in Automotive Mechanics may later earn a diploma by completing the required general education courses. The advanced diploma program extends over a two-year period.

AUTOMOTIVE MECHANICS - ADVANCED DIPLOMA PROGRAM (V-003)

First Year

			Course Hours Per Week Class	Lab	Man. Lab	Quarter Hours Credit
FIRST QUARTER (Fall)						
AUT	1104	Automotive Fuel Systems	3	0	9	6
AUT	1120	Automotive Electrical Systems I	3	0	9	6
MAT	1119	Automotive Mathematics I	3	0	0	3
WLD	1101	Automotive Mechanics Welding I	1	0	3	2
			10	0	21	17
SECOND QUARTER (Winter)						
AUT	1101	Automotive Engines	3	0	9	6
AUT	1121	Automotive Electrical Systems II	3	0	9	6
MAT	1120	Automotive Mathematics II	3	0	0	3
WLD	1102	Automotive Mechanics Welding II	1	0	3	2
			10	0	21	17
THIRD QUARTER (Spring)						
AUT	1107	Automotive Braking Systems	3	0	9	6
AUT	1122	Automotive Engine Tune-up & Emission Control	3	0	9	6
RDG	100	Reading	5	0	0	5
			11	0	18	17
FOURTH QUARTER (Summer)						
AUT	1106	Automotive Air Conditioning	3	0	9	6
ENG	099	Grammar and Intro. to Composition II	2	3	0	3
			5	3	9	9

Second Year

FIFTH QUARTER (Fall)						
AUT	1201	Automotive Power Train Systems	3	0	6	5
AUT	1210	Automotive Chassis & Suspension Systems	3	0	9	6
PHY	1101	Applied Science	3	2	0	4
			9	2	15	15
SIXTH QUARTER (Winter)						
AUT	1202	Automotive Servicing I	3	0	9	6
AUT	1208	Automatic Transmissions I	3	0	9	6
			6	0	18	12
SEVENTH QUARTER (Spring)						
AUT	1209	Automatic Transmissions II	3	0	9	6
AUT	1206	Automotive Servicing II	3	0	9	6
BUS	1105	Small Business Operations	5	0	0	5
			11	0	18	17

Total Required Minimum Quarter Hours: 104

AUTOMOTIVE MECHANICS - DIPLOMA PROGRAM (V-003)

			Course Hours Per Week			Quarter Hours Credit
			Class	Lab	Man. Lab	
FIRST QUARTER (Fall)						
AUT	1104	Automotive Fuel Systems	3	0	9	6
AUT	1120	Automotive Electical Systems I	3	0	9	6
MAT	1119	Automotive Mathematics I	3	0	0	3
PHY	1101	Applied Science	3	2	0	4
WLD	1101	Automotive Mechanics Welding I	1	0	3	2
			13	2	21	21
SECOND QUARTER (Winter)						
AUT	1101	Automotive Engines	3	0	9	6
AUT	1107	Automotive Braking Systems	3	0	9	6
RDG	100	Reading	5	0	0	5
WLD	1102	Automotive Mechanics Welding II	1	0	3	2
			12	0	21	19
THIRD QUARTER (Spring)						
AUT	1208	Automotive Transmissions I	3	0	9	6
AUT	1210	Automotive Chassis & Suspension Systems	3	0	9	6
BUS	1105	Small Business Operations	5	0	0	5
			11	0	18	17
FOURTH QUARTER (Summer)						
AUT	1106	Automotive Air Conditioning	3	0	9	6
AUT	1201	Automotive Power Train Systems	3	0	6	5
ENG	099	Grammar and Introduction to Composition II	2	3	0	3
			8	3	15	14

Total Required Minimum Quarter Hours: 71

AUTOMOTIVE MECHANICS - CERTIFICATE PROGRAM (V-003)

			Course Hours Per Week			Quarter Hours Credit
			Class	Lab	Man. Lab	
FIRST QUARTER (Fall)						
AUT	1104	Automotive Fuel Systems	3	0	9	6
AUT	1120	Automotive Electrical Systems I	3	0	9	6
WLD	1101	Automotive Mechanics Welding I	1	0	3	2
			7	0	21	14
SECOND QUARTER (Winter)						
AUT	1101	Automotive Engines	3	0	9	6
AUT	1107	Automotive Braking Systems	3	0	9	6
WLD	1102	Automotive Mechanics Welding II	1	0	3	2
			7	0	21	14
THIRD QUARTER (Spring)						
AUT	1208	Automatic Transmissions I	3	0	9	6
AUT	1210	Automotive Chassis & Suspension Systems	3	0	9	6
			6	0	18	12

FOURTH QUARTER (Summer)					
AUT	1106	Automotive Air Conditioning	3	0	9	6
AUT	1201	Automotive Power Train Systems	3	0	6	5
			6	0	15	11

Total Required Minimum Quarter Hours: 51

COSMETOLOGY

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

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

The Cosmetology curriculum at Sandhills is designed as a four-quarter program with an option for a fifth quarter. Classes are offered both day and evening. Students may graduate from this program with one of three awards: certificate, diploma, or advanced diploma. Satisfactory completion of the four-quarter program excluding general education courses will lead to a certificate. Satisfactory completion of the four-quarter program with designated general education courses will lead to a diploma. In addition, a diploma may be earned by successful completion of the five-quarter program excluding general education courses. Students who opt for the five-quarter program plus designated general education courses may earn an advanced diploma.

COSMETOLOGY - ADVANCED DIPLOMA PROGRAM (V-009)

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
COS	1001	Scientific Study I	5	0	5
COS	1011	Mannequin Practice	0	24	8
MAT	1121	Cosmetology Mathematics	3	0	3
			8	24	16
SECOND QUARTER (Winter)					
COS	1002	Scientific Study II	5	0	5
COS	1022	Clinical Application I	0	24	8
ENG	099	Grammar & Intro. to Composition II	2	3	3
			7	27	16

THIRD QUARTER (Spring)					
BUS	1105	Small Business Operations	5	0	5
COS	1003	Scientific Study III	5	0	5
COS	1033	Clinical Application II	0	24	8
			10	24	18
FOURTH QUARTER (Summer)					
COS	1004	Scientific Study IV	5	0	5
COS	1044	Clinical Application III	0	24	8
SOC	110	Life and Career Planning	2	2	3
			7	26	16
FIFTH QUARTER (Fall)					
COS	1005	Scientific Study V	5	0	5
COS	1055	Clinical Application IV	0	24	8
			5	24	13

Total Required Minimum Quarter Hours: 79

COSMETOLOGY - DIPLOMA PROGRAM (V-009)

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
COS	1001	Scientific Study I	5	0	5
COS	1011	Mannequin Practice	0	24	8
MAT	1121	Cosmetology Math	3	0	3
			8	24	16
SECOND QUARTER (Winter)					
COS	1002	Scientific Study II	5	0	5
COS	1022	Clinical Application I	0	24	8
ENG	109	Grammar & Introduction to Composition II	2	3	3
			7	27	16
THIRD QUARTER (Spring)					
COS	1003	Scientific Study III	5	0	5
COS	1033	Clinical Application II	0	24	8
BUS	1105	Small Business Operations	5	0	5
			10	24	18
FOURTH QUARTER (Summer)					
COS	1004	Scientific Study IV	5	0	5
COS	1044	Clinical Application III	0	24	8
SOC	110	Life and Career Planning	2	2	3
			7	26	16

Total Required Minimum Quarter Hours: 66

COSMETOLOGY - CERTIFICATE PROGRAM (V-009)

			Course Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER (Fall)					
COS	1001	Scientific Study I	5	0	5
COS	1011	Mannequin Practice	0	24	8
			5	24	13
SECOND QUARTER (Winter)					
COS	1002	Scientific Study II	5	0	5
COS	1022	Clinical Application I	0	24	8
			5	24	13
THIRD QUARTER (Spring)					
COS	1003	Scientific Study III	5	0	5
COS	1033	Clinical Application II	0	24	8
			5	24	13
FOURTH QUARTER (Summer)					
COS	1004	Scientific Study IV	5	0	5
COS	1044	Clinical Application III	0	24	8
			5	24	13

Total Required Minimum Quarter Hours: 52

ELECTRONIC SERVICING

The curriculum in Electronic Servicing is designed to provide basic knowledge and skills required in the installation, maintenance, and servicing of electronic components and systems. Laboratory time will be spent verifying electronic theory and principles and learning installation, maintenance, and service techniques.

An electronic service technician will be able to install, maintain, and service electronic equipment including radios, television, audio/video recording and playback equipment, home entertainment systems, digital electronic systems, and master antenna television and cable television components and systems.

Students may enter either the diploma or certificate program at the beginning of any quarter. Classes are offered in the day and in the evening. Students who earn a certificate in Electronic Servicing may later earn a diploma by completing the required general education courses.

ELECTRONIC SERVICING - DIPLOMA PROGRAM (V-042)

			Course Hours Per Week Class	Lab	Man. Lab	Quarter Hours Credit
FIRST QUARTER (Fall)						
ELN	1201	Electronic Circuits I	3	0	9	6
ELN	1202	Electronic Circuits II	3	0	9	6
MAT	1115	Electrical Mathematics I	3	0	0	3
RDG	100	Reading	5	0	0	5
			14	0	18	20
SECOND QUARTER (Winter)						
ELN	1203	Vacuum Tubes & Solid State Devices	3	0	9	6
ELN	1205	Basic Trouble-Shooting	3	0	9	6
ENG	099	Grammar & Introduction to Composition II	2	3	0	3
MAT	1116	Electrical Mathematics II	3	0	0	3
			11	3	18	18
THIRD QUARTER (Spring)						
BUS	1105	Small Business Operations	5	0	0	5
ELN	1206	Radio Receiver & Amplifier Servicing	3	0	9	6
ELN	1209	Basic Digital & Micro-Processing	3	0	9	6
			11	0	18	17
FOURTH QUARTER (Summer)						
ELN	1207	Television Theory & Circuits I	3	0	9	6
ELN	1208	Television Theory & Circuits II	3	0	9	6
PSY	1101	Human Relations	3	0	0	3
			9	0	18	15

Total Required Minimum Quarter Hours: 70

ELECTRONIC SERVICING (V-042) CERTIFICATE PROGRAM

			Course Hours Per Week Class	Lab	Man. Lab	Quarter Hours Credit
FIRST QUARTER (Fall)						
ELN	1201	Electronic Circuits I	3	0	9	6
ELN	1202	Electronic Circuits II	3	0	9	6
			6	0	18	12
SECOND QUARTER (Winter)						
ELN	1203	Vacuum Tubes & Solid State Devices	3	0	9	6
ELN	1205	Basic Trouble-Shooting	3	0	9	6
			6	0	18	12
THIRD QUARTER (Spring)						
ELN	1206	Radio Receiver & Amplifier Servicing	3	0	9	6
ELN	1209	Basic Digital and Micro-Processing	3	0	9	6
			6	0	18	12
FOURTH QUARTER (Summer)						
ELN	1207	Television Theory & Circuits I	3	0	9	6
ELN	1208	Television Theory & Circuits II	3	0	9	6
			6	0	18	12

Total Required Minimum Quarter Hours: 48

INDUSTRIAL ELECTRONICS

This program is designed to prepare individuals to repair and maintain electronic machines, controls, and components which are used by various industrial operations. Individuals in the program learn to read blueprints, to determine repair procedures, to dismantle and assemble electronic components, and to make necessary sensitive adjustments to meet specifications. A large portion of the laboratory time is spent verifying electronic principles and developing service techniques.

The graduate of this curriculum is prepared to maintain and service industrial electronic devices found in most manufacturing and service operations.

Students may enter either the diploma or certificate program at the beginning of any quarter. Students who earn a certificate in Industrial Electronics may later earn a diploma by completing the required general education courses.

INDUSTRIAL ELECTRONICS - DIPLOMA PROGRAM (V-045)

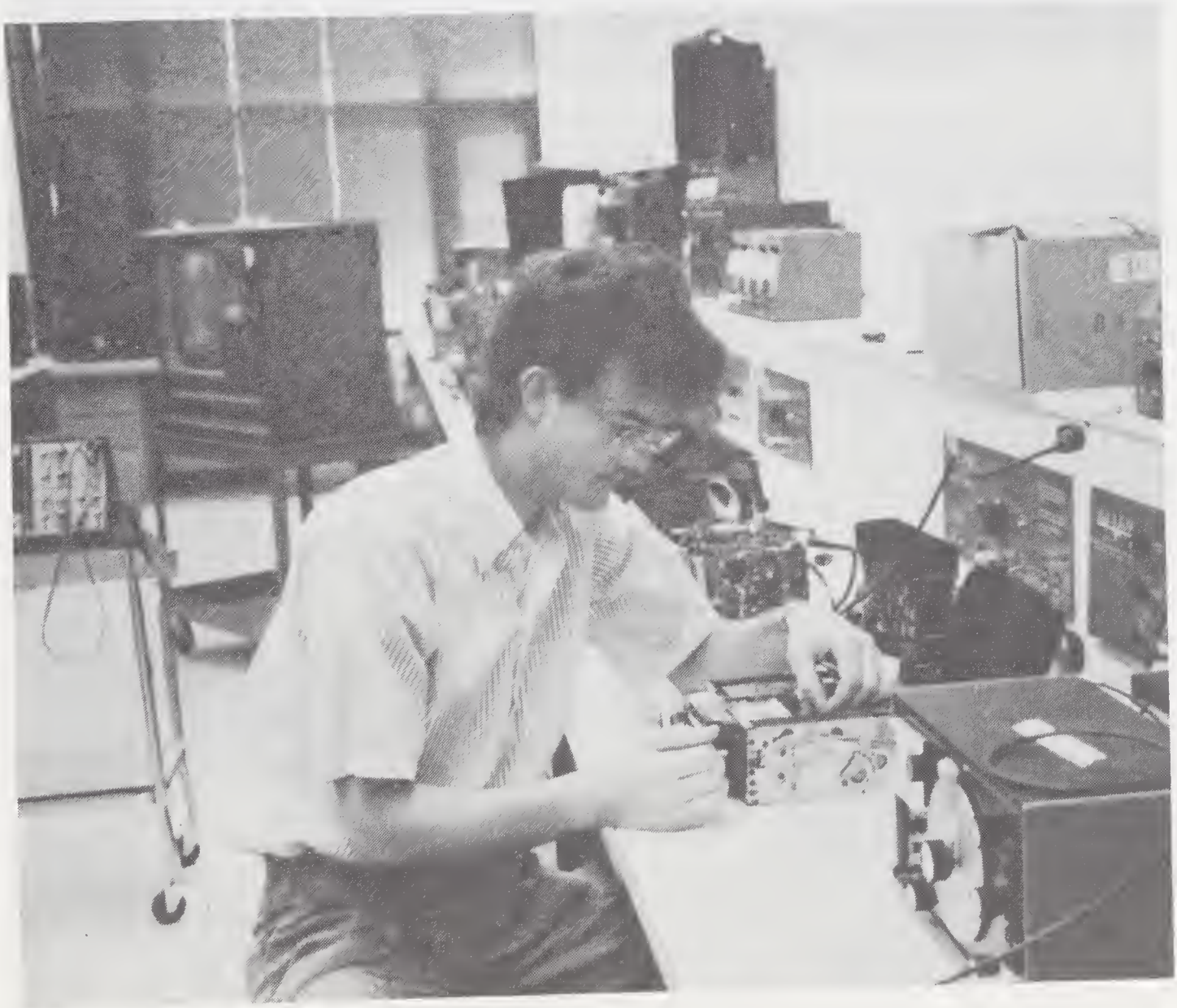
			Course Hours Per Week			Quarter Hours
			Class	Lab	Man. Lab	Credit
FIRST QUARTER (Fall)						
ELN	1101	Electronic DC Fundamentals	3	0	9	6
ELN	1102	Electronic AC Fundamentals	3	0	9	6
ELN	1103	Industrial Blueprint Reading	2	0	0	2
MAT	1115	Electrical Mathematics I	3	0	0	3
			11	0	18	17
SECOND QUARTER (Winter)						
ELN	1104	Industrial Electronics I	3	0	9	6
ELN	1105	Digital Principles	3	0	9	6
ENG	110	English Composition I	2	3	0	3
MAT	1116	Electrical Mathematics II	3	0	0	3
			11	3	18	18
THIRD QUARTER (Spring)						
BUS	1105	Small Business Operations	5	0	0	5
CSC	120	Microcomputer BASIC Language	2	2	0	3
ELN	1106	Industrial Electronics II	3	0	9	6
ELN	1107	Introduction to Micro-Processors	3	0	9	6
			13	2	18	20
FOURTH QUARTER (Summer)						
ELN	1108	Industrial Electronics III	3	0	9	6
ELN	1109	Motors and Controls	3	0	9	6
ELN	1110	Opto Electronics	1	2	0	2
PSY	1101	Human Relations	3	0	0	3
			10	2	18	17

Total Required Minimum Quarter Hours: 72

INDUSTRIAL ELECTRONICS (V-045) CERTIFICATE PROGRAM

			Course Hours Per Week			Quarter Hours Credit
			Class	Lab	Man. Lab	
FIRST QUARTER (Fall)						
ELN	1101	Electronic DC Fundamentals	3	0	9	6
ELN	1102	Electronic AC Fundamentals	3	0	9	6
ELN	1103	Industrial Blueprint Reading	2	0	0	2
			8	0	18	14
SECOND QUARTER (Winter)						
ELN	1104	Industrial Electronics I	3	0	9	6
ELN	1105	Digital Principles	3	0	9	6
			6	0	18	12
THIRD QUARTER (Spring)						
ELN	1106	Industrial Electronics II	3	0	9	6
ELN	1107	Introduction to Micro-Processors	3	0	9	6
			6	0	18	12
FOURTH QUARTER (Summer)						
ELN	1108	Industrial Electronics III	3	0	9	6
ELN	1109	Motors and Controls	3	0	9	6
ELN	1110	Opto Electronics	1	2	0	2
			7	2	18	14

Total Required Minimum Quarter Hours: 52



CONTINUING EDUCATION PROGRAMS

PHILOSOPHY

Sandhills Community College is committed to the continuing education of adults in the area. The Division of Continuing Education (DCE) offers a wide variety of courses designed to meet the needs and interests of community citizens. DCE contact with public agencies ensures that adult educational needs and interests are met. Through continuing education programs, students may train and retrain for employment, acquire basic academic skills and general knowledge, learn and enjoy crafts, and develop socially, culturally, and intellectually.

GENERAL INFORMATION

Some courses are offered on a continuing basis while others are established in response to requests by individuals or groups. An enrollment of 15 students is preferred for most classes. Persons desiring specific courses are urged to call the College.

Course descriptions are not listed in this catalog; however, information about courses may be obtained by contacting the Division of Continuing Education. A schedule of classes to be offered each quarter will be published approximately two weeks prior to registration.

Admission

Any person 18 years old, or anyone not yet 18 who has completed high school, may enroll in continuing education classes.

Registration

Registration will be held as follows:

Fall — Wednesday, August 27, 1986
Winter — Thursday, November 20, 1986
Spring — To Be Announced
Fall — Thursday, August 27, 1987
Winter — Thursday, November 19, 1987
Spring — To Be Announced

Registration will be held at the College in Blue Hall and will be conducted on a first-come, first-served basis. Adults wishing to enroll in classes held at off-campus locations may register at the College registration or at the first class meeting.

Fees

A $10 registration fee is charged for each academic extension and occupational extension class in which a student enrolls. The registration fee for practical skills and avocational courses is $19 per course. There is no registration fee for North Carolina residents 65 or older. All fees are payable at the time of registration. Books and supplies, if required, will be furnished by the student.

Location of Classes

Classes are held on the campus of Sandhills Community College and at designated locations throughout Moore and Hoke Counties.

Certificates

Certificates are awarded to students who attend 75% of the class meetings in a course or program.

Adult Basic Education

Adult Basic Education (ABE) classes are offered **free of charge** for adults 18 or older who have less than an eighth grade education. Basic subjects of reading, writing, arithmetic, science, and social studies are offered. Instruction is also given in family relations, consumer education, and employment skills. All ABE classes use individualized materials which allow students to move at their own speed and ability. Upon completion of eighth grade level work, students may continue study toward a high school certificate (GED). **These classes are also free.** Students should contact the College for information about classes in their community or enroll at any center whenever class is in session. Classes are offered at the following locations:

HOKE COUNTY
West Hoke School, McCain Hospital, McCain Correction Center, Hoke High School, Cameron Heights, Laurel Hill Church, Sandhills Community College Adult Education Center, South Hoke Elementary School, Wayside Community Center, and the Open Arms Rest Home.

MOORE COUNTY
Elise School, Moore County Department of Correction, West Southern Pines Community Service Building, West End Elementary School, Westmoore Elementary School, Sandhills Community College, Moore Memorial Hospital, Pinehurst Nursing Center, Pinehurst Elementary School, Vass-Lakeview School, Reynolds Rest Home, Seven Lakes Nursing Center, Sandhills United Church of Christ, Stanley Furniture Company, St. Joseph's Hospital, New Bensalem Church (Highfalls), Addor Community Center.

High School Diploma Program

An adult high school diploma program is sponsored jointly by Sandhills Community College and the Hoke County Board of Education. The purpose of the program is to provide instruction, guidance, and testing which will enable adult students to earn the Hoke High School adult diploma.

Classroom instruction is on the secondary school level, grades nine through twelve. The program is sufficiently extensive in duration and intensity to enable the adult student to develop the competencies necessary to assure a quality program. **Classes are free of charge**.

High School Equivalency Program

The high school equivalency program prepares adults who did not complete high school to take the tests of General Educational Development (GED) to demonstrate general educational competence. Successful participants are awarded a certificate from the State Board of Education. This certificate is recognized and generally accepted as equivalent to a high school diploma. **There is no charge for these classes**.

Sandhills Community College serves as an official GED Testing Center. Any person who is not a high school graduate may apply to take the GED if the applicant is 18 or older and is a resident of North Carolina.

Human Resources Development Program

The Human Resources Development Program (HRD) assists unemployed or underemployed persons who are 18 or older. The primary objective is to help trainees understand the job world, appreciate the effects of their behavior on others, and develop the basic academic and communication skills needed to obtain and keep a job. Individuals may register for this program at any time in the HRD Trailer on campus.

The Learning Center

In the Learning Center, students may prepare for the High School Equivalency Program, improve skills used in their jobs, or study subjects of their choice. High school graduates who plan to enter college will find review and refresher courses designed to make the transition to college work easier. Students may attend throughout the day and evening. **There is no charge**. Interested persons may register in the Learning Center, Room 209, Stone Hall, Sandhills Community College.

Occupational Extension Education

Sandhills Community College offers a variety of courses for those who desire short-term training, retraining, or upgrading in vocational and professional areas. Some of the courses that have been offered in the past are listed below. Other types of courses may be offered to meet expressed needs of the community when evidence of these needs is presented to the College.

OCCUPATIONAL EXTENSION PROGRAMS AND RELATED COURSES

Business Education
- Typewriting
- Bookkeeping
- Shorthand
- Office Machines

Health Education
- Nurse Assistant Training
- Hospital Ward Clerk
- Hospital Orderly Training
- Medical Terminology
- Supervision in Hospitals
- Home Nurse Training

Emergency Medical Technician

Hospitality Training
- Waiter-Waitress Training
- Basic Quantity Cooking
- Food Service Training
- Hotel-Motel Service Training

Fire Service Training
- Firefighting Procedures
- Firemanship Training
- Equipment Use
- Industrial Fire Brigade Training
- Hospital Fire Safety

Law Enforcement Training

Technical Training Programs
- Plumbing
- Blueprint Reading
- Electrical Code
- Electronic Communications
- Welding
- Bricklaying
- Small Engine Repair
- Automotive Maintenance
- Appliance Repair

Management Development Program
- Principles of Supervision
- Human Relations
- Effective Communication
- Effective Speaking
- Effective Writing
- Job Methods
- Industrial First Aid
- Safety and Accident Prevention
- Cost Accounting
- Conference Leadership
- Reading Improvement
- Economics in Business and Industry
- Work Measurement
- Instructor Training
- Job Analysis Training
- Creative Thinking

New Industry Training

Sandhills Community College, in conjunction with the Industrial Services Division of the North Carolina Department of Community Colleges, provides instruction for new and expanding industries. The program incorporates job analysis, instructor recruiting and training, and financial support for job instruction.

Academic Extension

Academic extension courses are offered to meet the academic educational needs of adult citizens. Courses are taught in humanities, mathematics, science, and social science.

Practical Skills

Practical skills extension courses are designed to provide practical training for persons pursuing additional skills which are not considered their major or primary vocation but may supplement income or may reasonably lead to employment.

Avocational Courses

Avocational extension courses focus on personal or leisure needs rather than occupation, profession, or employment.

COURSE DESCRIPTIONS

Course designations consist of a three-letter prefix and a number which indicate the curriculum and the level of the course. Freshman level college transfer and technical courses are indicated by numbers ranging between 100-199; sophomore level college transfer and technical courses, 200-299. Vocational courses are numbered 1000 through 1999. On the same line, following the prefix and number, appear the course title, the number of quarter hours of credit, the number of lecture and laboratory hours shown in parentheses, and the symbols, F, W, S, and SS indicating that the course is offered during the fall, winter, spring, or summer quarters. Courses without a quarter designation will be offered upon sufficient demand.

One quarter hour of credit is earned for a class meeting one hour each week during the quarter, with the exception of regular laboratories and manipulative laboratories (experience designed to develop specific job skills). One quarter hour credit is given for each two or three regular laboratory hours depending upon type of program. Credit of one quarter hour is given for each three hours of manipulative laboratory experience. Credit of one quarter hour is given for each ten hours of supervised internship, practicum, or cooperative work experience.

ART

ART 101 Art Appreciation **5(5-0) FWS SS**
Prerequisite: None.
Readings and discussions in the theory of art. The purpose of this course is to develop an appreciation of the meaning and purpose of art, both historically and at the present time. This exploration, of necessity, will examine the position of the artist in society and the interaction of his work with the social structure as well as the psychological conditions that affect the arts.

ART 121 Color and Design I **4(2-4) FWS**
Prerequisite: None.
The study of the basic elements of two dimensional design and an introduction to color theory. The student will complete a series of black and white and color projects.

ART 122 Color and Design II **4(2-4) FWS**
Prerequisite: ART 121.
A continuation of the study of basic design and advanced work with color theory through the solution of a series of black and white and color composition problems.

ART 123 Color and Design III **4(2-4) FWS**
Prerequisite: ART 122.
An introduction to three-dimensional design. The student will complete a series of projects using a variety of materials such as fabric, fibers, metal, wood, and mixed media.

ART 131 Drawing and Composition I **3(2-2) FWS**
Prerequisite: None.
Beginning drawing and the study of the problems of composition. A wide variety of techniques, including pencil, charcoal, conti, and pen and ink, will be used. Emphasis will be placed on learning to draw accurately with line and light and dark values.

ART 132 Drawing and Composition II **3(2-2) FWS**
Prerequisite: ART 131.
Emphasis on drawing the figure, beginning anatomy, and thematic drawing.

ART 133 Drawing and Composition III **3(2-2) FWS**
Prerequisite: ART 132.
Advanced drawing techniques. Thematic drawing with emphasis on imagination and complex compositional elements.

ART 134 Introduction to Printmaking **3(0-6)**
Prerequisite: None.
An introduction to the basic techniques of printmaking, including linocut, woodcut, and collagraph. Course offered based upon demand.

ART 151 Watercolor **3(1-6)**
Prerequisite: None.
A creative approach to techniques and materials in water color. Traditional techniques of watercolor painting will be a part of this course. Course offered based upon demand.

ART 155 Painting I **3(1-6) FWS**
Prerequisite: None.
The purpose of this course and those following in sequence will be to introduce the student to the medium of painting, concentrating on the use of oils and acrylics. The courses will be primarily studio oriented, although lectures, demonstrations, and field trips may be included.

ART 156 Painting II **3(1-6) FWS**
Prerequisite: ART 155.
A continuation of the techniques of oil and acrylic painting, with greater emphasis placed upon an individualized approach to composition. Emphasis will be placed upon color usage.

ART 157 Painting III **3(1-6) FWS**
Prerequisite: ART 156.
An advanced painting course in which the student assumes responsibility for designing and pursuing original problems in color and composition. The student will work independently but under the supervision of the instructor. Weekly criticisms and discussions are important evaluative features of the course.

ART 161 Introduction to Crafts **3(1-6)**
Prerequisite: None.
Designed to provide a wide range of experiences in creative media. Appropriate for art majors as well as for those in the fields of education, mental health, rehabilitation, and counseling. Possible projects may include weaving, macrame, basketry, batik, copper enameling, jewelry, and pottery. Course offered based upon demand.

ART 171 Ceramic Design I **4(2-4) FWS SS**
Prerequisite: None.
Introduction to pottery-making techniques including coil, slab, pinch, and wheel. Introduction to clays and glazes, their compositions and uses.

ART 172 Ceramic Design II **4(2-4) FWS SS**
Prerequisite: ART 171.
Wheelthrowing techniques will be stressed. Study and experimentation with chemical materials used in ceramic wares.

ART 173 Ceramic Design III **4(2-4) FWS SS**
Prerequisite: ART 172.
Advanced throwing. Advanced clay and glaze experiments. Critical awareness of form stressed.

ART 175 Special Topics
Prerequisite: Permission of Instructor.
A special course designed to teach varying areas in the field of art. Special topics to be covered will be announced prior to each offering in the quarterly schedule of classes. Credit hours will vary, depending on topic scheduled. Course offered based upon demand and availability of instructor.

ART 271 Ceramic Design IV **4(2-4) FWS SS**
Prerequisite: ART 173.
Handbuilding techniques stressed. Creative problem solving. Kiln types and firing processes examined.

ART 272 Ceramic Design V **4(2-4) FWS SS**
Prerequisite: ART 271.
Low temperature clay bodies and firing techniques. Under glaze and overglaze decoration.

ART 273 Ceramic Design VI **4(2-4) FWS SS**
Prerequisite: ART 272.
Advanced design culminating in 12 pieces of original pottery and ceramic sculpture suitable for exhibit.

AUTOMOTIVE

AUT 1101 Automotive Engines **6(3-9) WS**
Prerequisite: Admission to Automotive Program.
Development of a thorough knowledge and ability in using, maintaining, and storing the various hand tools and measuring devices needed in engine repair work. Study of the construction and operation of components of internal combustion engines. Testing of engine performance; servicing and maintenance of pistons, valves, camshafts, fuel and exhaust systems, cooling systems; proper lubrication; and methods of testing, diagnosing, and repairing.

AUT 1104 Automotive Fuel Systems **6(3-9) FW**
Prerequisite: Admission to Automotive Program.
Thorough study of fuel systems of auto vehicles. Fuel pumps, carburetors, fuel injection, characteristics of fuels, types of fuel systems; special tools and testing equipment for fuel systems.

AUT 1106 Automotive Air Conditioning **6(3-9) SS**
Prerequisite: Admission to Automotive Program.
This course is designed to give a thorough understanding of the automobile comfort heating and cooling systems. Theory of operation, system component function, and instrument diagnosis of both manual and automatic temperature controlled systems are studied. Emphasis is placed on learning proper diagnostic techniques using the latest equipment available.

AUT 1107 Automotive Braking Systems **6(3-9) WS**
Prerequisite: Admission to Automotive Program.
A complete study of various braking systems employed on automobiles and lightweight trucks. Emphasis is placed on operation, adjustment, and repair.

AUT 1109 Basic Automotive Air Conditioning **3(2-3) SS**
Prerequisite: Admission to Automotive Body Repair Program.
An introductory course for Auto Body Repair students. Introduction to refrigeration and principles of operation are covered. Emphasis is placed on safe disassembly and reassembly of air conditioning components related to front-end collision damage. Students learn to repair, evacuate, and recharge air conditioning systems, returning them to original working order.

AUT 1110 Automotive Suspension Systems **3(2-3) S**
Prerequisite: Admission to Automotive Body Repair Program.
An introductory course for Auto Body Repair students. The theory of operation, study of geometric angles, and the proper procedures for aligning suspension systems will be studied.

AUT 1111 Auto Body Repair I **9(5-12) F**
Prerequisite: Admission to Auto Body Repair Program.
Basic principles of automobile construction, design, and manufacturing. A thorough study of angles, crown, and forming of steel into the complex contours of present day vehicles. Practical application of the basic principles of straightening, aligning, and painting damaged areas.

AUT 1112 Auto Body Repair II **9(5-12) W**
Prerequisite: Admission to Auto Body Repair Program.
This course places emphasis on estimating collision damage, repair order writing, and other phases of shop management. Also a study of plastic repair, fiberglass repair, and panel replacement.

AUT 1113 Automotive Refinishing **9(5-12) S**
Prerequisite: Admission to Auto Body Repair Program.
A study of automotive finishing procedures, materials, and equipment. Shop practice includes surface preparation, spot repair, panel repair, and complete refinishing using the latest materials and equipment.

AUT 1114 Body Shop Applications **9(5-12) SS**
Prerequisite: Admission to Auto Body Repair Program.
This course is designed to enable students to analyze collision damage to structural members, suspension systems, and control systems of the automobile. Repairs will be made to conventional and unitized automobiles. Emphasis is placed on safe repair methods, as well as the retention of structural integrity and proper operation of the repaired vehicle.

AUT 1120 Automotive Electrical Systems I **6(3-9) F**
Prerequisite: Admission to Automotive Program.
This course covers the fundamentals of electricity, Ohms' law, types of circuits, and theory of operation of all electrical components on an automobile. Repairs and testing procedures are also covered on the following components: batteries, starting and charging systems, and ignition systems, both conventional and electronic.

AUT 1121 Automotive Electrical Systems II **6(3-9) W**
Prerequisite: Admission to Automotive Program.
This course primarily covers the lighting, instrumentation, and accessory systems used in mass-production vehicles. Topics covered include: how to read and interpret the new wiring and vacuum diagrams; learning the technique of common-point diagnosis for locating opens, shorts, or grounds; and the use of various test instruments needed to trouble-shoot electrical systems. Other topics include circuit protection and power distribution, horns and buzzers, power seats and windows, and windshield wipers.

AUT 1122 Automotive Engine Tune-up and Emission Control **6(3-9) S**
Prerequisite: Admission to Automotive Program.
This course is designed to provide depth in the understanding and use of various types of tune-up equipment.

AUT 1201 Automotive Power Train Systems **5(3-6) F SS**
Prerequisite: Admission to Automotive Program.
Principles and functions of automotive power train systems; clutches, transmission gears, drive shaft assemblies, rear axles, and differentials. Identification of trouble, servicing, and repair.

AUT 1202 Automotive Servicing I **6(3-9) W**
Prerequisite: Admission to Automotive Program.
Emphasis placed on the shop procedures necessary in determining the nature of trouble developed in the various component systems of the automobile. This provides the student with a full range of experiences in testing, adjusting, repairing, and replacing.

AUT 1206 Automotive Servicing II **6(3-9) S**
Prerequisite: AUT 1202.
Emphasis is placed on "trouble-shooting" and repairing the various component systems on vehicles provided for general repairs. The student is given in-depth experiences in diagnosis, testing, adjusting, repairing and replacing component parts.

AUT 1208 Automatic Transmissions I **6(3-9) WS**
Prerequisite: Admission to Automotive Program.
In this course, the basic principles applying to automatic transmissions are covered. These include: basic hydraulics, hydraulic circuitry, planetary gears, torque converters, and the various types of holding devices used to control planetary gears. Trouble-shooting/diagnosis through pressure testing, band adjustments; linkage adjustments and all other in-car repairs are also covered. Upon completion of this course, a student should be ready to study all the individual transmissions in AUT 1209.

AUT 1209 Automatic Transmissions II **6(3-9) S**
Prerequisite: AUT 1208.
This course is designed to provide a measure of depth in the understanding of automatic transmissions. Instruction includes classroom study, demonstrations, and individual student participation in the disassembly, overhaul, reassembly, and testing of today's transmissions. Special emphasis is placed on the principles of operation, function, and construction of units within an automatic transmission. Along with total servicing, trouble-shooting procedures are covered for each of the late-model automatic transmissions studied.

AUT 1210 Automotive Chassis and Suspension Systems **6(3-9) FS**
Prerequisite: Admission to Automotive Program.
Principles and functions of the components of automotive chassis. Practical job instruction in adjusting and repairing of suspension and steering systems. Units to be studied will be shock absorbers, springs, steering, steering linkage, four-wheel alignment, and all phases of wheel balance.

BIOLOGY

BIO 106 Applied Plant Morphology **3(3-0) F**
Prerequisite: None.
A study of the fundamental biological principles as they apply to the structure and function of vascular plants and plant tissues. Physiology and morphology will be considered in their relationship to plant growth and survival.

BIO 110 General Biology I **4(3-3) FW SS**
Prerequisite: None.
This course is designed to familiarize the individual student with the basic principles of life. Emphasis is placed upon matter and energy, cell content, cell physiology and cellular reproduction, genetics, evolution, and ecology.

BIO 111 General Biology II **4(3-3) WS SS**
Prerequisite: BIO 110.
This course will acquaint the student with the animal kingdom. An application of the principles acquired in BIO 110 will be utilized to give the student an appreciation of nature, the animals, and their relationships.

BIO 112 General Biology III **4(3-3) S SS**
Prerequisite: BIO 111.
A continuation of BIO 111. This course will acquaint the student with the plant kingdom. An application of the principles acquired in BIO 110 will be utilized to give the student an appreciation of nature, the plants, and their relationships.

BIO 200 Botany I **2(2-0) W**
Prerequisites: BIO 110, 111, 112, or permission of instructor.
The first of a two-quarter sequence, this course is designed to review principles of botany taught in BIO 110 and 112 and to go beyond superficial coverage of botanical principles and theories. Emphasis will be placed on the plant divisions and life histories. Course offered based upon demand.

BIO 201 Botany II **4(2-4) S**
Prerequisite: BIO 200.
A continuation of BIO 200 with emphasis on higher plant structure, taxonomy of angiosperms, and field study. Principles taught in BIO 200 will be applied to the relationships of various taxa. Course offered based upon demand.

BIO 205 Invertebrate Zoology **4(2-4) S**
Prerequisite: BIO 111.
A survey of the invertebrates stressing life histories, morphology, anatomy, ecological distribution and importance. Several major dissections of the various phyla will be included as a part of the laboratory work. Course offered based upon demand.

BIO 206 Vertebrate Zoology **4(2-4) W**
Prerequisite: BIO 111.
The study of chordates from the embryo to the adult. Emphasis will be placed on structure and function of the major body systems of many chordates. Genetics will be introduced in both the lecture and laboratory. Course offered based upon demand.

BIO 210 Human Anatomy and Physiology I **5(4-3) F SS**
Prerequisite: None.
An integrated two-unit course designed to give the student a working knowledge of the structure, functions, nature, and mechanisms of the human body. Physiochemical aspects of the animal cell; skeletal, muscular, and nervous systems studies are included.

BIO 211 Human Anatomy and Physiology II **5(4-3) W SS**
Prerequisite: BIO 210.
A continuation of BIO 210 with the anatomy and physiology of the major human systems such as circulatory, respiratory, digestive, excretory, reproductive, embryological, and endocrine glands. Laboratory studies include dissection of major parts of animals and of small mammals.

BIO 230 Microbiology **5(4-3) S**
Prerequisites: BIO 112, or BIO 211, or permission of instructor.
A survey of bacteria, yeasts, molds, rickettsiae, viruses, helminths; their structure, development, and function. Special emphasis is placed on the morphology, physiology, and ecology of bacteria.

BUSINESS

BUS 100 Keyboarding for Personal Use **1(0-2) F**
Prerequisite: None.
Students will learn the basic skills necessary to input data through the use of a keyboard by learning the method of "touch" keyboarding, the process of being able to read copy and transmit what one sees to the fingers without having to look at the fingers.

BUS 101 Introduction to Business **5(5-0) FWS SS**
Prerequisite: None.
An introductory course designed to provide the student with a basic understanding of the capitalistic system and the major facets of business—organization, production, personnel, finance, and control. Emphasis is placed on the development of an adequate business vocabulary. Modern business trends and developments are stressed through outside readings. Elective for AA/AS degrees.

BUS 102 Keyboarding I **4(3-2) FWS SS**
Prerequisite: None.
Introduction to the touch typewriting system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation, and manuscripts. Elective for AA/AS degrees.

BUS 103 Keyboarding II **4(3-2) FWS SS**
Prerequisite: BUS 102 with a minimum grade of C.
Instruction emphasizes the development of speed and accuracy with further mastery of correct typewriting techniques. These skills and techniques are applied in tabulation, manuscript, correspondence, and business forms.

BUS 104 Keyboarding III **4(3-2) FWS SS**
Prerequisite: BUS 103 with a minimum grade of C.
Emphasis on production typing problems and speed building. Attention is focused on the development of the student's ability to function as an expert typist by producing mailable copies.

BUS 106 Shorthand I **5(5-0) W**
Prerequisite: ENG 110 with a minimum grade of C.
A beginning course in the theory and practice of reading and writing shorthand. Emphasis is placed on phonetics, penmanship, word families, brief forms, and phrases.

BUS 107 Shorthand II **5(5-0) S**
Prerequisite: BUS 106 with a minimum grade of C.
Continued study of theory with greater emphasis on dictation and elementary transcription.

BUS 108 Shorthand III **5(5-0) F SS**
Prerequisite: BUS 107 with a minimum grade of C.
Introduction to office style dictation. Emphasis on development of speed in dictation and accuracy in transcription.

BUS 110 Office Machines **3(1-4) FWS SS**
Prerequisite: BUS 130 or permission of instructor.
A general survey of business and office machines. Students will receive training in techniques, processes, operation, and application of electronic display/printing calculators.

BUS 112 Filing **3(3-0) F**
Prerequisite: None.
Fundamentals of indexing, requisition, and charge procedures, and alphabetic, geographic, subject, and numeric correspondence filing. Theory and practice by the use of miniature letters, filing boxes, and guides.

BUS 113 Medical Terminology and Transcription **4(3-2) FWS**
Prerequisite: BUS 103 with a minimum grade of C.
Designed to develop transcription skills for students in secretarial and administrative office management programs. Latest information on medical word processing technology and procedure. Broad range of medical documents from medical specialists in hospitals, clinics, and private practices. Emphasis on building medical terminology, spelling, and punctuation skills.

BUS 115 Business Law I **5(5-0) W SS**
Prerequisite: None.
A general course designed to acquaint the student with certain fundamentals and principles of business law, including the meaning and function of law, law-making authority of three branches of government, civil and criminal procedure, taxes, torts and crimes, and an overview of contract law. Elective for AA/AS degrees.

BUS 116 Business Law II **5(5-0) WS SS**
Prerequisite: BUS 115.
Includes the study of laws pertaining to bailments, credit sales, risk-bearing, partnership, corporations, mortgages, property rights, agencies, contracts, and negotiable instruments. Elective for AA/AS degrees.

BUS 120 Personal Development **3(3-0) S**
Prerequisite: None.
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 for employment and promotion in business and industry.

BUS 130 Business Mathematics **5(5-0) FWS SS**
Prerequisite: Satisfactory score on business math test.
A course stressing applications to business problems. Topics covered: payroll, pricing, interest discount, commission, taxes, and pertinent use of mathematics in the field of business.

BUS 131 Principles of Accounting I **5(5-0) FWS SS**
Prerequisite: None.
Principles, techniques, and tools for understanding accounting. Indicates the processes for collecting, summarizing, analyzing, and reporting information about service and mercantile enterprises. Includes practical application of the principles learned. Elective for AA/AS degrees.

BUS 132 Principles of Accounting II **5(5-0) WS SS**
Prerequisite: BUS 131.
Accounting for receivables, inventory, depreciation of plant assets, payroll, and internal control. Special emphasis is given to deferral and accrual problems. Critical examination and analysis of accounting principles with emphasis on determination of cost and income, valuation, and statement presentation. Elective for AA/AS degrees.

BUS 133 Principles of Accounting III **5(5-0) FS SS**
Prerequisite: BUS 132.
A study of corporate capital structure and distribution of earnings with emphasis on branch and department operations. Introduction to cost accounting for materials, labor, and burden control in manufacturing companies. Statement review and examination of budgetary controls. Elective for AA/AS degrees.

BUS 204 Advanced Keyboarding **3(1-4) FWS SS**
Prerequisite: BUS 104 with a minimum grade of C.
Emphasis is placed on the development of individual production rates. Students learn the techniques needed in planning and typing projects that closely approximate actual office experiences.

BUS 206 Dictation and Transcription I **4(3-2) W**
Prerequisite: BUS 108 with a minimum grade of C.
This course develops the skills of taking dictation and of transcribing materials. Included are a review of theory and the dictation of familiar and unfamiliar materials at varying rates of speed. Minimum dictation rate of 90 words per minute required for three minutes on new material.

BUS 207 Dictation and Transcription II **4(3-2) S**
Prerequisite: BUS 206 with a minimum grade of C.
In this course, students develop the accuracy, speed, and vocabulary that will enable them to meet the stenographic requirements of business and professional offices. Minimum dictation rate of 100 words per minute required for three minutes on new material.

BUS 211 Machine Transcription **4(3-2) W SS**
Prerequisite: BUS 103.
This course develops the skill of direct transcription from recorded dictation to mailable typewritten form. Editing, punctuating, spelling, and formatting are emphasized.

BUS 213 Office Procedures **5(5-0) S SS**
Prerequisite: BUS 103.
Receptionist duties, mail procedures, telephone techniques, travel information, desk and office organization, and the use of banking services are discussed. Interpersonal relationships are covered. Students receive training in the operation of duplicating equipment. On-the-job training is also required.

BUS 220 Business Communication **5(5-0) FWS**
Prerequisites: ENG 110 and BUS 102 or satisfactory score on Typewriting Test.
Skills in the techniques of writing business communications are developed. Emphasis is placed on writing action-getting sales letters, letters involving credit, collections, adjustments, complaints, orders, acknowledgments, remittances, and inquiries. Elective for AA/AS degrees.

BUS 222 Intermediate Accounting I **5(5-0) F**
Prerequisite: BUS 133 or permission of instructor.
A thorough treatment of the field of general accounting, providing the necessary foundation for specialized studies that follow. The course includes studies of the balance sheet, income and surplus statements, fundamental processes of recording, cash and temporary investments, and analysis of working capital. Elective for AA/AS degrees.

BUS 223 Intermediate Accounting II **5(5-0) W**
Prerequisite: BUS 222.
A continuation of Intermediate Accounting I with emphasis on investments, plant and equipment, intangible assets and deferred charges, long-term liabilities, paid-in capital, retained earnings, and special analytical processes. Elective for AA/AS degrees.

BUS 225 Cost Accounting **5(5-0) W**
Prerequisite: BUS 133.
Nature and purposes of cost accounting principles. Accounting for direct labor, materials and factory overhead, job cost, and standard cost. A study of selling and distribution cost; budgets and executive use of cost figures for managerial decision-making. Elective for AA/AS degrees.

BUS 229 Taxes **5(5-0) F SS**
Prerequisite: BUS 133 or permission of instructor.
Application of federal and state taxes to various businesses and business conditions. A study of the following taxes: income, payroll, intangibles, capital gain, sales and use, excise, and inheritance. Elective for AA/AS degrees.

BUS 230 Microcomputer Accounting **4(3-2) W SS**
Prerequisite: BUS 133.
Microcomputer applications relating to the five major accounting systems: general ledger, depreciation, accounts receivable, accounts payable, and payroll.

BUS 232 Sales Development **3(3-0)**
Prerequisite: None.
A study of retail, wholesale, and specialty selling. Emphasis is placed upon mastering and applying the fundamentals of selling. Preparation for and execution of sales demonstrations required. Elective for AA/AS degrees. Course offered based upon demand.

BUS 233 Insurance **3(3-0)**
Prerequisite: None.
A presentation of the basic principles of risk insurance and their application. A survey of the various types of insurance is included in the course. Elective for AA/AS degrees. Course offered based upon demand.

BUS 234 Visual Communications **3(2-2)**
Prerequisite: None.
This is an elective course designed to give the student a basic understanding of the preparation and presentation of visual data. Course offered based upon demand.

BUS 235 Principles of Management **5(5-0) W SS**
Prerequisite: BUS 101 or permission of instructor.
Analysis of management principles and techniques of the planning, organizing, directing and controlling functions. Application of these techniques to specific fields. Elective for AA/AS degrees.

BUS 239 Marketing **5(5-0) S SS**
Prerequisite: BUS 101 or permission of instructor.
A general survey of the field of marketing, with a detailed study of the theories, functions, policies, and institutions involved in the marketing process. Elective for AA/AS degrees.

BUS 243 Advertising **3(3-0)**
Prerequisite: None.
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, and the means of testing effectiveness of advertising. Theory and practice of writing advertising copy for various media. Elective for AA/AS degrees. Course offered based upon demand.

BUS 244 Personal Money Management **3(3-0) W**
Prerequisite: None.
This course is designed to enable students to analyze and direct their personal and family financial affairs. Personal budgeting, borrowing money, buying on credit, investments, savings, insurance, and home ownership are some of the areas of study. Elective for AA/AS degrees.

BUS 249 Fund Accounting (Governmental) **5(5-0) S**
Prerequisite: BUS 223.
Principles and procedures for application of fund accounting to governmental units, institutions, and certain non-profit organizations.

BUS 255 Management and Organizational Behavior **5(5-0) S**
Prerequisite: BUS 101 or permission of instructor.
An analysis of the behavior of individuals in work organizations. Personal attributes such as motivation, attitude, personality, interest, skills, and knowledge are analyzed, as well as organizational areas such as formal structure, technology, work flow, and reward systems.

BUS 256 Personnel Administration **5(5-0) W**
Prerequisite: BUS 101 or permission of instructor.
Policies and procedures used in obtaining, developing, and maintaining an efficient work force. A study of the recruiting, selection, training, placement, promotion, transfer, and salary administration processes.

BUS 269 Auditing **5(5-0) S**
Prerequisite: BUS 223.
Principles of conducting audits and investigations; setting up accounts based on audits; collecting data on working papers; arranging and systematizing the audit; and writing the audit report. Emphasis placed on detailed audits, internal auditing, and internal control.

BUS 271 Word Processing for Personal Use **1(0-2) F**
Prerequisite: BUS 100 or permission of instructor.
The student will receive an introduction to word processing skills for personal use by using a microcomputer and WordStar, a well-known word processing program.

BUS 273 Introduction to Word Processing **3(2-3) FS**
Prerequisite: BUS 103 with a minimum grade of C or permission of instructor.
An introductory course in the study and development of word processing concepts and skills. Emphasis is placed on machine operation, terminology, and job applications using a microcomputer.

BUS 274 Word Processing Applications **3(2-3) W SS**
Prerequisite: BUS 273.
A course designed to provide production-level skill development in word processing. Emphasis will be placed on producing mailable documents through the use of simulated materials.

BUS 1105 Small Business Operations **5(5-0) S**
Prerequisite: None.
An introduction to the principles, techniques, and practices of small business organization operations. For vocational students only.

Note: For other business courses see Economics and Business Computer Programming.

CHEMISTRY

CHM 110 General Chemistry I **3(3-0) FW SS**
Prerequisite: None.
Corequisite: CHM 110L.
An introductory course covering basic concepts: atomic and molecular theory, chemical bonding; classification of the elements, their properties and reactions based on Periodic Law.

CHM 110L General Chemistry Lab I **1(0-3) FW SS**
Prerequisite: None.
Corequisite: CHM 110.
An introductory laboratory course with experiments designed to accent the principles presented in CHM 110 with an emphasis on quantitative determinations.

CHM 111 General Chemistry II **3(3-0) WS SS**
Prerequisite: CHM 110.
Corequisite: CHM 111L.
A continuation of CHM 110. Additional topics include quantitative stoichiometry.

CHM 111L General Chemistry Lab II **1(0-3) WS SS**
Prerequisite: CHM 110L.
Corequisite: CHM 111.
A continuation of CHM 110L with emphasis on volumetric,gravimetric, and instrumental analysis.

CHM 112 General Chemistry III **3(3-0) S SS**
Prerequisite: CHM 111.
Corequisite: CHM 112L.
A continuation of CHM 111. Topics include kinetics, equilibrium, and nuclear chemistry.

CHM 112L General Chemistry Lab III **1(0-3) S SS**
Prerequisite: CHM 111L.
Corequisite: CHM 112.
A continuation of CHM 111L with emphasis on volumetric and instrumental analysis.

CHM 205 Organic Chemistry I **4(3-3) F**
Prerequisite: CHM 112.
Chemistry of the compounds of carbon. Topics include basic nomenclature, properties and reactions of aliphatic hydrocarbons. Reaction mechanisms are emphasized. The laboratory work is designed to develop basic laboratory techniques of synthesis, separation, purification, and identification.

CHM 206 Organic Chemistry II **4(3-3) W**
Prerequisite: CHM 205.
A continuation of CHM 205. Aliphatic, alicylic, and aromatic compounds are studied with an emphasis upon determination of molecular structure and correlations between structure and reactivity. NMR, IR, and mass spectroscopy are applied in structure determination. Laboratory work includes synthesis and qualitative analysis with emphasis upon spectroscopy and chromatographic techniques.

CHM 207 Organic Chemistry III **4(3-3) S**
Prerequisite: CHM 206.
A continuation of CHM 205 and CHM 206. Emphasis is placed upon molecular structures of biological importance and the correlation of these structures to reactivity. The laboratory work emphasizes modern techniques of separation and identification.

CIVIL ENGINEERING TECHNOLOGY

CIV 101 Surveying I **4(2-6) W**
Corequisite: MAT 025 or MAT 110.
Theory and practice of plane surveying including basic definitions, types of surveying, taping, note-keeping, differential and profile leveling, traversing, topographic details from transit-tape survey and transit stadia reductions, and care and use of instruments. Calculations include bearing, azimuth, and compass corrections.

CIV 102 Surveying II **4(3-3) S**
Prerequisite: CIV 101.
Corequisite: MAT 120.
Basic calculations and field methods for land surveying. Topics include traverse adjustment, area determination, land surveys, U.S. Public Land Surveys, and introduction to construction surveying, route surveying, instrument adjustments, and computer techniques.

CIV 104 Topographic Mapping & Introduction to Photogrammetry **3(2-3) SS**
Prerequisite: CIV 102.
Methods of making topographic surveys. The use of aerial photographs for mapping purposes. Interpretation of aerial photographs, production of photomaps, photogrammetric calculations, and ground control. Lab will emphasize field and office techniques of preparing topographic maps.

CIV 111 Site Surveying **4(3-3) SS**
Prerequisite: CIV 101.
Basic site and construction surveying. Grid topos, lot corners, building corners, and batterboards are covered in class and field exercises. The location of buildings for architectural and environmental considerations as well as architectural plot plans are covered.

CIV 114 Statics **4(3-3) S**
Prerequisite: MAT 120.
Forces, resultants, and types of force systems; moments, equilibrium of coplanar forces by analytical methods; forces and reactions in simple structures and trusses; equilibrium of forces in space; centroids and moments of inertia.

CIV 115 Strength of Materials **4(3-3) SS**
Prerequisite: CIV 114.
Fundamental stress and strain relationship, torsion, shear and bending moments; stresses and deflections in beams; introduction to statically indeterminate beams; columns; combined stresses. The lab will emphasize demonstration and calculations of types of structural stresses in steel and timber.

CIV 120 Plain Concrete and Asphalt **3(2-3) SS**
Prerequisite: MAT 110.
Materials used in engineered construction. The design, specification, and testing of materials are covered in class and laboratory exercises. Primary emphasis is placed upon the techniques used in controlling the quality of asphalt and Portland cement concrete (including their aggregates). An introduction to statistical analysis is included.

CIV 202 Properties of Soils **3(2-3) S**
Prerequisite: CIV 120.
Study of soil types and their physical properties; mechanical analysis and tests of soils; techniques of subsurface investigation, earth pressure theories; bearing capacity; stability of slopes and methods of compaction and control. Lab work will emphasize theory and methods of basic soil tests.

CIV 219 Structural Timber Design **2(1-3) F**
Prerequisite: CIV 115.
The application of Strength of Materials theory to structural timber design. Topics will include the design, connection, and detailing of timber beams, columns, deck, and trusses for residential and commercial construction. The lab will consist of applied design and detailing problems.

CIV 222 Structural Steel Design **4(3-3) W**
Prerequisite: CIV 219.
Structural steel design theory and principles necessary for design of simple structures; design and analysis of beams, columns, tension, and compression members and their connections. The lab will emphasize design and detailing of simple steel structures. Wind and seismic loading and rigid frames are not included.

CIV 223 Codes, Specifications, and Contracts **2(2-0) W**
Prerequisite: None.
Basic principles and methods most significant in contractual relationships; appreciation of the legal considerations in construction work; study of state and local building codes, interpreting and outlining specifications.

CIV 224 Structural Concrete Design **4(3-3) S**
Prerequisite: CIV 222.
Reinforced concrete design theory and principles necessary for design of concrete structures; design and analysis of slabs, beams, columns, foundations, and retaining walls. Lab will emphasize design and detailing of simple concrete structures.

CIV 226 Architectural Mechanical Equipment **3(3-0) W**
Corequisite: PHY 203.
General study of heating, air conditioning, insulation, plumbing, and electrical equipment, materials, and symbols. Building code requirements pertaining to residential and commercial structures. Reading and interpretation of mechanical working drawings. Coordination of mechanical and electrical features with structural and architectural designs.

CIV 227 Construction of Roads and Pavements **4(3-3) F**
Prerequisite: CIV 102.
Construction practices for various types of road building, including soil properties, grading, subgrading, base courses, drainage, embankments, compaction, and formwork. Design and construction of rigid Portland cement concrete, flexible bituminous pavement, and pavement rehabilitation. Field inspection trips.

CIV 228 Construction Methods, Equipment, and Planning **4(3-3) F**
Prerequisite: None.
Construction techniques and project planning are taught. Topics include construction financing, construction methods for residential and commercial projects, as well as planning of time, equipment, and manpower for these projects. Lab assignments will involve the computation of these elements and selected field trips.

CIV 230 Hydraulics **3(2-3) SS**
Prerequisite: MAT 110.
Basic hydraulics is emphasized, including dimensional analysis, hydrostatic pressures, fluid flow in pipes, open channel flow, and other basic flow problems. Major emphasis is placed on the application of Bernoulli's equation in the design of pumps and turbines for ideal fluids, plus the calculation and use of Reynolds numbers in solving real fluid flow problems where friction and other head losses are involved. The laboratory includes practical exercises and design problems in fluid pressure and fluid flow.

CIV 231 Environmental Analysis **4(3-3) S**
Prerequisite: CIV 230.
The course will deal with the basic design principles and operations of modern treatment facilities. Emphasis will be placed upon the analysis and inspection of water and sewage treatment facilities as well as calculations involving collection and distribution systems and drainage. The lab will consist of effluent and potable water analysis problems as well as field trips to treatment plants. Appropriate government regulations will be used in establishing testing and design procedures.

CIV 235 Surveying Instrument Adjustment **4(3-3)F**
Prerequisite: CIV 102.
General theory and practice of instrument adjustments and servicing. Labs will include callibration of transits, theodolites, and levels.

CIV 237 Construction Estimating **3(2-3) W**
Prerequisite: CIV 228.
Interpretation and take off of working drawings of earthwork, timber, structural steel, and reinforced concrete structures; preparation of material and labor quantity surveys from plans and specifications; approximate and detailed estimates of costs and bidding procedures.

CIV 241 Route Surveying **3(2-3) F**
Prerequisite: CIV 102.
Route surveys with particular emphasis on office and field work in connection with vertical, circular, and transition (spiral) curves; earthwork, and slope stakes. The use of programmed calculators and microcomputers is also included.

CIV 242 Surveying Law **3(3-0) W**
Prerequisite: CIV 101.
Study of definitions of deed terms for boundary surveys, manual of practice for land surveyors in North Carolina; evidence, title boundaries, platting laws, and survey plats; writing descriptions, the surveyor in court, and professional stature.

CIV 243 Advanced Surveying **3(2-3) W**
Prerequisite: CIV 102.
Use of North Carolina co-ordinate system, triangulation, trilateration, astronomic observations and use of advanced instruments. A study of surveying calculations and computer programs.

CIV 244 Subdivision Planning & Drainage **6(5-3) S**
Prerequisites: CIV 230, CIV 241, CIV 242.
Subdivision of land tracts including planning and detailing of roads, utilities, and recreational facilities. Drainage layouts and systems will be designed and drawn. Students will prepare subdivision drawings utilizing microcomputers and CAD.

COMPUTER ENGINEERING APPLICATIONS TECHNOLOGY

CSC 101 Technical Applications of Integrated Software **2(1-2)**
Prerequisite: CSC 105 or CSC 110 or permission of instructor.
A course on the technical applications of software such as Lotus 1-2-3 or similar program. Includes an introduction to the use of the spreadsheet, database, and graphics functions of integrated software. Course offered based upon demand.

CSC 102 Introduction to Technical Databases **2(1-2)**
Prerequisite: CSC 105 or CSC 110 or permission of instructor.
A course on the technical applications of software such as dBase II or similar program. Includes the design, creation, and maintenance of data files and the creation of reports. Course offered based upon demand.

CSC 103 CP/M Applications **2(1-2)**
Prerequisite: CSC 105 or CSC 110 or permission of instructor.
An introduction to the CP/M operating system, its utilities, applications software and methods of transferring data between applications. Course offered based upon demand.

CSC 104 MS-DOS Applications **2(1-2)**
Prerequisite: CSC 105 or CSC 110 or permission of instructor.
An introduction to the MS-DOS operating system and its utilities. Topics include disk formats, hierarchical directories, I/O redirection and batch files. Course offered based upon demand.

CSC 105 Computer Literacy **2(1-2) FWS SS**
Prerequisite: None.
An introduction to microcomputers using applications software including word processing, database management and electronic spreadsheet packages. Elective for AA/AS degrees.

CSC 110 Introduction to Microcomputers **3(2-2) FWS SS**
Prerequisite: None.
Introduction to microcomputer hardware and software including elementary hardware concepts, applications software, and an introduction to the BASIC computer language. Elective for AA/AS degrees.

CSC 120 Microcomputer BASIC Language **3(2-2) FWS SS**
Corequisite: CSC 110 or permission of instructor.
Programming the microcomputer with BASIC. Includes IF-THEN-ELSE, FOR-NEXT, WHILE-WEND and READ-DATA. Students will write, test, and debug programs utilizing algorithm development and BASIC commands. Laboratory assignments will include program development. Elective for AA/AS degrees.

CSC 125 Microcomputer Data Files **4(3-3) FWS SS**
Prerequisite: CSC 120.
This course will teach the student to write data file programs. Topics include arrays, subroutines, sorting and searching algorithms, sequential file and random access file handling. Elective for AA/AS degrees.

CSC 130 Microcomputer Applications **3(2-3)**
Prerequisite: CSC 105 or CSC 110 or permission of instructor.
Introduction to the use of varied software packages. Students will use and analyze current applications such as analytical or statistical, graphics, utility, etc., software. Course offered upon demand.

CSC 140 Introduction to Pascal **4(3-3) W**
Prerequisite: CSC 120.
An introduction to the essential elements of Pascal programming syntax, structured programming concepts, problem solving, and the use of the Pascal editor and compiler. Elective for the AA/AS degrees.

CSC 150 Introduction to C Programming **4(3-3) SS**
Prerequisite: CSC 140.
An introduction to the C programming language including data types, functions, arrays, structures, and pointers.

CSC 210 Microcomputer Architecture and Assembly Language **4(3-3) F**
Prerequisites: CSC 125, MAT 130.
Introduction to the CPU architecture and memory organization of microcomputers and assembly language programming. Includes the use of machine language programs from BASIC.

CSC 220 Advanced Assembly Language **5(3-6) W**
Prerequisite: CSC 210.
Continuation of CSC 210. Advanced assembly language concepts, macros, segmented memory management, interrupts and disk files, among other topics.

CSC 240 Advanced Pascal **5(3-6) S**
Prerequisite: CSC 140.
Advanced topics in the Pascal programming including enumerated and array types, array processing, text files, structured types, abstract data structures using pointers, and sorting and searching.

CSC 250 Advanced C Programming **5(3-6) F**
Prerequisite: CSC 150.
Advanced topics in the C programming language including pointers to functions, bitwise operators, files with technical applications.

COSMETOLOGY

COS 1001 Scientific Study I **5(5-0) FWS SS**
Prerequisite: Admission to Cosmetology Program.
Corequisite: COS 1011.
A study of professional ethics, grooming, and personality development, sterilization, sanitation, first aid and bacteriology, cosmetology law, anatomy, chemistry, nails, nail disorders, manicuring, hair, scalp, skin, and disorders pertaining to the hair, scalp, and skin.

COS 1002 Scientific Study II **5(5-0) FWS SS**
Prerequisite: COS 1001.
Corequisite: COS 1022.
A classroom study of skin, scalp, hair, nails, and their disorders, salesmanship, permanent waving, marcelling, relaxing, hairdressing, wigs, and hair coloring.

COS 1003 Scientific Study III **5(5-0) FWS SS**
Prerequisite: COS 1002.
Corequisite: COS 1033.
A classroom study of anatomy, manicuring, chemistry, cosmetics-facials, hair styling, theory of massage, scalp treatments, superfluous hair removal, grooming, and hygiene.

COS 1004 Scientific Study IV **5(5-0) FWS SS**
Prerequisite: COS 1003.
Corequisite: COS 1044.
A classroom study of chemistry, sanitation, sterilization, hair coloring and lash and brow tinting, artistry in hair styling, beauty salon salesmanship management, electricity, cold waving, and hair shaping.

COS 1005 Scientific Study V **5(5-0) FWS SS**
Prerequisite: COS 1004 or equivalent.
Corequisite: COS 1055.
This course is designed for advanced students in Cosmetology. It includes a study of advanced hair styling, current salon practices, and management relationships.

COS 1011 Mannequin Practice **8(0-24) FWS SS**
Prerequisite: Admission to Cosmetology Program.
Corequisite: COS 1001.
A study of finger waving, pin curling, rollers, marcelling, hair relaxing, shampooing and rinses, scalp treatment, hair cutting, permanent waving, hairdressing and combing, hair tinting, bleaching, frosting, streaking, wig care, and styling.

COS 1022 Clinical Application I **8(0-24) FWS SS**
Prerequisite: COS 1001.
Corequisite: COS 1002.
A study of live model performance. This course is designed to develop skills and understanding of techniques and applications in the areas of bacteriology, pin curling, finger waving, rollers, permanent waving, marcelling, chemical relaxing, hairdressing and wigs, manicuring and pedicuring, skin and scalp disorders, hair coloring, and hair cutting.

COS 1033 Clinical Application II **8(0-24) FWS SS**
Prerequisite: COS 1022.
Corequisite: COS 1003.
This course gives continued laboratory practice and application of techniques in hair shaping, professional ethics, manicuring, chemistry, cosmetics-facials, hair styling, hair coloring (rinses, etc.), and scalp treatments.

COS 1044 Clinical Application III **8(0-24) FWS SS**
Prerequisite: COS 1033.
Corequisite: COS 1004.
A continued study of laboratory practices in chemistry, sanitation, sterilization, hair coloring and lash and brow tinting, artistry in hair styling, cold waving, and hair shaping.

COS 1055 Clinical Application IV **8(0-24) FWS SS**
Prerequisite: COS 1044 or equivalent.
Corequisite: COS 1005.
A continued study of laboratory practice and application of techniques in advanced hair styling, current salon practices and management, speed techniques, salon operation and management. Emphasis will be placed on customer relationships.

DRAFTING

DFT 101 Technical Drafting **4(2-6) F**
Prerequisite: None.
A beginning drafting course designed to provide basic fundamental skills in drafting. Emphasis is placed on care and use of instruments, lettering, geometric construction, sketching, orthographic projection, pictorial drawings, obliques, isometrics, auxiliaries, revolutions, dimensioning, inking, drafting media, and office practice.

DFT 103 Civil Drafting **2(0-6) W**
Prerequisite: DFT 101.
A course designed to teach students the drafting skills required in civil engineering design, construction, and surveying. Students will prepare ink drawings of topographical maps and will detail steel and concrete structures. Applications of techniques specified by AISC, ACI, and other specifying agencies will be emphasized.

DFT 108 Residential Drafting I **4(2-6) S**
Prerequisite: DFT 101.
Development of techniques in lettering, symbols, and their interpretation; dimensioning, freehand, and instrument drafting. Drawing of construction details using appropriate material symbols and conventions. Sections and scale details will be prepared from preliminary sketches. Emphasis is placed upon theory and drafting techniques utilized in residential construction, including plans, elevations, details, and schedules.

DFT 109 Residential Drafting II **4(2-6)**
Prerequisite: DFT 108.
Students are taught the essential elements to complete residential drawings and designs, including foundations, plot plans, electrical, plumbing, and heating. Commercial construction methods and drawings will be introduced. Course offered based upon demand.

DFT 110 Electro-Mechanical Drafting **4(2-6) F**
Prerequisites: EGR 122 and ELN 110.
This course presents standard electronic and mechanical drafting topics using Computer Assisted Drafting. Electronic topics include symbols, circuit schematics, and basic fundamentals of preparing printed circuit boards for both digital and analog circuits. Mechanical topics include screws, bolts, machined parts, and package layouts.

DFT 208 Rendering and Modeling **3(1-6) F**
Prerequisite: DFT 109 or permission of instructor.
This is a basic course in preparation of architectural presentation drawings and models. Theory and practice of perspective drawings; use of shade, shadow, color, inks, pencils, applique and the entourage in presentation drawings; types, tools, techniques and materials of modeling will be included. The laboratory work will consist of individual and group work producing presentation drawings and models.

DFT 210 Architectural Design **4(2-6) SS**
Prerequisite: DFT 109.
The principles of site planning, interior space utilization, and environmental considerations are studied. Students will design projects assigned by the instructor, and field trips will be used to study building site location.

DFT 220 Structural Detailing **4(2-6) W**
Prerequisite: DFT 109.
Drawing of structural plans and details as prepared for building construction including steel, concrete, and timber structural components. Appropriate details and drawings necessary for construction and fabrication of structural members. Reference materials will be used to provide the draftsman with skills and knowledge in locating data and in using handbooks.

DFT 230 Commercial Architectural Drafting **4(2-6) S**
Prerequisite: DFT 220.
Preparation of the complete set of working drawings for commercial architectural structures. Preparation of millwork drawings, cabinets and built-in equipment, detail drawings, and door, window, and room schedules. Site and landscaping plans will be studied and drawn. Final assembly of the complete document for construction purposes will be made.

DRAMA

DRA 112 Beginning Acting **3(3-0) W**
Prerequisite: None.
Technical and creative aspects of acting. Creative aspects will include concentration of attention, motives and dramatic action, memory of emotion, justification, and belief; technical aspects will include vocal projection, movement (pantomime), vocal variety, memory training, and characterization. The exercises used in class will help students learn to perform both to and against type.

ECONOMICS

ECO 210 Introduction to Microeconomics **5(5-0) FWS SS**
Prerequisite: None.
Microeconomic concepts are used to develop an understanding of the role of prices in the market economy. Economic concepts are applied to the allocation of resources, the functioning of the firm, the operation of competition, and the role of profit.

ECO 220 Introduction to Macroeconomics **5(5-0) FWS SS**
Prerequisite: None.
Macroeconomic concepts are developed as an application of economic thinking to the problems associated with inflation and recession. Economic concepts are applied to obtaining an understanding of fluctuations in employment, money and the banking system, fiscal and monetary policy, and international trade.

ECO 230 Economics of Money and Banking **5(5-0) S**
Prerequisite: ECO 220 or permission of instructor.
A study of money, credit, commercial and central banking; credit control under the Federal Reserve System; monetary and fiscal theories and policies.

NOTE: For other business courses see Business and Business Computer Programming.

BUSINESS COMPUTER PROGRAMMING

EDP 100 Microcomputers in Business **2(1-2) FWS SS**
Prerequisite: None.
The operation and use of microcomputers. Software packages which are valuable to the business environment including word processing, electronic spreadsheets, and accounting functions. A comparision of microcomputers with main-frames and minicomputers.

EDP 105 Classroom Management with Microcomputers **2(1-2) FWS SS**
Prerequisite: None.
An introduction to microcomputers and their use. Included will be hands-on experience with software packages which can be useful productivity tools for classroom teachers. Specific packages include grade books, test generation, and word processing.

EDP 130 Microcomputer Business Applications **3(2-2) S**
Prerequisite: None.
The use of commercial program packages. Students will use and analyze commercially prepared programs as programming aids, system checks, and problem-solving tools. Laboratories will consist of practical program applications.

EDP 147 Introduction to Computer Concepts **3(3-0) F**
Prerequisite: None.
Fundamental principles and concepts of business data processing systems are examined. General business applications are studied with somewhat more detailed attention given to electronic data processing procedures associated with business accounting. Elective for AA/AS degrees.

EDP 148 Introduction to Computer Programming **3(3-0) F**
Corequisite: EDP 147.
A study of structured programming logic including input, output, arithmetic, and decision-making functions which can be performed on the computer. Flowcharting and programming will be studied with example programs executed in a basic computer language. Elective for AA/AS degrees.

EDP 149 Compiler Language - COBOL I **4(3-2) W**
Prerequisite: EDP 148 or permission of instructor.
A course in the COBOL programming language, both theory and applications, including a study of the language rules and structured programming methods. The student will develop program logic and write structured COBOL programs.

EDP 150 Principles of Operating Systems **4(3-2) S**
Prerequisite: EDP 149 or permission of instructor.
This course offers a detailed study of operating systems from the level of monitor control systems to large executive systems. Job control languages, supervisor programs, program libraries, and data sets will be included.

EDP 151 Compiler Language - COBOL II **4(3-2) S**
Prerequisite: EDP 149.
An advanced course in structured COBOL, including fundamentals and applications of magnetic disk files and table processing. The student will develop logic and write advanced COBOL programs.

EDP 152 Compiler Language - RPG II-I **4(3-2) F**
Prerequisite: EDP 148.
A beginning course in the Report Program Generator II (RPG II) language covering basic theory and applications with emphasis on language rules and programming methods.

EDP 153 BASIC Language **4(3-2) S**
Prerequisite: EDP 148.
This course provides study in BASIC language. Business applications using a computer, structure of programs, and testing and debugging are some of the areas covered.

EDP 155 Microcomputer Operating Systems **4(3-2) S**
Prerequisite: EDP 147 or permission of instructor.
A study of operating systems for microcomputers. A current operating system will be used as the model. Consideration will be given to the use of the operating system by the systems developer and the computer user. Emphasis will be upon the utilization of the operating system and the utilities available for the user.

EDP 260 Advanced BASIC **4(3-2) W**
Prerequisite: EDP 153.
A course which investigates advanced techniques for designing and programming business applications for microcomputers. File processing, screen building, structured programming, and menu-driven systems will be studied.

EDP 270 Data Management **4(3-2) S**
Prerequisite: EDP 280.
A study of advanced concepts in file processing. Data management strategies, inquiry languages, and data systems design will be studied.

EDP 275 Data Management for Microcomputers **4(3-2) FWS SS**
Prerequisite: EDP 153, EDP 155, or permission of instructor.
A study of current data management software for microcomputers with the emphasis upon business systems development. The design of data structures and utilization of the data management software will be emphasized. The practical experiences will concentrate on creating typical business data bases and programming business applications.

EDP 277 Building Business Models **4(3-2) FWS SS**
Prerequisite: Permission of instructor.
A study of electronic spreadsheets. The vehicle for this course will be models of applications in the business environment. Models in the financial, economic and accounting fields will be explored using the latest spreadsheet software package.

EDP 279 Integrated Software in Business **4(3-2) FWS SS**
Prerequisite: Permission of instructor.
Integrated software and its application to business programs. The utilization of an integrated software package to aid in the management decision-making process.

EDP 280 Compiler Language - COBOL III **4(3-2) SS**
Prerequisite: EDP 151.
A course designed especially for the electronic data processing student which requires the discerning of fact from opinion, good business judgment from prejudice, and sound procedure from tradition. The materials provided in the case study are deliberately designed to stress the need for assessment of information while applying the basic techniques of systems design in a business environment.

EDP 281 Compiler Language - RPG II-II **4(3-2) W**
Prerequisite: EDP 152.
This is an advanced course in the Report Program Generator II (RPG II) language. Here the student develops additional programming skills in writing RPG II programs on more complex commercial structures. Techniques learned for card systems are extended to disc operating systems.

EDP 283 Systems Analysis & Design I **4(3-2) SS**
Prerequisite: A 200 level programming language or permission of instructor.
A study of systems analysis, beginning with the feasibility study. Emphasis is placed upon data systems, file organization, the design of forms, documentation, control, maintenance, and the economics of data processing systems.

EDP 284 Systems Analysis & Design II **4(3-2) F**
Prerequisite: EDP 283.
A continuation of EDP 283 with continued study of software, hardware, and the human interaction which is an important aspect of systems development. The emphasis will be on practical applications.

EDP 285 Computer Operations **4(3-2) W**
Prerequisite: EDP 280 or permission of instructor.
An advanced course in the principles and concepts of business data processing. Attention is given to sophisticated software and hardware techniques and procedures. Latest filing concepts, virtual storage, data base management, intercomputer communications, etc., are studied and examined. Course offered based upon demand.

EDP 288 Business Systems Applications **3(1-6) S**
Prerequisite: EDP 284.
The study and application of the systems development cycle. Selected business applications will be developed from an initial proposal to the implementation stage. Emphasis will be placed upon using a variety of hardware resources and, where appropriate, software packages to aid in the systems development process.

EDP 290 Advanced Data Management **2(1-2) S**
Prerequisite: EDP 275 or permission of instructor.
A continued study of data management and data management software packages for the microcomputer. Programming in the data management language will be explored in depth with the emphasis upon developing complete business systems using a data management software package on a microcomputer. Good design principles will be incorporated in the course with applications.

NOTE: For other business courses see Business and Economics.

ELECTRONICS

ELN 110 Electronics for Microcomputers **6(5-3) S**
Prerequisite: CSC 120.
A course in digital electronics including digital logic gates, counters, registers, combinational logic circuits, and their applications.

ELN 1101 Electronic DC Fundamentals **6(3-9) F**
Prerequisite: Admission to Industrial Electronics Program or permission of instructor.
Elementary principles of electricity including atomic structure, Ohm's law, conductors, insulators and resistors, energy and power, electrical measuring instruments and capacitor networks, and DC circuit theorems.

ELN 1102 Electronic AC Fundamentals **6(3-9) F**
Prerequisite: Admission to Industrial Electronics Program or permission of instructor.
The course begins with a basic introduction to alternating current theory. Alternating current circuits containing resistance, capacitance, inductance, and impedance are included. Single and polyphase power systems will be discussed.

ELN 1103 Industrial Blueprint Reading **2(2-0) F**
Prerequisite: Admission to Industrial Electronics Program or permission of instructor.
The course covers interpretation of schematics, diagrams, and blueprints applicable to industrial installation, with emphasis on electrical/electronic applications for industry. Sketching schematics, diagrams and plans for installations using appropriate symbols and notes according to the applicable codes will be a part of this course.

ELN 1104 Industrial Electronics I **6(3-9) W**
Prerequisite: ELN 1102.
The basic theory and operating characteristics of basic vacuum tube devices begin this course of study. The theory and operating characteristics of solid state electronic devices such as transistors, silicon controlled rectifiers, triacs, and diacs will be included. Practical applications for these devices will conclude this course of study.

ELN 1105 Digital Principles **6(3-9) W**
Prerequisite: ELN 1102.
This is the first quarter of a two-quarter sequence which comprises an introductory course to digital electronics. Basic concepts common to all digital systems are explored. This course includes number systems, Boolean algebra, binary codes and operations, combinational logic, and a study of flip-flops. Laboratory work using integrated circuits as logic building blocks reinforce classroom material.

ELN 1106 Industrial Electronics II **6(3-9) S**
Prerequisite: ELN 1105.
A continuation in the study of the basic applications of electronics in industry beginning with continued device application. Ending this course will be basic introduction to the operational theory of integrated circuitry. Experimental circuits using IC's will be included.

ELN 1107 Introduction to Micro-Processors **6(3-9) S**
Prerequisite: ELN 1105.
An introduction to micro-processing theory, to include register, accumulator, counter, and memory address register. An introduction to basic trouble-shooting of micro-processing circuits.

ELN 1108 Industrial Electronics III **6(3-9) SS**
Prerequisite: ELN 1106.
A study of electronic components and circuits used in industrial applications. Included is a study of sensory devices and detectors, the associated circuitry and indicating devices, relays, switching and monitoring circuits, and other devices applicable to the field of industrial electronics.

ELN 1109 Motors and Controls **6(3-9) SS**
Prerequisite: ELN 1106.
This course begins with a familiarization with the various types of DC and AC generators, alternators, and motors. Single and poly phase transformers and connections along with types of manual and automatic motor controls are included.

ELN 1110 Opto Electronics **2(1-2) SS**
Prerequisite: ELN 1106.
A study of a group of devices that employ both electronic and optical principles. In-depth information on light-sensitive electronic components such as photodiodes, photo-transistors, "solar" cells, and optocouplins including design and application are covered.

ELN 1201 Electronic Circuits I **(Day) 6(3-9) F**
Prerequisite: None. **(Evening) 6(3-9) FWS SS**
An introductory course designed to provide an overview of basic electronic concepts, hardware, and direct current circuits and their relationships between voltage, current, resistance in series, parallel, series-parallel circuits.

ELN 1202 Electronic Circuits II **(Day) 6(3-9) F**
Prerequisite: None. **(Evening) 6(3-9) FWS SS**
A continuation of basic concepts with emphasis on alternating voltage and current, magnetism, electromagnetic induction, induced voltage, AC component, and circuit analysis. Continuation of basic measurements with test equipment.

ELN 1203 Vacuum Tubes & Solid State Devices **(Day) 6(3-9) W**
Prerequisite: ELN 1202. **(Evening) 6(3-9) FWS SS**
A study in the theory and electrical characteristics of vacuum tubes and semiconductor devices which include diodes and transistor basics. Basic tube and solid state amplifiers are utilized for laboratory experiments.

ELN 1205 Basic Trouble-Shooting **(Day) 6(3-9) W**
Prerequisite: ELN 1202. **(Evening) 6(3-9) FWS SS**
An introduction to commonly-used servicing techniques and basic trouble-shooting procedures such as signal tracing, signal injection, voltage and resistance comparisons, and acceptable parts replacements are reviewed. Oscilloscope operation and usage are employed as a signal tracing device.

ELN 1206 Radio Receiver & Amplifier Servicing **(Day) 6(3-9) S**
Prerequisite: ELN 1205. **(Evening) 6(3-9) FWS SS**
An introduction of commonly-used servicing techniques as applied to monophonic and stereophonic high fidelity amplifier systems and auxiliary equipment. Principles of radio reception and practices of servicing; included are block diagrams of radio receivers and servicing techniques of AM and AM/FM stereo receivers.

ELN 1207 Television Theory & Circuits I **(Day) 6(3-9) SS**
Prerequisite: ELN 1206. **(Evening) 6(3-9) FWS SS**
A study of the operation and analysis of black and white television receiver circuits. Trouble-shooting and repair techniques are stressed utilizing the latest in electronic test equipment.

ELN 1208 Television Theory & Circuits II **(Day) 6(3-9) SS**
Prerequisite: ELN 1206. **(Evening) 6(3-9) FWS SS**
The theory of color television and the application of trouble-shooting techniques to circuits unique to this system, including proper adjustment of service controls, purity, convergence, color burst synchronization, and assorted color problems.

ELN 1209 Basic Digital and Micro-Processing **(Day) 6(3-9) S**
Prerequisite: ELN 1203. **(Evening) 6(3-9) FWS SS**
An introduction to basic digital and micro-processing theory, to include: binary, binary coded decimal, digital and analog circuits, central processing units (CPU's). With an introduction to basic trouble-shooting of digital and micro-processing circuits.

ELN 1210 Special Topics
Prerequisite: Permission of instructor.
A special course designed to teach principles in electronics. Special topics included in this course will be announced prior to each offering; one to three credit hours, depending on topic; taught on demand.

ENGINEERING TECHNOLOGY

EGR 100 Introduction to Engineering Technology **3(2-3) FW**
Prerequisite: High school algebra or equivalent.
A course designed to introduce Civil Engineering Technology, Architectural Technology, and Surveying Technology students to basic principles and techniques of engineering technology. Students will receive instruction in: engineering terminology, basic mathematical operations, use of tables and interpolation units and conversion, calculator operations as these subjects are applied and used by engineering technicians, curriculum orientation, and introduction to basic computer programming.

EGR 122 Computer Assisted Drafting I **3(2-3) W**
Prerequisites: CSC 110, EGR 100, or CSC 105.
This course includes the fundamentals of computer-assisted drafting and design. Students will create drawings, charts, and other graphic images utilizing microcomputers, digitizers, and plotters. Standard CAD software will be used.

EGR 200 Research Project **1(0-3) WS**
Prerequisite: Permission of instructor.
A course designed to allow students to do detailed, applied work in one of the major technical areas. Students will be required to select a project from a departmental list and to complete the project with a technical report under the close supervision of a member of the staff.

EGR 201 Special Topics
Prerequisite: Permission of instructor.
A special course designed to teach principles of Civil Engineering Technology, Architectural Technology, and Surveying Technology. Special topics included in this course will be announced prior to each offering. One to three credit hours, depending on topic scheduled. Course offered based upon demand.

EGR 205 Research Project II **1(0-3) S**
Prerequisite: EGR 200.
A continuation of EGR 200 with emphasis on interfacing techniques.

EGR 212 Microcomputer Servicing **3(2-3) F**
Prerequisite: ELN 110.
Basic servicing of microcomputers and peripherals. Emphasis will be placed on minor adjustments and servicing of drives and printers. Diagnostics and chip exchange for microcomputers will be included.

EGR 222 Microcomputer Interfacing I **4(3-3) W**
Prerequisite: ELN 110.
Principles and techniques of microcomputer interfacing emphasizing serial (RS-232) and parallel interfaces, data communications, use of modems, and telecommunications software.

EGR 230 Introduction to Industrial Applications **4(3-3) SS**
Corequisites: CSC 120, ELN 110.
An introduction to microcomputer applications for industry. Students will learn how microcomputers can be applied as controls, monitors, and recorders in industrial environments. The course includes an overview of industrial methods and systems, including robotics.

EGR 232 Microcomputer Interfacing II **5(3-6) S**
Prerequisite: EGR 222.
Principles and techniques of data acquisition and control using analog-to-digital/digital-to-analog interfaces.

EGR 245 Process Control Applications **5(3-6) S**
Prerequisite: EGR 230.
Microcomputer applications control of industrial equipment and processes. Students will learn to design, install, and operate systems to control equipment and devices. Emphasis will be placed on Robotics and CNC equipment.

ENGINEERING TRANSFER

EGR 101 Engineering Graphics **3(2-2) FW**
Prerequisite: None.
The theory of graphically representing and solving spatial problems. Emphasis is placed on the development of a logical and analytical approach to problem solution. Conventional methods of graphically describing size and shape are introduced.

EGR 103 Introduction to Engineering **3(2-2)W**
Corequisite: College algebra or equivalent.
An introduction to engineering designed to show students the roles and career opportunities of the several engineering fields and to review and introduce some of the techniques of technical problem solving. The course will include applied mathematical techniques, engineering decision-making, and computer programming.

EGR 210 FORTRAN **3(2-3) S**
Prerequisite: None.
Programming in the FORTRAN (Formula Translation) language. Students will learn to use the compiler and editor and to develop programming skills with Go To, If, Do Loop, subroutines and subscripted variable techniques. Laboratories will consist of programming applications for numerical problems.

EGR 241 Engineering Statics **5(4-2) W**
Prerequisites: MAT 201, PHY 202.
This course is designed for the pre-engineering college transfer student. It is the first of a two-quarter sequence introducing the principles of particle and rigid body mechanics, with engineering applications. The course will make extensive use of calculus and vectors. Topics will include force systems and resultants, equilibrium of particles and rigid bodies, friction, properities of areas and volumes, and the inertia tensor.

EGR 242 Engineering Dymanics **5(4-2) S**
Prerequisites: EGR 241, MAT 202.
This course is the second of a two-quarter sequence for the pre-engineering college transfer student introducing the principles of particle and rigid body mechanics. This course is a calculus and vector based study of dymanics and will include equations of motion, kinematics, and kinetics of mass points and rigid bodies. The effects of force and motion are introduced through modeling and vector analysis. Work-energy and impulse-momentum principles and conservation laws will be used.

ENGLISH

ENG 098 Grammar and Introduction to Composition I **3(2-3) FWS SS**
Prerequisite: None.
Corequisite: RDG 100 or satisfactory score on the reading placement test.
The study of how to use a dictionary and how to write effective sentences using correct grammar, punctuation, capitalization and spelling. Not designed for transfer credit.

ENG 099 Grammar and Introduction to Composition II **3(2-3) FWS SS**
Prerequisite: ENG 098 or satisfactory score on the English Writing Sample.
Corequisite: RDG 100 or satisfactory score on the reading placement test.
The study of how to write unified, coherent, and well-developed paragraphs using standard forms of grammar, capitalization, punctuation, and sentence structure. Credit granted toward certain diploma programs only; not designed for transfer credit.

ENG 110 English Composition I **3(2-3) FWS SS**
Prerequisite: ENG 099 or satisfactory score on the English Writing Sample.
Corequisite: RDG 100 or satisfactory score on the reading placement test.
The study of how to write unified, coherent, and well-developed essays, with an emphasis on exposition, narration, description, and persuasion. Does not fulfill degree humanities requirement.

ENG 111 English Composition II **3(2-3) FWS SS**
Prerequisites: ENG 110 and RDG 100 or satisfactory score on the reading placement test.
The study of how to write and document a library research paper. Does not fulfill degree humanities requirement.

ENG 112 English Composition III **3(2-3) FWS SS**
Prerequisite: ENG 111.
An introduction to the study of fiction, poetry, and drama, and a study of writing themes about literature. Does not fulfill degree humanities requirement.

ENG 113 Technical Writing **3(3-0) S**
Prerequisite: ENG 111.
A study of writing reports required in technical fields. Assignments related to a student's chosen program will include inter-office communications, business letters, job applications and resumes, proposals, feasibility studies, and research reports. Does not fulfill degree humanities requirement.

ENG 205 Major British Writers I **3(3-0) F SS**
Prerequisite: ENG 112.
Major works of English literature from the beginning to 1700.

ENG 206 Major British Writers II **3(3-0) W SS**
Prerequisite: ENG 112.
Major works of English literature from 1700 to 1900.

ENG 207 Major British Writers III **3(3-0) S**
Prerequisite: ENG 112.
Major works of English literature of the twentieth century.

ENG 208 Major American Writers I **3(3-0) F SS**
Prerequisite: ENG 112.
Major works of American literature from 1800 to 1900.

ENG 209 Major American Writers II **3(3-0) W SS**
Prerequisite: ENG 112.
Major works of American literature from 1900 to World War II.

ENG 210 Major American Writers III **3(3-0) S**
Prerequisite: ENG 112.
Major works of American literature from World War II to the present.

ENG 211 Advanced Composition **3(3-0) S**
Prerequisite: ENG 111.
Effective organization and presentation of information and ideas, mainly through the writing of extended essays of exposition, argument, description, narration, and criticism. Course not designed for transfer credit.

ENG 214 Studies in Poetry **3(3-0) W**
Prerequisite: ENG 112.
Exploration of the significance of poetry for thought and human experience. A thematic study of poetic styles.

ENG 215 Studies in Fiction **3(3-0) S**
Prerequisite: ENG 112.
A study of major themes in fiction. Novels and short stories will be discussed.

ENG 216 Black Literature **3(3-0) S**
Prerequisite: ENG 112.
Substantial reading of Afro-American writers from the Harlem Renaissance to the present and a brief historical review of Afro-American poets and essayists of the nineteenth century.

ENG 217 Modern Drama **3(3-0) S**
Prerequisite: ENG 112.
A study of major themes in significant American, European, and Russian plays from 1890 to the present.

ENG 218 Creative Writing **3(3-0) S**
Prerequisite: ENG 110 or permission of instructor.
Beginning workshop in fiction and poetry. Students submit their work for evaluation and criticism. Informal class discussion of student work.

ENG 221 Motion Picture Appreciation **5(5-0) FWS**
Prerequisite: ENG 110.
A study of the history and development of motion pictures, of film techniques, and of motion pictures as an art form.

ENG 222 Southern Literature I **3(3-0) W**
Prerequisite: ENG 112.
A survey of Southern writers to 1918.

ENG 223 Southern Literature II **3(3-0) S**
Prerequisite: ENG 112.
A survey of Southern writers from 1918 to the present.

FRENCH

FRE 101 Elementary French I **5(5-0) W SS**
Prerequisite: Satisfactory score on college placement tests.
An introduction to French, with a modern audiolingual approach. Up-to-date materials and methods. Emphasis first on hearing and speaking, then on reading and writing. For those with no previous French or those who do not have the skills to enter higher level courses.

FRE 102 Elementary French II **5(5-0) S SS**
Prerequisite: FRE 101.
A continuation of FRE 101.

FRE 151 Intermediate French I **5(5-0) F**
Prerequisite: Two units of high school French or FRE 101 and FRE 102.
A review of the skills of hearing, speaking, reading, and writing. Audiolingual work in class with recorded materials for home study. Selected supplementary readings.

FRE 152 Intermediate French II **5(5-0) W**
Prerequisite: FRE 151.
A continuation of FRE 151.

FRE 201 Survey of French Civilization **5(5-0)**
Prerequisite: FRE 152.
A study of French culture and civilization. Selected reading in French literature. Parallel reading and reports. An emphasis on modern civilization. Course offered in spring quarter based upon demand.

HEALTH EDUCATION

HED 101 Introduction to Health Occupations **3(3-0) FWS SS**
Prerequisite: None.
This course presents knowledge essential for sound decisions in the choosing of a health career. Emphasis is placed on the responsibilities and rewards in the careers of nursing, medical laboratory technology, radiology, respiratory therapy, and surgical technology.

HED 102 The Language of Medicine **3(3-0) FWS SS**
Prerequisite: None.
A course designed for those interested in the medical science fields; for those who need or wish to have a written and/or speaking knowledge of medical terms and symbols. Although primarily a vocabulary building course, it will contain features which may encourage students to consider a health sciences career.

HED 103 Ethics & Issues in Health Professions **2(2-0) S**
Prerequisite: Enrollment in a Health Sciences program.
This course includes the legal and ethical responsibilities of the health professional as well as current issues in the health field. Accountability for health care delivery and the relationships between the health worker and team members are stressed.

HED 104 Introduction to Science **4(4-0) FWS SS**
Prerequisite: None.
This course provides basic knowledge for the student preparing for placement in a health sciences program. It will serve as an introduction to all of the science courses that are required in the various health sciences programs and will cover the life sciences, chemistry, anatomy and physiology, and physics.

HISTORY

HIS 110 Western Civilization I **5(5-0) FWS SS**
Prerequisite: None.
A survey of ancient, medieval, and early modern history to 1700. This course introduces students to the discipline of history and explains how and why one studies history at the college level. It traces the development of civilization from Pre-history to the rise of the Nation States and notes the legacy that the Egyptians, Greeks, Romans, and Medieval civilizations left for the basis of modern man.

HIS 111 Western Civilization II **5(5-0) FWS SS**
Prerequisite: None.
A survey of modern Europe from 1700 to the present. This course focuses on the developments of Western Civilization beginning with 18th century Europe and highlights political, economic, cultural, social, and intellectual milestones. Relations between the west and nonwestern areas of the world are included.

HIS 151 United States History I **5(5-0) FWS SS**
Prerequisite: None.
A survey of the history of the United States from the discovery of America in 1492 to the end of the Civil War in 1865. Emphasis on the political, economic, social, and cultural developments of the Republic.

HIS 152 United States History II **5(5-0) FWS SS**
Prerequisite: None.
A survey of the history of the United States from 1865 to present. Emphasis on the economic development and the rise of the United States as a world power.

HIS 210 Contemporary America **5(5-0) FWS**
Prerequisite: None.
A study of the United States since 1945, including historical, political, diplomatic, social, and economic developments. Emphasis given to domestic developments and U.S. interaction in world affairs since World War II.

HIS 220 North Carolina History **5(5-0) FWS**
Prerequisites: HIS 151 and 152 or permission of the instructor.
A survey of North Carolina history from its colonial beginnings to the present. HIS 110 and 111 are recommended as preparation.

HIS 230 Special Topics
Prerequisite: Permission of instructor.
A special course designed to teach various areas in the field of history. The special topics offerings will be listed in the quarterly schedule of classes. Credit hours will vary, depending on topic scheduled. Course offered based upon demand.

HUMAN SERVICES TECHNOLOGY

HST 100 Introduction to the Field of Human Services Technology **5(4-3) F**
Prerequisite: Admission to the Human Services Technology Program.
An overview of current trends in the field of human services and the role of the associate on the human service team. Emphasis is given to the comprehensive community approach to mental health, education, mental retardation, rehabilitation, and to the introduction of the student to the various disciplines and professionals who work within the field.

HST 101 Social and Group Processes I **3(2-3) F**
Prerequisite: Permission of instructor.
First of a three-quarter exposure to small group processes. Classes will be limited to 15 members so that each student will have a chance to observe the dynamics of small group interaction as it unfolds. Weekly classes will provide didactic and experiential instruction in group processes, interpersonal relations and communication skills. Laboratory workshops or the equivalent will provide a more intensive individual or group experience for class members, with emphasis on greater self-awareness, increased sensitivity, and further development of interpersonal skills.

HST 102 Social and Group Processes II **3(2-3) W**
Prerequisite: HST 101.
Second of a three-quarter sequence in the experiential study of small group dynamics. Small classes continue as groups follow up first-quarter experiences and increase interpersonal skills necessary for an effective helping relationship.

HST 103 Social and Group Processes III **3(2-3) S**
Prerequisite: HST 102.
Third and final quarter of group exposure. Along with small group weekly classes, laboratory experiences are designed to facilitate each person's development as a helper and human being, the two being closely linked, and to increase knowledge of group dynamics that may be applied to a variety of work settings.

HST 205 Internship in Human Services Technology **3(0-30) S**
Prerequisite: Candidate for completion of Human Services Technology Program.
Corequisite: HST 208.
The internship, required to be taken along with HST 208, is an eleven-week assignment in a human service agency to acquaint the student with the philosophy, procedures, and day-to-day operations of such agencies. The student observes and participates in staff meetings, interviews, patient care, and agency planning under the supervision of a faculty member and a member of the staff of the participating agency.

HST 207 Area of Specialization **3(1-6) W**
Prerequisite: Permission of instructor.
The student will be expected to research the area of specialty and, where possible, prepare an intensive case study in consultation with the instructor.

HST 208 Internship Seminar **3-(3-0) S**
Prerequisite: Candidate for completion of Human Services Technology Program.
Corequisite: HST 205.
The seminar is required to be taken along with HST 205, Internship in Human Services Technology. It is designed to prepare the student for graduation and possible employment. The seminar will also provide the student an opportunity to discuss with a faculty member the experiences in the agency and employment opportunities in the human services field. The student will also develop a resume for interviews in preparation for employment.

HST 251 Field Placement I **1(0-3) FWS SS**
Prerequisite: Candidate for completion of the Human Services Technology Program.
This assignment will acquaint the student with the philosophy and operational structure of the agency of placement and the types of clients those agencies serve. The activities with the agency are designed not only to aid in the development of skills and to apprise the student of the role of the human services associate in the agency but also to allow the student to make a specific career choice.

HST 252 Field Placement II **1(0-3) FWS SS**
Prerequisite: HST 251.
Designed as an opportunity for the advanced human services associate to demonstrate skills as a team member within a specific human service agency. Particular skills will include: interviewing, counseling, group work, intra-agency staff planning, and inter-agency liaison services.

HUMANITIES

HUM 105 The City: Its Meaning and Value **3(2-2) S**
Prerequisites: Interview and permission of instructor.
This team-taught course explores the meaning of the city as an expression of the best and the worst of mankind. Using artistic, literary, and religio-philosophical resources, students will be urged to develop research topics of personal interest. A major objective of the course is several days of on-site study in New York City. The course will proceed through three phases: pre-departure orientation, on-site study, and post-site evaluation.

LANDSCAPE GARDENING

LSG 111 Principles of Landscape Gardening **3(3-0) F**
Prerequisite: None.
An introduction to the basic gardening principles essential in landscape gardening. The selection and placement of various trees, shrubs, flowers, and turf in the landscape with emphasis on proper planting procedures and maintenance practices.

LSG 112 Fall Landscape Gardening Laboratory **2(0-6) F**
Prerequisite: Admission to Landscape Gardening Program.
Practical laboratory exercises will be designed to familiarize the student with basic gardening procedures.

LSG 124 Agricultural Chemical Use **2(2-0) W**
Prerequisites: LSG 111 and LSG 112 or approval of adviser.
The safe use of agricultural chemicals to protect man and the environment. The selection, use, and maintenance of pesticide application equipment and apparel. Selecting the proper pesticide, understanding the pesticide laws, and preparing students for the North Carolina Pesticide Applicator's Examination.

LSG 125 Arboriculture **3(2-3) S**
Prerequisites: LSG 111, LSG 112.
The culture and maintenance of trees and shrubs including fertilizing, pruning, and repair.

LSG 126 Fertilizers and Soils **5(5-0) W**
Prerequisites: LSG 111, LSG 112.
The study of the physical and chemical properties of the soil and how they relate to plant growth. The effect of nutrients on plant growth and how adequate soil nutrient levels can be maintained by the use of fertilizers and lime.

LSG 127 Greenhouse Operations **4(3-2) W**
Prerequisites: LSG 111, LSG 112.
A basic study of principles and procedures involved in the operation and maintenance of greenhouse facilities.

LSG 128 Nursery Operations **4(3-3) W**
Prerequisites: LSG 111, LSG 112.
An introduction to the nursery industry and its role in the field of horticulture. Operations and functions of nurseries and garden centers will be discussed. Physical operations including winter protection, balling and burlapping, containerized growing, and field production will be practiced.

LSG 131 Plant Materials I **2(1-3) S**
Prerequisite: None.
A basic understanding of plant nomenclature and terminology. The identification of selected ornamental plants with special emphasis on plant characteristics and growth requirements that apply to various landscape situations.

LSG 132 Plant Propagation I **4(3-3) S**
Prerequisite: LSG 127.
An introduction to principles and applied techniques of propagation with emphasis on actual production of bedding and vegetable plants from seed.

LSG 133 Spring Landscape Gardening Laboratory **1(0-3) S**
Prerequisites: LSG 124, LSG 126.
Corequisites: LSG 135, 137.
The utilization and application of landscape gardening principles studied in the classroom.

LSG 134 Resident Practicum I **1(0-10) S**
Prerequisite: LSG 127.
Corequisite: LSG 135.
Each student will be assigned to maintain and supervise specific projects in the greenhouses and on campus property. Projects assigned to the student will vary depending upon the season of the year.

LSG 135 Turfgrass Culture **4(3-3) S**
Prerequisites: LSG 124, LSG 126.
The study of turf varieties, their characteristics, and the situations for which they are best adapted. Culture and care of public and private lawn areas such as residential lawns and golf courses. The use and maintenance of equipment which is essential for producing high quality turf.

LSG 136 Fruits and Vegetables I **2(1-3) S**
Prerequisites: LSG 124, LSG 126.
Propagation, culture, and harvest of selected fruit and vegetable crops.

LSG 137 Landscape Construction I **2(1-3) W**
Corequisite: LSG 133.
The study of landscape construction practices with emphasis on use of selected equipment and the design, installation, and use of irragation systems.

LSG 142 Pest Control **3(3-0) SS**
Prerequisites: LSG 124, LSG 131, LSG 135.
The collection, identification, and study of plant pests including insects, diseases, and weeds. Methods of preventing or controlling plant pests through the use of cultural, biological, and chemical controls.

LSG 143 Plant Materials II **2(1-3) SS**
Prerequisite: LSG 131.
A continuation of Plant Materials I.

LSG 144 Resident Practicum II **1(0-10) SS**
Prerequisite: LSG 134.
Each student will be assigned to maintain and supervise specific projects in the greenhouses and on campus property. Projects assigned to the student will vary depending upon the season of the year.

LSG 145 Summer Landscape Gardening Laboratory **2(0-6) SS**
Prerequisite: LSG 133.
The utilization and application of landscape gardening principles studied in the classroom.

LSG 146 Fruits and Vegetables II **1(0-3) SS**
Prerequisite: LSG 136.
Corequisite: LSG 142.
Propagation, culture, and harvest of selected fruit and vegetable crops.

LSG 147 Landscape Construction II **2(1-3) SS**
Prerequisite: LSG 137.
The continued study of landscape construction practices with site projects on drainage systems, site modification, and brick and concrete surfacing.

LSG 148 Herbaceous Plants **2(2-0) SS**
Prerequisite: LSG 131.
The identification of selected annual, perennial, and tropical plants with special emphasis on plant characteristics and growth requirements that apply to various landscape situations.

LSG 149 Landscape Site Analysis **4(2-4) SS**
Prerequisite: Admission to Landscape Gardening Program.
Basic principles of surveying including the use of the contractor's level, engineer's transit, chaining, stadia, and other surveying techniques necessary for preparation of detailed landscape designs. Techniques for procuring information necessary for landscape sites will also be incorporated in discussion. Field work will include obtaining topographical, leveling, and alignment data to be incorporated into drawings.

LSG 211 Greenhouse Production I **4(3-3) F**
Prerequisite: LSG 127.
Students will initiate and manage selected greenhouse crops. Emphasis will be placed on factors affecting proper timing and ultimate cost of each specific crop.

LSG 213 Plant Propagation II **4(3-3) F**
Prerequisite: LSG 132.
A continuation of propagation principles and techniques covered in Plant Propagation. Emphasis will be placed on asexual methods of plant propagation.

LSG 214 Plant Materials III **2(1-3) F**
Prerequisite: LSG 143.
A continuation of Plant Materials II.

LSG 215 Resident Practicum III **1(0-10) F**
Prerequisite: LSG 144.
Corequisite: LSG 211.
Each student will be assigned to maintain and supervise specific projects in the greenhouses and on campus property. Projects assigned to the student will vary depending upon the season of the year.

LSG 217 Landscape Design I **4(3-3) F**
Prerequisites: LSG 131, LSG 148, and LSG 149.
A study of the history and principles of landscape design. Proper methods and procedures for drawing landscape plans will be emphasized. Selected landscape situations will be planned by the students, stressing the proper selection and placement of plant material for each plan.

LSG 219 Landscape Cost Estimating **2(1-3) F**
Prerequisites: LSG 137, LSG 147.
A study of cost estimating for landscape construction and management projects. Topics include introduction to chart of accounts, balance sheets, profit and loss statements, material cost, mark-up, sales, gross and net profit, and taxes.

LSG 220 Greenhouse Production II **4(3-3) W**
Prerequisite: LSG 211.
The study and management of certain crops initiated in Greenhouse Production I plus the initiation of additional greenhouse crops based on seasonal marketing demand. Each student will be responsible for managing and reporting on specific crops.

LSG 222 Landscape Design II **4(3-3) W**
Prerequisites: LSG 143 and LSG 217.
Further development of landscape design skills in creating complete landscape plans. The utilization of plants and construction materials will be considered in the developing of selected landscape situations. The relationship of designer, contractor, and client will be experienced.

LSG 223 Plant Materials IV **2(1-3) W**
Prerequisite: LSG 214.
A continuation of Plant Materials III.

LSG 224 Seminar **3(3-0) W**
Prerequisite: None.
Selected topics of landscape gardening interest to be presented by instructors, students, and resource speakers. Areas of special interest will include planning and scheduling of jobs, estimating job cost, contract agreements, budgeting, public relations, and the selection of equipment.

LSG 225 Garden Center Operations **3(3-0) F**
Prerequisite: LSG 128.
A study of retail marketing and landscape gardening products through mass markets and independent garden centers. Topics include information about garden center layout and design, customer orientation, merchandising, pricing, inventory control, ordering, and income curves.

LSG 226 Landscape Management I **3(2-3) F**
Prerequisites: LSG 125, LSG 135, LSG 142, LSG 211, LSG 214, LSG 217.
Students will plan and implement various landscape management projects, frequently supervising other students in the completion of these projects.

LSG 227 Landscape Management II **3(2-2) W**
Prerequisites: LSG 125, LSG 135, LSG 142, LSG 211, LSG 214, LSG 217.
The development of a complete grounds maintenance program. The student will determine the equipment, supplies, manpower, and cost necessary to implement a maintenance program on a selected site.

LSG 229 Resident Practicum IV **1(0-10) W**
Prerequisite: LSG 215.
Each student will be assigned to maintain and supervise specific projects in the greenhouses and on campus property. Projects assigned to the student will vary depending upon the season of the year.

LSG 231 Apprenticeship **4(0-40) S**
Prerequisite: Candidate for completion of Landscape Gardening Program.
One quarter on-the-job training in the plant-related situation approved by the Landscape Gardening faculty. Approved situations will include estates, public gardens, golf courses, nurseries, greenhouses, florist shops, and related situations.

LIBRARY

LIB 110 Bibliographic Instruction **1(1-0) FWS SS**
Prerequisite: None.
This course is designed to acquaint students with basic library resources and organization.

MATHEMATICS

MAT 019 Basic Arithmetic **5(5-0) FWS SS**
Prerequisite: None.
This course is intended to help students acquire the fundamental concepts and computational skills needed to work with whole numbers and simple fractions; does not fulfill degree general elective or mathematics requirement.

MAT 020 Structure of Arithmetic **5(5-0) FWS SS**
Prerequisite: Satisfactory score on math placement test.
A course designed to help the student gain and improve basic computation skills. The development of a greater understanding of the nature of numbers and operations is also a major objective; does not fulfill degree general elective or mathematics requirement.

MAT 020A Mathematics for Health Occupations **3(3-0) FWS SS**
Prerequisite: None.
A course geared to the special needs of students enrolled in programs for health occupations. Computational skills, operations with proportions, conversion, and use of measurements as well as the use of medical symbols and forms are included; does not fulfill degree general elective or mathematics requirement.

MAT 022 Elementary Algebra I **5(5-2) FWS SS**
Prerequisite: Satisfactory score on math placement test.
This is a course designed to provide the student with the basic understandings and manipulative skills of elementary algebra; not designed for transfer credit.

MAT 023 Geometry **5(5-0) FWS SS**
Prerequisite: None.
This is a course designed for students who have had no previous course in geometry. It is intended to provide the student with the fundamentals of plane geometry; not designed for transfer credit.

MAT 025 Pre-College Algebra II **5(5-0) FWS SS**
Prerequisites: High School Algebra I or equivalent and satisfactory score on math placement test.
This course is designed to help students acquire the theory and skills which are prerequisites for college algebra; not designed for transfer credit.

MAT 103 Basic Concepts of Mathematics I **5(5-0)**
Prerequisites: High School Algebra I and satisfactory score on math placement test, or MAT 022.
This course includes a study of sets, relations, mappings, elementary logic, truth tables, and numeration. It is primarily designed for elementary education students, but it may meet the requirement for liberal arts majors at some senior institutions. Course offered based upon demand.

MAT 104 Basic Concepts of Mathematics II **5(5-0)**
Prerequisite: MAT 103 or approved advanced placement.
This is a course in descriptive geometry of two and three dimensions. Some deductive proofs of theorems and simple compass and straight-edge constructions are investigated along with many definitions and intuitive notions of geometry. Course offered based upon demand.

MAT 110A College Algebra **5(5-0) FWS SS**
Prerequisite: MAT 025.
This course must be preceded by MAT 025. In conjunction with that course, it provides for mastery of the skills and concepts of College Algebra.

MAT 110 College Algebra **5(5-0) FWS SS**
Prerequisites: High School Algebra II or equivalent and a satisfactory score on the math placement test.
This course is designed for math or non-math majors. It stresses properties of numbers, elementary set theory, first and second degree equations and inequalities, function concepts, graphic methods for polynomial and rational functions, and systems of equations.

MAT 115 Practical Methods of Measurement **3(3-0) F**
Prerequisite: Satisfactory score on math placement test.
This course is designed to provide students with the theoretical and practical knowledge of mathematics needed in the field of horticulture. Initial work in the course centers around fundamental principles and skills of arithmetic but evolves into more advanced notions and practices involving some algebra and trigonometry. Heavy emphasis is given to the meanings and methods of mensuration and to the use of data tables. As many opportunities as possible will be provided for the student to put these concepts into practical use.

MAT 120 College Trigonometry **5(5-0) FWS SS**
Prerequisite: MAT 110 or 110A or approved advanced placement.
This course develops the definitions of the basic six trigonometric functions and introduces the more common and useful identities. It also includes an investigation of graphs of trigonometric functions and their inverses and explores solution methods for trigonometric equations. Other topics include the laws of sines and cosines.

MAT 125 Statistics **5(5-0) S SS**
Prerequisite: MAT 110 or permission of instructor.
The purpose of this course is to provide a practical foundation upon which descriptive and inferential statistical problem-solving can be based. Some of the topics to be covered are the binomial and normal distributions, estimation of parameters, hypothesis testing, and linear correlation.

MAT 130 Finite Mathematics **5(5-0) W SS**
Prerequisite: Algebra I and satisfactory score on the math placement test, or Math 022.
This course is designed to meet the needs of students enrolled in the Electronic Data Processing Program or the Computer Engineering Applications Technology Program. It includes concepts and skills of algebra, logic and Boolean properties, elementary notions of different number bases, and introduction to matrices.

MAT 140 Special Topics
Prerequisite: Permission of instructor.
This course will provide mathematics for special needs. Course content will vary according to the target group, and topics to be developed will be indicated whenever the course is offered. Credit hours will vary, depending upon the special needs. The course will be offered based upon demand.

MAT 149 Elementary Functions **5(5-0) F**
Prerequisites: High School Algebra I and II and satisfactory score on the math placement test.
The course consists of a combined study of algebraic and trigonometric functions. Students planning to major in math, physics, or engineering should take this course instead of the usual sequence of MAT 110, 120, if possible.

MAT 150 Analytic Geometry and Calculus I **5(5-0) FWS SS**
Prerequisite: MAT 120 or advanced placement.
This course includes an introduction to analytic geometry, functions, limits, derivatives, and their applications including maxima and minima problems.

MAT 175 Applied Calculus and Analytic Geometry **5(5-0) S**
Prerequisite: MAT 120 or its equivalent.
This course is designed to meet the needs of engineering technology students. It includes basic concepts of analytic geometry, differential calculus, and integral calculus. Emphasis is given to solving practical problems by calculus methods.

MAT 201 Analytic Geometry and Calculus II **5(5-0) FWS SS**
Prerequisite: MAT 150.
This course includes a study of integration, exponential and logarithmic functions, trigonometric functions, and applications of integration.

MAT 202 Analytic Geometry and Calculus III **5(5-0) FWS SS**
Prerequisite: MAT 201.
This course is comprised of the investigation of graphs of conic sections, polar coordinates, parametric equations, techniques of integration, sequences, series, L'Hospital's Rule, and an introduction to vectors.

MAT 203 Analytic Geometry and Calculus IV **5(5-0) WS SS**
Prerequisite: MAT 202.
This course is a study of three dimensional analytic geometry, differential calculus of functions of several variables, multiple integration, and line integrals.

MAT 220 Differential Equations **5(5-0) S**
Prerequisite or Corequisite: MAT 203.
This course includes the study of solutions of ordinary differential equations, first order equations, linear equations of any order, series solutions, and applications.

MAT 1115 Electrical Mathematics I **3(3-0) F**
Prerequisite: None.
This is an introductory course which includes the study of the algebraic operations of addition, subtraction, multiplication, and division. Emphasis is given to common and decimal fractions and to the use of letters and signs, grouping, factoring, exponents, ratios, proportions, and square roots. Study of Ohm's Law for series, and parallel circuits is included.

MAT 1116 Electrical Mathematics II **3(3-0) W**
Prerequisite: MAT 1115.
This course includes the study of algebraic solutions of first-degree equations. Kirchhoff's Laws, elementary trigonometric concepts, AC electricity, and digital controls. Emphasis is given to applications.

MAT 1119 Automotive Mathematics I **3(3-0) F**
Prerequisite: None.
This course provides the theory and practical examples for the basic operations of addition, subtraction, multiplication, and division of whole numbers and fractions. Plane and solid geometric figures used in industry are studied. Measurement of surfaces is emphasized. Algebra needed in education for the trades is introduced.

MAT 1120 Automotive Mathematics II **3(3-0) W**
Prerequisite: MAT 1119.
This course deals with practical problems especially selected to ensure mastery of mathematical principles applied to the automobile trades. Topics covered include measurement of volumes, the metric system, percentages, ratios, and proportions.

MAT 1121 Cosmetology Mathematics **3(3-0) F**
Prerequisite: None.
This course stresses basic mathematics skills needed for work with whole numbers, common and decimal fractions, and percentages. Some aspects of linear and capacity measurement that apply to cosmetology are also included. Emphasis is given to work-related applications.

MEDICAL LABORATORY TECHNOLOGY

MLT 110 Introduction to Medical Laboratory Technique I **3(2-3) F**
Prerequisite: Admission to MLT Program.
A course designed to acquaint the student with all aspects of the medical laboratory profession. In addition, emphasis is placed on the theory and practice of urinalysis. A brief survey of blood banking and immunology is included. Laboratory sessions center on basic techniques.

MLT 111 Introduction to Medical Laboratory Technique II **3(2-3) W**
Prerequisite: MLT 110.
Lecture topics include primarily hematology and laboratory mathematics. Laboratory sessions focus on proper collection and handling of specimens with emphasis on hematologic skills.

MLT 112 Medical Laboratory Instrumentation **3(2-3) S**
Prerequisite: MLT 111.
A study of the theory, principles of operation, and trouble-shooting techniques as applied to modern clinical laboratory instruments. Laboratory practice involves actual operation of instrumentation with emphasis on maintenance and laboratory safety.

MLT 201 Hematology and Urinalysis **4(4-0) S SS**
Prerequisites: MLT 110 and MLT 111.
A study of the physiology of the hematopoietic system of humans; normal and abnormal values, and tests for determining them. Emphasis is placed upon human disease processes of the kidneys and blood. Actual case histories involving pathology of the renal and hematopoietic systems are discussed.

MLT 202 Clinical Chemistry **4(4-0) W SS**
Prerequisites: MLT 110, 111, 112.
A study of the biochemical products involved in human metabolism, particularly carbohydrates, proteins, fats, enzymes, and electrolytes, and quantitative procedures for determining those products, both normal and abnormal, that may be present in various body fluids. The relationship between chemical imbalances and pathological conditions is discussed.

MLT 203 Medical Microbiology **4(4-0) FS**
Prerequisites: MLT 110, 111, BIO 230.
A study of the physiology and morphology of medically important bacteria, fungi and parasites infecting man; safety procedures for studying microorganisms and sterilization techniques; and the methods for isolation and identification of these microorganisms or their antigens, including the preparation and use of various media.

MLT 204 Serology, Electrocardiogram, Blood Bank **4(4-0) FW**
Prerequisites: MLT 110, 111.
A study of the nature of antibodies and the principles of precipitation, agglutination, flocculation, and tests employing these principles; the genetics of blood factors, ABO, Rh, and other subgroups; and blood compatibility testing of donor and recipient.

MLT 205 MLT Special Topics **2(2-0) S**
Prerequisites: MLT 201, 202.
This course includes readings and discussions of current topics in laboratory medicine. Review for the Registry examination and practice with course material in a student bowl setting constitute part of the course. The format is class discussions and reports in an informal setting.

MLT 221 Clinical Hematology and Urinalysis **11(0-33) FWS SS**
Prerequisites: MLT 110, 111, 112.
Clinical experience in a medical laboratory under the supervision of a senior technologist and/or pathologist, observing, studying, and performing routine techniques, tests, and procedures utilized in the urinalysis and hematology sections of a modern laboratory. Some time will be spent on campus in the clinical simulation lab.

MLT 222 Clinical Biochemistry **11(0-33) FWS SS**
Prerequisites: MLT 110, 111, 112.
Clinical application of theory from MLT 202 in a hospital chemistry laboratory.

MLT 223 Clinical Microbiology **11(0-33) FWS SS**
Prerequisites: MLT 110, 111, 112.
Clinical application of theory from MLT 203 in a hospital microbiology laboratory.

MLT 224 Clinical Immunohematology **11(0-33) FWS SS**
Prerequisites: MLT 110, 111, 112.
Clinical learning experience in serology and blood bank departments of a clinical facility. Application of MLT 204.

MUSIC

The courses offered in music are open to all students who meet the prerequisites. There are no charges other than the regular college tuition and fees.

MUS 100 Learning To Read Music **2(1-2) FWS SS**
Prerequisite: None.
Beginning instruction in learning to read musical notation and rhythmic patterns. Introduction to the piano keyboard.

MUS 101 Music Appreciation **5(5-0) FWS SS**
Prerequisite: None.
Survey of the basic terminology of Western music, its history, forms, and styles with equal emphasis given to the art of composing, the art of performing, and the art of listening. An additional listening session of one hour per week will be required.

MUS 102 Survey of American Music **3(3-0) FWS SS**
Prerequisite: None.
Survey of the history and styles of music which is composed or has had its origin in the United States. Emphasis on selected music of other countries which has influenced or has been influenced by American music.

MUS 104 Jazz Band **1(0-2) FWS SS**
Prerequisite: Perform adequately on an instrument used in the jazz band.
Study and performance of a variety of styles and periods of jazz and popular music. Concerts and performances at college and community functions. Terms designated as follows: A-Level I, B-Level II, C-Level III, D-Level IV, E-Level V, and F-Level VI.

MUS 105 Fundamentals of Music **2(1-2) W**
Prerequisite: MUS 100 or qualifying score on Music Placement Test.
Continuation of studies begun in MUS 100. Introduces basic studies of major scales, intervals, and triads. Practice in written and aural skills. Beginning instruction in sight-singing techniques.

MUS 106 Introduction to Music Theory **5(3-4) S**
Prerequisite: MUS 105 or qualifying score on Music Placement Test.
Continuation of studies begun in MUS 105. A correlation of ear-training, sight-singing, and harmony (both written and keyboard). Studies in notation, intervals, keys, scales, and triads with written and aural performances.

MUS 108 College Choir **1(0-3) FWS**
Prerequisite: None.
Study and performance of a variety of styles and periods of choral literature. Instruction in the fundamental principles of singing. Concerts and performances at college and community functions. Terms designated as follows: A-Level I, B-Level II, C-Level III, D-Level IV, E-Level V, and F-Level VI.

MUS 109 Concert Band **1(0-2) FWS SS**
Prerequisite: Perform adequately on an instrument used in the concert band.
Study and performance of a variety of styles and periods of band and wind ensemble literature. Concerts and performances at college and community functions. Terms designated as follows: A-Level I, B-Level II, C-Level III, D-Level IV, E-Level V, and F-Level VI.

MUS 110 Orchestra **1(0-2) FWS**
Prerequisite: Perform adequately on an instrument used in the orchestra.
Study and performance of a variety of styles and periods of orchestra and string ensemble literature. Concerts and performances at college and community functions. Terms designated as follows: A-Level I, B-Level II, C-Level III, D-Level IV, E-Level V, and F-Level VI.

MUS 111 Music Theory I **5(3-4) F**
Prerequisite: MUS 106 or qualifying score on Music Placement Test.
Designed to apply and expand the basic musical skills and knowledge learned in MUS 106. Analysis of harmonic and melodic material in relation to musical composition techniques. Introduction to tonality with exercises in functional harmony. Intensified practice in ear-training and sight-singing. Foundation established for four-part harmonic writing.

MUS 112 Music Theory II **5(3-4) W**
Prerequisite: MUS 111.
Continuation of studies begun in MUS 111. Introduction to first inversion, second inversion, seventh chord, suspension, pedal point, and transposition at the keyboard. Sight-singing and melodic dictation in major and minor keys with compound meters. Foundation in harmonic dictation and cadential structures.

MUS 113 Music Theory III **5(3-4) S**
Prerequisite: MUS 112.
Continuation of studies begun in MUS 112. Study of late Baroque chorale style, as culminated by J. S. Bach in the mid-18th century. Analysis of choral harmonizations, embellishments, altered chords, cadential structures, and modulations. Sight-singing involving modulation to closely related keys. Harmonic dictation in four-part block chord style. Keyboard exercises in chorale style with figured bass and simple transposition.

MUS 114 Elementary Conducting **3(3-0) F SS**
Prerequisite: MUS 106 or permission of instructor.
Introduction to basic patterns and skills for conducting vocal and instrumental groups including beat patterns, expressive gestures, cue gestures, fermatas, accents, tempo variations, rehearsal techniques, and score study.

MUS 120-129 Class Instruction in Music Performance **1(0-2) FWS SS**
Prerequisite: MUS 100 or permission of instructor.
Beginning level instruction for general college students or pre-college level music students. Secondary instrument instruction for prospective music majors. Terms designated as follows: A-Level I, B-Level II, C-Level III, D-Level IV, E-Level V, and F-Level VI. Sections: 120-Voice, 121-Piano, 122-Organ, 123-Brass, 124-Woodwinds, 125-Strings, 126-Percussion, 127-Classical Guitar. Supervised practice sessions of five (5) hours per week will be required.

MUS 130-139 Class Instruction in Music Performance **1(0-2) FWS SS**
Prerequisite: MUS 120F-129-F or permission of instructor.
Intermediate level instruction for general college students or pre-college level music students. Secondary instrument instruction for prospective music majors. Terms designated as follows: A-Level I, B-Level II, C-Level III, D-Level IV, E-Level V, and F-Level VI. Sections: 130-Voice, 131-Piano, 132-Organ, 133-Brass, 134-Woodwinds, 135-Strings, 136-Percussion, 137-Classical Guitar. Supervised practice sessions of five (5) hours per week will be required.

MUS 140-149 Music Performance **2(1-2) FWS SS**
Prerequisite: For prospective music majors only, by audition.
Advanced individual instruction for prospective freshmen music majors. Students must perform for a faculty committee each quarter. Terms designated as follows: A-Level I, B-Level II, and C-Level III. Sections: 140 Voice, 141-Piano, 142-Organ, 143-Brass, 144-Woodwinds, 145-Strings, 146-Percussion, 147-Classical Guitar. Supervised practice sessions of ten (10) hours per week will be required.

MUS 150 Ensemble Laboratory **1(0-2) FWS SS**
Prerequisite: Permission of instructor.
Designed to give students an opportunity to perform in keyboard, vocal, and instrumental combinations of two or more. Open to all students. Terms designated as follows: A-Level I, B-Level II, C-Level III, D-Level IV, E-Level V, and F-Level VI.

MUS 201 Survey of Music History and Literature I **2(1-2) F**
Prerequisite: MUS 113.
Survey of music history and literature from its beginnings through the Baroque period with emphasis on terminology, style, and form.

MUS 202 Survey of Music History and Literature II **2(1-2) W**
Prerequisite: MUS 201.
Survey of music history and literature of the Classical and Romantic periods with emphasis on terminology, style, and form.

MUS 203 Survey of Music History and Literature III **2(1-2) S**
Prerequisite: MUS 202.
Survey of music history and literature of the Impressionist and Contemporary periods with emphasis on terminology, style, and form.

MUS 208 Sandhills Singers **1(0-3) FWS**
Prerequisite: Permission of instructor.
Singers are selected from the college choir by audition. Choral literature suitable for small vocal ensembles is studied and performed. Terms designated as follows: A-Level I, B-Level II, C-Level III, D-Level IV, E-Level V, and F-Level VI.

MUS 211 Music Theory IV **5(3-4) F**
Prerequisite: MUS 113.
Continuation of the development of musical skills and knowledge learned in MUS 113. Introduction to counterpoint. Students study, analyze, and compose two-part inventions, choral preludes, and other forms employing contrapuntal techniques, such as imitation, augmentation, diminution. stretto, and pedal point. Sight-singing in four clefs with modulations to closely related and foreign related keys. Melodic dictation in simple and compound meters with emphasis on subdivided rhythms. Harmonic dictation in four-part block chord style in major and minor keys.

MUS 212 Music Theory V **5(3-4) W**
Prerequisite: MUS 211.
Continuation of studies begun in MUS 211. Introduction to altered chords of the Baroque, Classical, Romantic, and Impressionistic periods. Introduction to the analysis and composition of chorale prelude, sonata allegro, and rondo forms. Sight-singing of advanced melodies. Melodic dictation with modulations to remote keys. Harmonic dictation in four-part functional harmony.

MUS 213 Music Theory VI **5(3-4) S**
Prerequisite: Mus 212.
Continuation of studies begun in MUS 212. Introduction to composition devices of the late 19th century, early 20th century, and contemporary periods. Sight-singing of disjunct and atonal melodies. Harmonic and melodic dictation in atonal homophonic and polyphonic idioms.

MUS 240-249 Music Performance **2(1-2) FWS SS**
Prerequisite: Completion of six quarter hours of MUS 140-149 in a single performing medium.
Advanced individual instruction for prospective sophomore music majors. Students must perform for a faculty committee each quarter. Terms designated as follows: A-Level I, B-Level II, and C-Level III. Sections: 240 Voice, 241-Piano, 242-Organ, 243-Brass, 244-Woodwinds, 245-Strings, 246-Percussion, 247-Classical Guitar. Supervised practice sessions of ten (10) hours per week will be required.

ASSOCIATE DEGREE NURSING

NUR 120 Introduction to Pharmacology **2(1-3) F**
Prerequisite: Admission to ADN Program.
Designed as an introductory course to provide content and learning experiences in the study of drugs. The learner is assisted in acquiring the understanding and skills that are basic to safe and intelligent administration of drugs. The content and learning experiences are directed toward safe and therapeutic nursing intervention involving pharmacological agents. Mathematical principles of dosage for administration are stressed.

NUR 121 Nutrition **3(3-0) FW**
Prerequisite: None.
Designed as an introductory course in nutrition. The course includes classifications, compositions, functions, and sources of nutrients; the deficiency diseases; the factors influencing nutrition; the breakdown and utilization of nutrients; nutrition in life cycles; and nutritionally-related health problems.

NUR 130 Introduction to Nursing **7(4-9) F**
Prerequisite: Admission to the ADN Program.
Designed as an introductory course to provide content and learning experiences which are fundamental and common to all areas of nursing related to health. The student is provided opportunities to understand the basic concept of health and develop fundamental nursing skills based on scientific principles and expected nursing responsibilities. The content and learning experiences are directed toward a beginning awareness and development of fundamental nursing skills; communication and interpersonal skills; adequate nutrition; hygienic care; fundamental skill in the nursing process; understanding of the history of nursing; and understanding the philosophy, objectives, and purposes of the ADN program.

NUR 131 Nursing of Adults I **9(6-9) WS**

Prerequisites: NUR 120, 130; PSY 201.

Nursing of Adults I provides the student with the opportunity to study a variety of common adult health problems. The course progresses from adults' general and specific response to trauma and illness to specific dysfunction in intake, absorption, and metabolism of nutrients, fluid and electrolyte balance, oxygen and carbon dioxide exchange, hormonal balance, and the aging process.

NUR 133 Psychiatric Nursing **9(6-9) WS**

Prerequisites: NUR 120, 130; PSY 201, PSY 202.

Through the study of therapeutic communications, problem-solving techniques, scientific psychiatric theory, and the nursing process, the student develops increased self-awareness and the knowledge of psychiatric illness. Clinical experience is provided for application of the nursing process and related course theory.

NUR 220 Maternity Nursing **9(6-9) F SS**

Prerequisites: NUR 131 and NUR 133.

A study of the nurse's role in meeting the health needs of families during the maternity cycle. Course context is focused on understanding physiological and emotional changes that affect the expanding family during all phases of a normal pregnancy and the immediate newborn period. Major maternal and neonatal complications are identified and discussed.

NUR 230 Nursing of Children **9(6-9) F SS**

Prerequisites: NUR 131 and NUR 133.

A problem-oriented approach to the study of common health problems encountered in caring for children from birth through adolescence. Continuing emphasis is placed on development of the ability to give safe, skillful nursing care to hospitalized children.

NUR 232 Nursing of Adults II **13(7-18) W**

Prerequisite: NUR 230.

Designed to provide the student with continued study of common adult health problems. The course is designed to include the more complex dysfunctions of intake, absorption, and metabolism of nutrients; fluid and electrolyte balance; oxygen and carbon dioxide exchange; cellular response; and orthopedic/neurologic continuity. Emphasis is placed on utilizing previous learning and newly integrated scientific principles of nursing which are essential in planning, implementing, and evaluating individualized nursing care for adult clients with advanced medical-surgical disorders. Incorporation of first-level management occurs through caring for groups of patients. The development of self-direction is stressed.

NUR 233 Nursing in Complex Situations **12(6-18) S**

Prerequisite: NUR 232.

An in-depth study of complex nursing situations. The course is designed to include advanced and complex content and concepts related to a variety of clinical patient care situations. Incorporation of first-level management is continued in select experiences with groups of patients. Content includes advanced concepts in transport of nutrients to and from cells, fluid and electrolyte imbalances, disturbances in neurological continuity, disorders in metabolism of nutrients, hormonal imbalances, high-risk neonatal and pregnancy states, and crisis intervention.

NUR 234 Trends in Nursing **2(2-0) S**
Prerequisite: NUR 232.
Designed to present an overview of current trends and issues in nursing and how they affect the nurse. Consideration is given to the ethical, legal, political, and professional aspects of the nursing profession. Emphasis is placed on aiding the learner to make an effective transition to the role and responsibilities of the practicing nurse. The concept of self in a competitive system of health care is explored through various group discussions.

NUR 240 Physical Assessment in Nursing **3(2-3)**
Prerequisite: Enrollment in ADN, PN curriculum or license to practice nursing.
Designed as a guide for health care practitioners in their responsibilities to clients, to the employer, and to themselves. Emphasis is placed on the responsibility of the nurse in performing continuing physical assessments of clients in a health-care setting. Course offered based upon demand.

NUR 241 Concepts and Case Studies in Nursing **3(3-0) S**
Prerequisite: NUR 232.
Through the study of complex case situations and utilization of the nursing process, the student is given opportunity to develop critical decision making skills required of a graduate nurse. Clinical cases with medical, surgical, maternal-child, and psychiatric concepts are covered. Clinical simulations will be presented to the student through computer software, texts, and professional journals.

PRACTICAL NURSING

NUR 1101 Fundamentals of Practical Nursing **8(5-9) F**
Prerequisite: Admission to PN Program.
Designed as an introductory course to provide content and learning experiences which are fundamental and common for the practical nurse. Emphasis is on meeting patient needs with utilization of the nursing process. Concepts of health/illness, basic human behavior, and communication are included.

NUR 1102 Medical-Surgical Nursing I **12(8-12) W**
Prerequisites: BIO 210, NUR 1101.
This course provides the student with an opportunity to study common adult health problems with emphasis on maintenance of homeostasis and the general response of the body to illness. Utilizing the nursing process, the student identifies pertinent nursing care measures for each dysfunction presented. The psychosocial development of the adult is also discussed.

NUR 1103 Pharmacology **3(3-0) W**
Prerequisites: BIO 210, NUR 1101.
Designed to prepare the student to administer therapeutic agents safely. Emphasis is given to ethical and legal responsibilities of drug administration, classification of commonly administered medications, and the route and effects of medications. Mathematical principles concerning dosage calculation are stressed.

NUR 1104 Pediatric and Obstetrical Nursing **12(7-15) S**
Prerequisites: BIO 210, NUR 1102.
This course is designed to provide the basic information of pediatric and obstetrical nursing. Common health principles and illnesses encountered in caring for hospitalized children from birth to adolescence as well as women's normal pregnancy, labor, delivery, and postpartum supportive responsibilities are major topics covered from the perspective of the nursing process.

NUR 1105 Ethics and Issues in Health Professions **2(2-0) S**
Prerequisite: NUR 1102.
This course includes the legal and ethical responsibilities of the health professional as well as current issues in the health field. Accountability in health care delivery and relationships between the health worker and team members are stressed.

NUR 1106 Seminar for Career Adjustment **2(2-0) S**
Prerequisite: NUR 1102.
A course designed to explore issues which will confront the student immediately prior to and following graduation. Methods of problem solving will be introduced to assist in the transition from student to employee. Topics of discussion include: applying for and taking the National Council Licensure Examination for Practical Nurses (NC–LEX–PN), employment opportunities for the practical nurse, job-seeking skills, and role adjustment.

NUR 1107 Medical-Surgical Nursing II **13(7-18) SS**
Prerequisite: NUR 1104.
This course is designed to introduce the student to the care of patients with complex nursing needs. The role of the practical nurse in situations requiring judgment based on previous experience and knowledge, as well as emergency care principles, will be emphasized.

NUR 1108 Survey of Human Needs **3(3-0) SS**
Prerequisite: NUR 1107 or permission of instructor.
This course is designed to integrate basic human needs, common health problems, and the treatment modalities. Emphasis is placed on the nursing process as a methodology of nursing care.

PHILOSOPHY

PHI 101 Introduction to Philosophy **5(5-0) FS SS**
Prerequisite: None.
An investigation of the major issues of philosophy concentrating on an examination of some of the leading philosophers such as William James, Friedrich Nietzsche, and Jean-Paul Sartre.

PHI 105 Beginnings of Modern Philosophy **5(5-0) W SS**
Prerequisite: None.
A critical study of selected works of Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume and Kant. Major emphasis on the philosophical problems brought about by the emergence of the modern world.

PHI 110 Ethics **5(5-0) FW**
Prerequisite: None.
An investigation of ethical theory concentrating on studies of some leading ethical positions such as utilitarianism, existentialism, and Aristotelianism.

PHI 201 Introduction to Logic **5(5-0) FS**
Prerequisite: None.
A survey of the general principles of deductive and inductive logic and the characteristics of empirical knowledge. Emphasis on the establishment of reflective habits.

PHI 210 Problems and Perspectives in Philosophy **3(3-0) S**
Prerequisite: None.
A survey of some of the major issues in philosophy and how the major philosophical perspectives treat these issues. Emphasis is on general perspectives such as determinism, materialism, dualism, and theism.

PHOTOGRAPHY

PHO 110 Introduction to Photography **4(2-4) FW**
Prerequisite: Interview with instructor required.
An introduction to art and techniques of photography including composition, developing the negative, and printing photographs. Students must provide their own cameras.

PHO 111 Intermediate Photography **4(2-4) S**
Prerequisite: Photography 110 or equivalent level. Interview with instructor required.
A more in-depth study of photography and laboratory techniques including special film processing, litho work, processing color film, and advanced flash techniques. Students must provide their own cameras.

PHYSICAL EDUCATION

The major emphasis in physical education is that of lifetime sports. The student may choose either individual, dual, or team sports. All activities attempt to familiarize the student with basic skills along with some rules, strategy, history, and terminology.

PED 100 Conditioning **1(0-2) FWS**
Prerequisite: None.
The purpose of the course is to familiarize students with methods by which they may physically condition themselves. The course is equally divided into the following activities: aerobic exercising, weight training, and running/jogging.

PED 101 Gymnastics **1(0-2) W SS**
Prerequisite: None.
Basic gymnastic skills are covered. Equipment used includes short sidehorse, parallel bars, trampoline, and take-off boards. Extra work may be done on the long box.

PED 103 Tennis **1(0-2) FS SS**
Prerequisite: None.
Designed for beginners. Students are taught eastern forehand and backhand grips for ground strokes. Proper methods and procedures for servicing, return of serve, and overhead strokes, along with proper positioning in singles and doubles, are covered. Students are taught the traditional scoring and use of the twelve-point tie-breaker. Students must furnish rackets and balls.

PED 104 Soccer **1(0-2) F**
Prerequisite: None.
The following basic skills are taught: foot trapping, body trapping, heading, and passing. The rules and strategy and the positions of the game are covered. Speedball is also covered toward the end of the course.

PED 107 Volleyball **1(0-2) FW**
Prerequisite: None.
Students are taught power volleyball. The basic rules, plays, and proper techniques of passing, setting, spiking, and bumping (digging) are taught, along with various serving techniques, scoring, positioning, and defensive plays.

PED 108 Archery **1(0-2) FS SS**
Prerequisite: None.
History, terminology, and scoring along with proper techniques of bracing, drawing, and releasing of the equipment are taught. Equipment is furnished by the college. An archery trail is available for student use.

PED 109 Weight Training **1(0-2) FW**
Prerequisite: None.
Various methods of training with weights are explored. Isometrics along with the normal isotonics, the circuit program, and some cross-country running are used to help totally condition the body. This is not a lifting class, but emphasis is placed on proper procedure for training with weights.

PED 111 Golf **1(0-2) FS SS**
Prerequisite: None.
Basic grips, strokes, and rules of the game are taught. Video-tapes of students in practice are used as teaching aids.

PED 113 Softball **1(0-2) S**
Prerequisite: None.
Basic fundamentals of throwing, catching, hitting, cut-off plays, and rules are taught.

PED 114 Tumbling **1(0-2) W**
Prerequisite: None.
The fundamentals of rolls, cartwheels, and pyramids are taught using the springboard and mats. Major emphasis of the course is to learn how to fall without injury. Group stunts are also covered.

PED 117 Basketball **1(0-2) W**
Prerequisite: None.
The fundamentals of dribbling, shooting, screening, and other offensive and defensive techniques are taught. Rules are also covered.

PED 119 Beginning Fencing **1(0-2) WS SS**
Prerequisite: None.
The foil weapon is used in this basic course with emphasis on grip, stance, and establishment of good techniques for attacks and parries. The college furnishes all equipment.

PED 120 Angling **1(0-2) FS SS**
Prerequisite: None.
Emphasis is placed on bass fishing, and classes are held at the College lakes. Both classroom and practical work are included. Such topics as present state laws, lure techniques, operation of depth finders, etc., are covered. The College has limited equipment.

PED 123 Racquetball **1(0-2) FS SS**
Prerequisite: None.
The student will be given the basic information concerning the history and present status of growth and tournament play. Basic playing skills of forehand, backhand, serve, drops, and lob will be covered. Strategy for both singles and doubles play along with rules of play and etiquette will also be covered. Students must furnish rackets and will be required to wear eye-guards. The College will furnish balls for class.

PED 124 Self Defense **1(0-2) FWS SS**
Prerequisite: None.
The course is designed to help students understand and learn basic self defense techniques. Philosophies and attitudes regarding personal security are discussed. Present laws relating to self defense are covered.

PED 125 Aerobic Exercises **1(0-2) FWS SS**
Prerequisite: None.
Students are taught choreographed movements composed of light to vigorous dance steps designed to improve and maintain cardiovascular endurance. A major goal of the class is to lower the resting heart rate of all students. Students are encouraged to maintain their heart levels based on guidelines given in the first class meetings.

PED 126 Running/Jogging **1(0-2) FS SS**
Prerequisite: None.
To introduce physical fitness principles through walking, jogging, and running in order to improve overall body conditioning. For all ages, 18 to 80 and beyond. Students are urged to maintain their heart levels based on guidelines given in the first class meetings. Other aspects relating to running/jogging are covered, such as equipment, nutrition, and stretching exercises.

PED 127 Canoeing **1(0-2) FS SS**
Prerequisite: None.
This course is designed for the beginning canoeist. Fundamental paddling skills include turns, saves, and power strokes. Basic safety skills are emphasized, and water rescues are covered. The College furnishes all specialized equipment. This course is taught on weekends.

PED 150 Personal and Community Hygiene **3(3-0) FWS**
Prerequisite: None.
Designed to present basic and community health knowledge and to develop proper health habits and attitudes in the individual and the community. A general survey of personal and community health habits and conditions, including adjustments of the college freshman.

PED 200 First Aid and Emergency Care **3(3-0) FWS**
Prerequisite: None.
Students taking this course should acquire a better understanding of first aid and emergency care procedures. The latest cardiopulmonary resuscitation (CPR) techniques will be shown; however, no certification of proficiency will be required. The Heimlich method of aiding a choking victim will be taught. With the successful completion of this course, each student will receive Red Cross First Aid Certification.

PED 227 Advanced Canoeing **1(0-2) FS SS**
Prerequisite: Current Red Cross Certification showing canoeing skills, or prior approval of instructor.
A course designed to provide students who have completed PED 127 the opportunity to improve fundamental skills. Additional paddling techniques and more challenging maneuvers will enable the student to encounter moving-water conditions confidently. The course will include a one-day local trip involving moving-water techniques. Classes are taught on weekends.

PHYSICS

PHY 201 General Physics I **4(3-3) FW SS**
Corequisite: MAT 110 or equivalent.
The first of three quarters of a beginning course in general physics designed to provide an understanding of the fundamentals on which technology is based. Topics to be covered are mechanics and properties of matter.

PHY 202 General Physics II **4(3-3) WS SS**
Prerequisite: PHY 201.
A continuation of PHY 201; topics covered are mechanical wave motion, heat, electricity, magnetism, and electronics.

PHY 203 General Physics III **4(3-3) FS SS**
Prerequisite: PHY 202.
A continuation of PHY 202; topics covered are sound, light, atomic and nuclear physics.

PHY 204 Engineering Physics **3(3-0) WS SS**
Prerequisites: MAT 201, PHY 203.
Corequisite: MAT 202.
A study of selected topics from classical and modern physics in which calculus is employed. This course supplements the one-year General Physics course to meet the physics requirements for pre-engineering students.

PHY 1101 Applied Science **4(3-2) F**
Prerequisite: None.
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.

POLITICAL SCIENCE

POL 201 The American Political System **5(5-0) FWS SS**
Prerequisite: None.
A study of the major political institutions of the American political system. Relationship between the people and their political institutions with emphasis on political culture, socialization, the electoral process, mass communication, political parties, interest groups, and public opinion.

POL 202 State and Local Political Systems in the American Political System **5(5-0) S**
Prerequisite: None.
A comparative study of the relationships of state and local political systems within the federal system. A study of the major institutions and the processes of decision making.

POL 205 Special Topics
Prerequisite: Permission of instructor.
A special course to teach varying areas in the field of political science. Special topics to be listed in quarterly schedule of classes. Credit hours to vary, depending upon topic. Course offered based upon demand.

PSYCHOLOGY

PSY 201 Principles of Psychology **5(5-0) FWS SS**
Prerequisite: None.
A basic course presenting a study of behavior in terms of perception, motivation, learning, heredity, environment, emotion, personality, adjustment, therapy, and social behavior.

PSY 202 Developmental Psychology **5(5-0) FWS SS**
Prerequisite: PSY 201.
A study of the development and behavior of the individual from conception through childhood, adolescence, and adulthood, to old age. Emphasis on the interrelation between the biological and social influence.

PSY 203 Behavior Disorders I **3(3-0) W**

Prerequisite: PSY 201.

An introduction to the study of abnormal psychology including historical views, causal factors, current perspectives, assessment, classification, prevention, and treatment of behavior disorders. Selected topics will include psychological and physical reactions to stress and anxiety as well as individual problems of social concern such as substance abuse and personality disorders. Does not fulfill degree behavioral science requirement.

PSY 204 Behavior Disorders II **4(3-3) S**

Prerequisite: PSY 203 or permission of the instructor.

A continuation of PSY 203. A study of selected patterns of abnormal behavior including schizophrenia, paranoia, affective disorders, organic mental disorders, mental retardation, and disorders of childhood and adolescence. Prevention and treatment in the social context, interaction of team members in providing comprehensive mental health services, and efforts for mental health and psychological growth will be included. The laboratory portion of the class is designed to give the student real life experiences in understanding behavior disorders. Does not fulfill degree behavioral science requirement.

PSY 206 Introduction to Personality **5(4-3) F**

Prerequisite: PSY 201.

Study of the individual differences in personality and of the biological and environmental factors which contribute to personality development. Particular emphasis is placed upon the well-adjusted personality, with some opportunity for self-assessment.

PSY 207 Introduction to Psychological Testing **5(4-3) W**

Prerequisite: PSY 201 or permission of instructor.

Designed to provide the student with knowledge of the nature and rationale of major psychological tests. Elementary statistical concepts are included to acquaint the student with the language of test design and use. Each student will be required to administer, score, and interpret the Wechsler Intelligence Scale for Children, Wechsler Adult Intelligence Scale, and the Stanford-Binet Intelligence Scale. Does not fulfill degree behavioral sciences requirement.

PSY 209 Introduction to the Study of Exceptional Children **5(4-3) S**

Prerequisite: Permission of instructor.

Study of the broad range of exceptionality including the mentally retarded, emotionally disturbed, speech impaired, hearing impaired, visually impaired, learning disabled, and physically handicapped, as well as the gifted. Social, educational, and psychological needs of the exceptional child are studied. Does not fulfill degree behavioral sciences requirement.

PSY 210 Introduction to Counseling **4(3-3) F**

Prerequisite: Permission of instructor.

To acquaint the student with the philosophy, theory, and techniques the counselor uses to implement the concept of "helping." Emphasis throughout is upon knowing one's self and developing a personal and unique style. An attempt will be made to provide opportunities to observe and participate in the helping relationship in various settings. Does not fulfill degree behavioral sciences requirement.

PSY 212 Behavior Modification **3(2-3) W**
Prerequisite: Permission of instructor.
A study of the systematic application of psychological principles used to change behavior. The approach includes both clinical and educational settings and a required lab. Major behavioral methods are covered. They are supplemented by case studies and representative research findings. Does not fulfill degree behavioral sciences requirement.

PSY 220 Applied Psychology **5(5-0) W**
Prerequisite: None.
A practical course designed to demonstrate the application of principles of psychology to specific occupational and personal problems. Special attention will be given to problems of supervision, relationships with co-workers, work attitudes, and customer relations. Attention will also be given to personal and group dynamics so that the student may learn to apply the principles of mental hygiene to adjustment problems as a worker and a member of the general community. Does not fulfill degree behavioral sciences requirement.

PSY 1101 Human Relations **3(3-0) SS**
Prerequisite: None.
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. Does not fulfill degree behavioral sciences requirement.

RADIOLOGIC TECHNOLOGY

RAD 100 Introduction to Radiologic Technology **4(4-0) F**
Prerequisite: Admission to the program.
An introductory course to the field of Radiologic Technology. This course will include a period of orientation with rules and policies outlined. The student will receive instruction in the areas of basic radiation protection, medical and legal ethics, medical terminology, and patient care principles. Also included will be an introduction to the positioning of the chest and abdomen.

RAD 101 Radiologic Technology I **7(6-3) F**
Corequisites: RAD 100, RAD 102.
A study of the imaging principles of radiographic exposure and radiographic processing. The course focuses on radiographic accessories and their functions, radiographic exposure, the factors influencing exposure, compensation for changes in factors, and development of technique charts. A major emphasis will be the relationship of exposure factors upon radiographic quality. Processing techniques, including an in-depth study of darkroom chemistry and automatic processing, will be included.

RAD 102 Clinical Education I **2(0-6) F**
Corequisites: RAD 100, RAD 101.
An introductory course to the clinical setting. Supervised experiences will familiarize students with radiographic equipment and accessories, the darkroom, office procedures, patient care, and transportation. Emphasis will be placed on the development of a professional attitude and appearance.

RAD 103 Radiologic Technology II **8(6-6) W**
Prerequisite: RAD 101 or permission of instructor.
Corequisite: RAD 104.
A study of radiographic principles related to anatomy and positioning of the abdominal viscera and appendicular skeleton. A portion of the course is devoted to contrast media and its adverse reactions. Methods of patient preparation and protection are included with each body region covered.

RAD 104 Clinical Education II **2(0-6) W**
Prerequisite: RAD 102.
Corequisite: RAD 103.
A continuation of RAD 102. Students will further develop basic skills and, under the direct supervision of a technologist, will begin positioning patients for examinations of the chest, abdomen, and appendicular skeleton. Students will also become more involved in patient care procedures.

RAD 105 Radiologic Physics **6(6-0) S**
Prerequisite: RAD 101 or permission of instructor.
A study of the fundamental units of measurement, the structure of matter, and the concepts of work, force, and energy. Also included are studies of the following basics of electricity: electrostatics, electrodynamics, magnetism, electric generators, and motors. The latter portion of the course is an examination of how electricity is controlled and used to produce x-radiation. It includes sections on transformers, rectifiers, x-ray tubes, and the completed x-ray circuit. The last section includes concepts of how x-radiation interacts with matter, its units of measurement, and other concepts related to radiation protection. The principles of tomography and fluoroscopy will be covered.

RAD 106 Radiologic Technology III **7(5-6) S**
Prerequisite: RAD 103 or permission of instructor.
Corequisites: RAD 105 and RAD 107.
A continuation of radiographic positioning principles introduced in RAD 103. Special emphasis will be placed on radiographic principles related to the anatomy and positioning of the axial skeleton. Methods of patient preparation and protection are integrated with each body region discussed.

RAD 107 Clinical Education III **5(0-15) S**
Corequisite: RAD 106.
A continuation of RAD 104. Students will further develop positioning skills in the areas of fluoroscopy, spine, and skull radiography under the direct supervision of a technologist.

RAD 108 Clinical Education IV **7(0-21) SS**
Prerequisites: RAD 106, RAD 107.
A continuation of RAD 107. Students will apply the knowledge acquired in previous quarters to gain self-confidence in the areas of general radiography and fluoroscopy under direct supervision. Weekly seminars will be held in the clinical courses to critique and review radiographs done by students. Clinical tests will be administered, and students will begin clinical competency examinations.

RAD 201 Radiologic Technology IV **5(5-0) F**
Prerequisites: RAD 106 or permission of instructor.
Corequisite: RAD 202.
Students are taught the anatomy, equipment, and specific positioning techniques employed for special radiographic procedures. This includes the more routine exams such as mammography, xero-mammography, bronchography, arthrogram, tomography, and the exams specifically done for the gravid and non-gravid female. A thorough investigation of angiographic and neuroradiographic procedures is also accomplished. Specialty areas of ultrasound, nuclear medicine, radiation therapy, computerized tomography, digital subtraction, angiography, and magnetic resonance are also covered.

RAD 202 Clinical Education V **12(1-33) F**
Prerequisite: RAD 108.
Corequisite: RAD 201.
A continuation of RAD 108. Students will practice with indirect supervision and accept a greater level of responsibility in the performance of radiographic examinations. Students will also take part in special procedures. Observation in the areas of nuclear medicine, CT, ultrasound, and radiation therapy will occur.

RAD 203 Radiologic Technology V **4(4-0) W**
Prerequisite: RAD 105 or permission of instructor.
In recognition of the professional obligation the radiographer has for practicing radiation safety measures, the specific intent of this unit is to provide each student with awareness and knowledge relating to the effects of ionizing radiation on biologic systems. Known radiation dangers, public acountability, and increased government intervention dictate that knowledge in this area is imperative for the practicing radiographer.

RAD 204 Clinical Education VI **12(1-33) W**
Prerequisite: RAD 202.
Corequisite: RAD 203.
A continuation of RAD 202. Students will apply theory acquired to further develop clinical skills with indirect supervision.

RAD 205 Radiologic Technology VI **4(4-0) S**
Prerequisite: RAD 203.
For radiographers to function effectively with other health professionals in the clinical environment, they must demonstrate an understanding of the classical disease process of the human body. Students will be introduced to general principles of pathology from the anatomic and physiological aspects. Emphasis will be placed on those diseases most commonly seen in a Radiology Department and their radiographic appearance.

RAD 206 Clinical Education VII **9(1-24) S**
Prerequisite: RAD 204.
Corequisite: RAD 205.
A continuation of RAD 204. Students will complete clinical competency examinations and will assume primary responsibility for assigned rooms with the exception of the specialty areas.

RAD 207 Radiologic Technology Seminar **4(4-0) SS**
Prerequisite: RAD 205.
Corequisite: RAD 208.
A seminar designed to prepare students for the professional world of work. The course concentrates on job seeking skills, preparation of resumes, interview techniques, and possible job opportunities. The course also prepares the student for the registry exam in terms of testing skills. Students will have an opportunity to pursue any areas in which they feel deficient.

RAD 208 Clinical Education VIII **4(0-12) SS**
Prerequisite: RAD 206.
Corequisite: RAD 207.
Students will be involved with the completion of final competency examinations. In addition, students will work directly with quality assurance and quality control procedures.

RAD 209 Quality Assurance in Radiologic Technology **2(2-0) SS**
Prerequisites: RAD 101, RAD 105.
Corequisite: RAD 208.
Students will be instructed in the systematic approach which can be used to produce consistently high quality radiographs with minimum exposure levels for patients and personnel. Emphasis will be placed on quality control techniques. Students will be exposed to the procedures used to test equipment and materials.

RAD 210 Clinical Education IX **5(0-15) SS**
Corequisite: RAD 208.
Clinical experience will enable students to further develop techniques and positioning skills at one of the minor clinical affiliates. Efforts will be made to place students in areas best suited to their continued development or those of special interest.

READING

RDG 099 Word Attack/Pronunciation **1(1-0) FWS**
Prerequisite: None.
Emphasis on pronunciation of new and difficult words based on phonetic analysis and other methods of word attack. Basic phonics, structural analysis, and the dictionary pronunciation key will be used. Course offered based on demand.

RDG 100 Reading **5(5-0) FWS SS**
Prerequisite: None.
This course is based on the philosophy that the development of reading is a continuous process. Stress is given to the development of comprehension skills and vocabulary. The student will be aided in applying reading skills to content area materials. Basic study skills will be taught and applied.

RDG 101 Study Skills **3(3-0) FWS SS**
Prerequisite: RDG 100, if RDG 100 was required by the student's performance on the reading placement test.
This course will emphasize study skills development through textbook application. Skills taught include note-taking, test-taking, memory development, study techniques, and content reading. Readings from various content areas will be utilized to teach organizational skills.

RDG 102 Speed Reading **3(3-0) S SS**
Prerequisite: RDG 100 or satisfactory score on the reading placement test or permission of instructor.
This course is designed to help overcome reading problems, determine purposes for reading a variety of material, match reading speed with material being read, develop speed in reading, and improve reading comprehension.

RDG 103 Listening **3(3-0) WS**
Prerequisite: None.
This course will help students develop the ability to increase their listening efficiency, note-taking skills, memory (short and long term), and concentration. Emphasis will be placed on awareness of the receiver's role in the communication process, appreciation of communication, and development of a strong listening vocabulary. Non-verbal communication will also be emphasized.

RDG 201 Reading in the Elementary School **3(3-0)**
Prerequisite: None.
This course is designed to help the prospective teacher or aide understand the nature of the reading process. The student learns that reading is a developmental process and that skills must be taught in a specific pattern using varied methodologies. Readiness for reading and basic word attack are stressed. Course offered based upon demand.

RDG 202 Methods and Materials in Reading **3(3-0)**
Prerequisite: RDG 201.
The student will learn to utilize various methods for teaching beginning reading. The Directed Reading-Thinking approach is stressed in the development of comprehension. Materials will be designed and used in classroom situations. Course offered based upon demand.

RELIGION

REL 101 Religions of the World **5(5-0) FWS**
Prerequisite: None.
The great religions of mankind are studied from a historical, theological, and sociological perspective. Reading of the great religious classics is encouraged.

REL 106 Religious Thought in the Twentieth Century **5(5-0) FS**
Prerequisite: None.
An examination of some contemporary cults and traditional sects, including Unification Church, Krishna Consciousness, UFOlogy, Neo-Paganism, Al-Islam, Amish, Shakers, and Mormons. Topics may vary according to student interest.

REL 110 Religion and Modern Society **5(5-0) WS**
Prerequisite: None.
A study of present religious positions concerning issues of national and world significance. Some issues covered include sexual identity, abortion, human liberation, being animal in a human world, aggression and violence, world hunger, genetics and the future of humanity, race, ethnicity, and power.

REL 151 Introduction to Old Testament Literature **5(5-0) W**
Prerequisite: None.
The Hebrew Scriptures are presented in a way that will enable the student to gain a fuller appreciation of messages about God and man. A historical, theological, and literary presentation is emphasized. Selected reading in the Old Testament is required.

REL 161 Introduction to New Testament Literature **5(5-0) S**
Prerequisite: None.
An emphasis is placed upon the life, teachings, and significance of Jesus Christ. A consideration is given to the Jewish background of the New Testament and to St. Paul and the organization, ritual, and theological setting of the early church. Selected reading in the New Testament is required.

REL 171 Philosophy of Religion **5(5-0)**
Prerequisite: None.
An inquiry into the philosophical foundations of religious experience. Problems of belief and knowledge, faith and reason, the possibility of truth, the nature of evidence, the challenge of other religions, the existence and nature of God, the existence of evil, and the character and meaning of the religious commitment are included. Course offered based on demand.

RESPIRATORY THERAPY

RTH 102 Introduction to Respiratory Therapy **3(3-0) FW**
Prerequisite: Admission to Respiratory Therapy Program.
Corequisite: RTH 102L.
This is a core course that introduces the student to respiratory therapy. It includes such topics as: history of respiratory therapy, medical terminology, gas laws, solutions and ions, ventilation, and other topics that are considered the basics of the field.

RTH 102L Introduction to Respiratory Therapy Lab **1(0-3) FW**
Prerequisite: Admission to Respiratory Therapy Program.
Corequisite: RTH 102.
An introductory laboratory course concerned with experiments designed to emphasize the application of basic topics presented in RTH 102. The lab will include orientation labs in the clinical areas.

RTH 103 Respiratory Therapy I **3(3-0) W**
Prerequisite: RTH 102.
Corequisite: RTH 103L.
This is a continuation of the introductory course. It will include cardiopulmonary anatomy and physiology, blood gas and acid-base balance, oxygen transport, shunts and ventilation perfusion studies, and tests used for them.

RTH 103L Respiratory Therapy I Lab **1(0-3) W**
Prerequisite: RTH 102L.
Corequisite: RTH 103.
A continuation of RTH 102L. This laboratory course emphasizes the utilization of equipment employed in ventilation and perfusion studies and blood gas analyses. Continuation of clinical orientations.

RTH 104 Respiratory Therapy II **3(3-0) S**
Prerequisite: RTH 103.
Corequisite: RTH 104L.
This is a continuation of Respiratory Therapy I. Topics include oxygen therapy, aerosol therapy, oxygen systems and gas storage, safety regulations, pathophysiologic entities requiring these modalities, and devices used for administering them.

RTH 104L Respiratory Therapy II Lab **1(0-3) S**
Prerequisite: RTH 103L.
Corequisite: RTH 104.
A continuation of RTH 103. This laboratory course will concentrate on using the various devices employed in oxygen and aerosol therapy. A field trip to a medical gas manufacturer will be included.

RTH 121 Physics for Respiratory Therapy **3(3-0) W**
Prerequisite: RTH 102.
Specifically designed for respiratory therapy students. Motion, energy, liquids, fluidics, gases, heat, electricity, instrumentation, light, vision, hearing, and radiation are covered.

RTH 211 Pharmacology for Respiratory Therapy **3(3-0) SS**
Prerequisite: All 100 level RTH courses.
This course is primarily a study of pharmacologic agents used in treatment of respiratory disease. It includes dosages, side effects, physicians' order requirements, indications and contra-indications.

RTH 212 Respiratory Therapy III **3(3-0) SS**
Prerequisite: All 100 level RTH courses.
Corequisite: RTH 212L.
This is a continuation of Respiratory Therapy II. Topics covered are physical diagnosis, patient evaluation, chest physiotherapy, x-ray interpretation, airway management, medical-legal aspects, ethical considerations, and cardiopulmonary resuscitation.

RTH 212L Respiratory Therapy III Lab **1(0-3) SS**
Prerequisite: RTH 104L.
Corequisite: RTH 212.
This course presents the laboratory aspects of RTH 212 and includes physical diagnosis, chest examination, reading, x-rays, airway simulation, and CPR.

RTH 213 Respiratory Therapy IV **3(3-0) SS**
Prerequisite: RTH 212.
Corequisite: RTH 213L.
This is a continuation of RTH 212. Topics include mechanical ventilation, intensive care, monitoring and modalities, pediatric therapy, weaning techniques, and rehabilitation. The course will also provide an in-depth review of all previously covered topics.

RTH 213L Respiratory Therapy IV Lab **1(0-3) SS**
Prerequisite: RTH 104L.
Corequisite: RTH 213.
This laboratory course presents methods of application of principles of mechanical ventilation. Students will learn to be competent in using mechanical ventilators.

RTH 214 Pulmonary Pathophysiology **3(3-0) SS**
Prerequisite: All 100 level RTH courses.
A course dealing with the etiology, pathophysiology, signs, symptoms, diagnosis, and treatment of the most commonly found respiratory diseases. Emphasis is placed on the role of the respiratory therapist in the diagnosis and treatment of patients with pulmonary ailments.

RTH 216 Cardiopulmonary Anatomy and Physiology **3(3-0) S**
Prerequisite: RTH 102.
This course offers an indepth study of the histology, electrophysiologic and mechanical functions of the heart, with an emphasis on the heart-lung interface.

RTH 251 Clinical Lecture I **3(3-0) F**
Prerequisites: RTH 211, RTH 212, RTH 214.
A discussion course covering relevant topics corresponding to clinical experiences. Methods of diagnosis, treatment, and management of pulmonary disease are discussed. Lectures by the medical director are included.

RTH 252 Clinical Lecture II **3(3-0) W**
Prerequisite: RTH 251.
Continuation of RTH 251. Lectures by faculty including the medical director.

RTH 253 Advanced Topics in Respiratory Therapy **3(3-0) S**
Prerequisite: RTH 252.
Designed for the graduating student. Students will participate in group discussions about pulmonary cases. Journal club discussions and presentations will be organized by students. A final section will prepare the graduate to enter the job market with discussions of resume preparation, job interview, and related topics. Clinical correlation will be discussed by the medical director.

RTH 254 Special Topics in Respiratory Care **2(2-0) S SS**
Prerequisite: RTH 252 or permission of instructor.
This seminar includes readings and discussions of current topics in respiratory therapy. Review of the content areas from the written Registry and clinical simulation examinations constitutes a portion of the course. Practice examinations of the written and simulation portions of the Registry will be administered.

RTH 261 Clinical Application I **11(0-33) F**
Prerequisites: RTH 211, RTH 212, RTH 213, RTH 214.
Students will be scheduled for rotations in hospitals which are affiliated with the program. Clinical experiences are subdivided into subrotations which vary in length from one to three weeks. Subrotations include basic therapy, medical and surgical intensive care, neonatal intensive care, pediatrics, anesthesiology, pulmonary function, home care, departmental management, chronic care, physician services, and EKG.

RTH 262 Clinical Application II **11(0-33) W**
Prerequisite: RTH 261.
A continuation of RTH 261.

RTH 263 Clinical Application III **11(0-33) S**
Prerequisite: RTH 262.
A continuation of RTH 262.

SOCIOLOGY

SOC 110 Life and Career Planning **3(2-2) FWS SS**
Prerequisite: None.
This course is designed to assist the student in the exploration of interests, aptitudes, values, and goals. The course includes exercises in values clarification, decision-making, problem-solving, time management, career exploration, and job-seeking skills. The classroom activities will provide opportunities for the individual to become more self-determining of personal assets and skills needed as related to the many options in work, leisure, and life planning. Does not fulfill degree behavioral sciences requirement.

SOC 201 Principles of Sociology **5(5-0) FWS SS**
Prerequisite: None.
An analysis of the structure and functions of modern society. Illustrates societal conditions which influence individual and mass behavior.

SOC 203 Social Problems **5(5-0) S**
Prerequisite: SOC 201 or permission of instructor.
An analysis of enduring and recurring American social problems. The institutional perspective is taken on the assumption that social problems are the consequences of institutional life. Thus, the following classes of problems are covered: family, economic inequality, crime, education, religion, and morality.

SOC 204 Community Organization, Conflict and Change **5(4-3) SS**
Prerequisite: SOC 201 or permission of instructor.
A study of the American rural tradition contrasted with urbanism as a way of life, with emphasis on the forces that create social change and conflict in society such as group relationships, mass living, culture conflicts, social classes, population changes, and a brief analysis of the organization of various types of communities, intergroup relations, the community power structure, leadership, change and conflict. Does not fulfill degree behavioral sciences requirement.

SOC 212 Sociology of the Family **5(5-0) FWS SS**
Prerequisite: SOC 201.
A study of the contemporary American family in social context, reviewing such areas as courtship and preparation for marriage, roles and status of members in their relationship, problems of adjustment within the family, the family as a social unit and institution, economic aspects of the family with emphasis on socio-economic influences on family status, influence of personality development, and the effects of contemporary social change on the American family patterns.

SOC 213 Interviewing **4(3-3) W**
Prerequisite: Permission of instructor.
A basic course in interviewing and counseling skills for the helping person. Emphasis is placed on being a facilitator of the other's self-exploration, problem-solving, decision-making, and personal growth, rather than a judge of behavior or a "giver of advice." Use of role-playing, observation, and other laboratory experiences form the core of the course as students have a chance to experience and evaluate their own interpersonal style as a tool in the helping relationship. Discussion of specific techniques, different types of clients, and various other aspects of the interview will be included. Does not fulfill degree behavioral sciences requirement.

SPANISH

SPA 101 Elementary Spanish I **5(5-0) F SS**
Prerequisite: Satisfactory score on college placement tests.
An introduction to Spanish, with a modern audiolingual approach. Up-to-date materials and methods. Emphasis first on hearing and speaking, then on reading and writing. For those with no previous Spanish or those who do not have the skills to enter higher level courses.

SPA 102 Elementary Spanish II **5(5-0) W SS**
Prerequisite: SPA 101.
A continuation of SPA 101.

SPA 151 Intermediate Spanish I **5(5-0) FS**
Prerequisite: Two units of high school Spanish or SPA 101 and SPA 102.
A review of the skills of hearing, speaking, reading, and writing, with an emphasis on grammar and composition. Selected supplementary readings.

SPA 152 Intermediate Spanish II **5(5-0) W**
Prerequisite: SPA 151.
A continuation of SPA 151.

SPA 161 Spanish for Medical Personnel **3(3-0)**
Prerequisite: Students must have completed one year in health sciences program or equivalent.
An introduction to Spanish for persons in medical-related fields. Designed to teach medical personnel to communicate more effectively with Spanish-speaking people encountered in hospitals, in medical emergencies, and in routine work among Spanish-speaking people. Course offered based upon demand.

SPA 201 Survey of Spanish Civilization **5(5-0)**
Prerequisite: SPA 152.
A brief study of Spanish culture and civilization from prehistoric to modern times, including Spain and Spanish America. Selected slide programs and a research paper. Course offered in spring quarter based upon demand.

SPEECH

SPH 101 Principles of Speech **5(5-0) FWS SS**
Prerequisite: None.
A functional approach to the problem of effective speaking. The organization, composition, and delivery of speeches, with particular emphasis on application in actual speech situations.

SURGICAL TECHNOLOGY

SUR 1101 Principles of Operating Room Technique I **5(1-12) F**
Prerequisite: Admission to Surgical Technology Program.
An orientation course on the scope of operating room technology and the role of the surgical technologist. The course deals with asepsis and aseptic techniques. Emphasis is given to opening sterile supplies. Handscrubbing, gowning, gloving, and setting up of the basic instrument table are also covered. The major instruments, their care and use are learned. A skills laboratory is provided to assist the student in learning these skills. The course includes clinical observation and participation.

SUR 1102 Principles of Operating Room Technique II **5(1-12) W**
Prerequisite: SUR 1101.
A continuation of SUR 1101 with concentration on patient care. This course includes positioning the patient, transporting the patient, and surgical preps. Duties of the technologist throughout the operative procedure are taught. Among these are: preparation of suture; care of the specimen; dressings; and sponge, needle, and instrument counts.

SUR 1110 Operating Room Theory I **5(5-0) F**
Prerequisite: Admission to Surgical Technology Program.
An introduction to hospital organization, hospital departments, and the relationships between the operating room and related departments. The surgical team is described and the roles of members of the surgical team are covered. Also, the following topics are covered: functions of the surgical technologist, history of surgery, the evolution of asepsis, medical terminology, and basic microbiology.

SUR 1111 Operating Room Theory II **5(5-0) W**
Prerequisite: SUR 1110.
This course includes a study of the patient who is approaching surgery, preparation of the patient physically and mentally, and preanesthetic medication. Reception of the patient in the operating room, medical records, anesthesia, and pharmacology are studied.

SUR 1112 Operating Room Theory III **3(3-0) S**
Prerequisite: SUR 1111.
This course deals with diagnostic, including endoscopic, procedures. The treatment of burns, radiation therapy, and the specialized areas of pediatrics and obstetrics are covered.

SUR 1202 Surgical Procedures I **5(5-0) S**
Prerequisites: SUR 1101, 1102, 1110, and 1111.
A study of the procedures which the surgeon follows in general operations including incisions and suturing and the surgical technologist's participation as a member of the surgical team. The course includes a review of the layers of tissue, organs, and structures of the anatomy of the operative region.

SUR 1203 Surgical Procedures II **5(5-0) SS**
Prerequisites: SUR 1110, 1111, and 1202.
A continuation of the study of procedures which the surgeon performs and the correlation of the functions of the Surgical Technologist. Anatomy of the operative region is reviewed. Incisions, suturing, equipment, and instrumentation are also studied.

SUR 1210 Clinical Application I **8(2-18) S**
Prerequisite: SUR 1102.
This is a skill development course with increasing use of the clinical setting. Students assist in surgical procedures.

SUR 1211 Clinical Application II **11(0-33) SS**
Prerequisite: SUR 1210.
A continuation of clinical experience with a concentration on specialized areas of surgery. Emergency room, obstetrics, and thoracic surgery are examples of experiences provided.

WELDING

WLD 1101 Automotive Mechanics Welding I **2(1-3) F**
Prerequisite: Permission of instructor.
A study of safe assembly, adjustment, and operation of oxyacetylene equipment. The selection of proper tips, filler rods, and flame adjustment is also covered. Shop lab practice will cover welding, brazing, and flame cutting methods applicable to automotive repair work.

WLD 1102 Automotive Mechanics Welding II **2(1-3) W**
Prerequisite: Permission of instructor.
An introduction to electric arc welding, M.I.G. welding, and T.I.G. welding. Students will learn proper equipment operation, electrode and wire selection. Shop lab practice includes using various welding techniques required in automotive repair.

WLD 1104 Automotive Body Welding I **3(2-3) F**
Prerequisite: Admission to Automotive Body Repair Program.
Basic oxyacetylene welding, brazing, and cutting procedures as required in automobile collision repair. A study of safe assembly, adjustment, and operation of oxyacetylene equipment. Also selection of proper tips, filler material, and flame adjustment. Shop practice to cover welding, brazing, and cutting as required to repair automobile collision damage.

WLD 1105 Automobile Body Welding II **3(2-3) W**
Prerequisite: Admission to Automotive Body Repair Program.
Welding practices as applicable to automobile collision repair. Students practice electric arc welding, electric resistance spot welding, T.I.G. welding, and M.I.G. welding.

MRS. UPCHURCH
RECEPTIONIST

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INDEX

Academic Advising 24
Academic Calendar, 1986-87 5
Academic Calendar, 1987-88 6
Academic Petition 25
Academic Policies and Procedures 24
Academic Probation 29
Academic Progress 28
Adding and Dropping Courses 32
Admission Policy 15
Admission Procedure 15
Adult Basic Education 10
Affirmative Action Policy Statement 179
Areas of Study 10
Assessment Testing 22
Associate Degree Requirements
- Associate in Applied Science 46
- Associate in Arts 35
- Associate in Fine Arts 37
- Associate in General Education 42
- Associate in Science 40

Attendance Policy 26
Auditing Courses 31
Automobile Registration 20
Bookstore 23
Cafeteria 24
Campus Map 12
Career Center 23
Career Planning 32
Change of Program 32
Classification of Students 31
College Developmental Studies 10
College History 9
College Transfer Programs
- Associate in Arts Degree 35
- Associate in Fine Arts Degree 37
- Associate in General Education Degree 42
- Associate in Science Degree 40

Concurrent Enrollment 18
Conditional Admission 16
Continuing Education
- Admission 91
- Certificates 92
- Fees 92
- General Information 91
- Location of Classes 92
- Philosophy 91
- Registration 91

Continuing Education Programs
- Adult Basic Education 92
- High School Diploma Program 93
- High School Equivalency Program 93
- Human Resources Development 93
- Learning Center 93

Occupational Extension Education 94
New Industry Training 95
Counseling 22
Course Descriptions
Art 97
Associate Degree Nursing 141
Automotive 99
Biology 102
Business 103
Business Computer Programming 117
Chemistry 108
Civil Engineering Technology 109
Computer Engineering Applications Technology 112
Cosmetology 114
Drafting 115
Drama 116
Economics 117
Electronics 120
Engineering Technology 122
Engineering Transfer 123
English 124
French 126
Health Education 126
History 127
Human Services Technology 128
Humanities 129
Landscape Gardening 129
Library 133
Mathematics 136
Medical Laboratory Technology 136
Music 138
Philosophy 144
Photography 145
Physical Education 145
Physics 147
Political Science 148
Practical Nursing 143
Psychology 148
Radiologic Technology 150
Reading 153
Religion 154
Respiratory Therapy Technology 154
Sociology 157
Spanish 158
Speech 158
Surgical Technology 158
Welding 160
Course Load Policy 25
Courses Repeated for Credit 33
Credit by Examination 25
Dean's List 33
Degree Requirements for Technical Programs 46
Diploma Requirements for Vocational Programs 77
Establishing State Residency 18
Financial Aid 21
Financial Information 18

Foreign Applicants 17
Grade Point Average 28
Graduation Fee 19
Grading Policy 26
Handicapped Students 23
Honor Graduates 33
Housing 24
Incomplete Grades 30
Independent Study 31
Insurance for Students 19
Last Class Sessions 26
Learning Center 93
Library 14
Occupational Extension Education 10
Personnel
  The Trustees 163
  Administrative Staff 163
  Department Chairmen 163
  Faculty and Professional Staff 164
  Adjunct Faculty 170
  Staff 172
Physical Facilities 13
Program Expenses 19
Program Testing and Placement 24
Purpose 9
Re-Admission 16
Records 21
Re-Entry Into Program 32
Refund of Tuition and Fees 20
Registration 21
Residency 18
Resources for Learning
  Library 14
  Audiovisual Center 14
  Data Processing 14
  Learning Center 14
  Mathematics Laboratory 15
  Tutorial Services 15
  Testing Center 15
Small Business Center 15
Special Students 17
Student Conduct 24
Student Financial Aid 21
Student Housing 24
Student Life 23
Student Orientation 22
Technical Programs of Study
  Department of Behavioral Sciences
    Human Services Technology 47
  Department of Business and Economics
    Accounting 48
    Business Administration 50
    Business Computer Programming 51
    General Office 53
    Secretarial - Executive 56

Department of Engineering Technologies
Architectural Technology 58
Civil Engineering Technology 60
Computer Engineering Applications Technology 62
Surveying Technology 64
Department of Health Sciences
Associate Degree Nursing 65
Medical Laboratory Technology 67
Radiologic Technology 69
Respiratory Therapy Technology 71
Department of Science
Landscape Gardening 73
Testing Center 15
Transcripts 21
Transfer Students 17
Tuition and Fees 18
Tutorial Services 15
Veterans Affairs 23
Visiting Students 17
Vocational Programs of Study
Department of Health Sciences
Practical Nursing 77
Surgical Technology 79
Department of Vocational Trades
Automotive Body Repair 80
Automotive Mechanics 81
Cosmetology 84
Electronic Servicing 86
Industrial Electronics 88
Withdrawal 32

4301-2
5-43

AFFIRMATIVE ACTION POLICY STATEMENT

Sandhills Community College is committed to a policy of equal employment opportunity and affirmative action.

The College has established policies and procedures which ensure that no person who is qualified shall be excluded from employment on the basis of race, sex, age, religion, national origin, or physically handicapped status. In addition, the College has established the goal that the proportion of black employees should at least be equal to their proportionate representation in the relevant labor markets for faculty, administrative, professional, and non-academic positions. In order to achieve this goal the College has established a plan of affirmative action which will increase the number of black personnel employed by the College. This plan of action has been approved by the Trustees of the College. The President of the College shall oversee and monitor the implementation of this plan through the affirmative action officer in cooperation with the faculty and staff.

Equal employment opportunity and affirmative action are viewed as integral parts of the mission and purpose of Sandhills Community College. The College is dedicated to the upward mobility and advancement of all people within its reach.

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